

**The Relationship Between Problematic Appearance Comparisons on Social Media, Self-Compassion and Body Dissatisfaction**

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**Vol 1**

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## Declaration

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*Gara Mahon*

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## Thesis Summary

Although body dissatisfaction has been associated with social media use, little is known about precisely how social media influences the appearance comparison and body ideal internalisation mechanisms that underpin body dissatisfaction, or how to successfully counter these problematic mechanisms to reduce body dissatisfaction. This thesis aimed to document the body ideal internalisation and appearance comparison behaviours engaged with by young adults and adolescents on social media, and to use these findings to inform intervention/prevention efforts to counter body dissatisfaction. This is an important goal, considering the pervasiveness of body dissatisfaction, the problematic outcomes associated with it, and the widespread use of social media in contemporary society.

Chapter 1 involves a literature review, which discusses existing knowledge pertaining to social media use and its impact on body image. While the review focuses primarily on body dissatisfaction, it contains literature pertaining to positive body image, as this was an additional consideration of the thesis, given the growing emphasis on identifying both protective and risk factors for body image.

Chapter 2 describes qualitative focus groups conducted with young adults to explore the ways they engaged with, perceived and managed appearance focused content on social media. The findings highlighted the pivotal role of appearance comparisons in inducing body dissatisfaction, and the intensification of these appearance comparisons by social media affordances.

Despite their central role in inducing body dissatisfaction, a review of psychometric scales in Chapter 3 revealed that quantification of appearance comparisons on social media is inadequate and existing measures fail to capture unique social media affordances. Chapter 3 describes how this methodological limitation was addressed, through the development of a novel “Appearance Comparison on Social Media Scale (ACSMS)” using theory and qualitative findings from Chapter 2. The scale was validated using exploratory and confirmatory factor analysis in a large sample of young adults using cross-sectional and prospective designs and the 26-item scale demonstrated relatively sound psychometric properties.

Chapter 4 presents qualitative focus groups conducted with adolescents using the same interview schedule used in Chapter 2. While findings were situated in relevant adolescent literature, they were also compared to those of adult focus groups. Similar themes were identified in both cohorts; however, adolescents appeared to experience far more negative outcomes from their social media use. Core themes that dominated the adolescent narrative pertained to feelings of self-criticism and worthlessness following social media appearance comparisons. These negative self-evaluations persisted despite high social media literacy levels and awareness of unrealistic, artificial nature of body ideals. This indicates that prevailing media literacy approaches, which aim



to increase knowledge about unrealistic bodily portrayals in the media may alone not be sufficient to counter body dissatisfaction, and that alternative approaches that specifically target self-criticism and negative self-evaluations are required (Alleva et al., 2015; Engeln–Maddox & Engeln, 2005).

Cultivating a self-compassionate mindset has received growing empirical support as an effective means of countering self-criticism in the context of body image dissatisfaction (Rahimi-Ardabili et al., 2018). Chapter 5 reviews the literature on self-compassion and outlines how self-compassion training may enhance adolescents’ resilience to problematic, unavoidable appearance comparisons on social media.

Chapter 6 describes the development of a novel 5-week, Compassionate Mind Training intervention to address adolescent body image concerns in the social media context.

Chapter 7 describes the evaluation of this intervention using a mixed methods quasi-experimental design. The Digital SMART (Social Media Adolescent Resilience Training) intervention was compared against a wait list control to evaluate its differential impact on self-compassion, self-criticism, body (dis)satisfaction, body appreciation, appearance comparisons and body ideal internalisation. Although no statistically significant differences in outcome measures were observed in experimental groups from pre-post intervention, some improvements in body satisfaction were observed at three month follow up.

The intervention was feasible, moderately acceptable and was qualitatively reported by adolescent girls to improve their relationship with body image and social media; however, similar gains were not reported by boys. Self-compassion may represent a potentially useful way of improving adolescent body image perceptions in the social media context; however, further research is warranted.

Chapter 8, involves an overall discussion that draws together and summarises key research findings, discusses theoretical and practical implications, outlines study limitations and provides recommendations for future research.

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## List of abbreviations

ACSMS	Appearance Comparisons on Social Media Scale
AE- MBSRQ	Appearance Evaluation Subscale of the Multidimensional Body-Self Relations Questionnaire
BAS	Body Appreciation Scale
BII	Body ideal internalisation
BYC	British Youth Council
CBT	Cognitive Behavioural Therapy
CFA	Confirmatory Factor Analysis
CFT	Compassion Focused Therapy
CFT-E	Compassion Focused Therapy for Eating Disorders
CMF	Compassionate Mind Foundation
CMT	Compassionate Mind Training
DACS	Downward Appearance Comparison Scale
Digital SMART	Digital Social Media Adolescent Resilience Training
EFA	Exploratory Factor Analysis
FSCSR-SF	Forms of self-criticising/attacking and self-reassuring scale
G	Group (focus group)
ITT	Intention to Treat
LOCF	Last observation carried forward
M	Mean
MAR	Missing at Random
MCAR	Missing Completely at Random
MRC	Medical Research Council
MSC	Mindful Self-Compassion
MUIS	Multiple uses of Instagram Scale
MWS	My World Survey
N	Number of Participants
N/A	Not applicable
P	Participant
PACS	Physical Appearance Comparison Scale
PP	Per Protocol
RCT	Randomised Control Trial
RSES	Rosenberg Self-Esteem Scale
SATAQ	Sociocultural Attitudes Towards Appearance Questionnaire
SCS-SF	Self-compassion Scale Short Form

SD	Standard Deviation
SPHE	Social and Physical Health Education
TAU	Treatment as usual
TCD	Trinity College Dublin
TY	Transition Year
UPACS	Upward Appearance Comparison Scale
VAS	Visual Analogue Scale
WHO	World Health Organisation

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## Conference Proceedings Arising from this Thesis

### Presentations

**Mahon, C.,** Hevey, D.T (November, 2019) A feasibility and acceptability trial of a Compassionate Mind Training intervention to improve body image following social media use in adolescents. Paper presented at the Compassionate Mind Foundation Conference, Edinburgh.

**Mahon, C.,** Hevey, D.T (September, 2019) A qualitative investigation of social media's influence on body-related health behaviours in Irish adolescents. Presented at the European Health Psychology Conference, Dubrovnik (winner of outstanding poster presentation)

**Mahon C,** Hevey, D.T. (July 2019) Addressing Adolescent Body Image Issues on Social Media. Presented at the University College Dublin (UCD) Summer Series in Youth Psychology, Dublin.

**Mahon, C.** Akkol-Solakoglu, S., Hevey, D.T. (June 2018) The patterns, motives and effects of social media use on body image and psychological wellbeing of youths. Presented at the Appearance Matters 8 Conference, Bath



# **Chapter 1. General Introduction and Literature Review**

## **1.1 Chapter aims**

Body dissatisfaction is a prevalent and problematic issue for young adults and adolescents and can be heightened by social media use (Mond et al., 2013; Rodgers & Melioli, 2016; Saiphoo & Vahedi, 2019). It is important to understand how social media influences body dissatisfaction in men and women and use this understanding to inform efforts to mitigate body dissatisfaction and its associated negative consequences (Perloff, 2014b). This narrative review aims to describe how social media gives rise to body dissatisfaction in young adult and adolescent males and females. It will begin by describing the nature and scope of the issue, and then outline the main theoretical frameworks proposed to explain the social media's effects on body image. It will also discuss the main mediating and moderating factors purported to underpin these effects and will evaluate the empirical evidence for these effects. It will also highlight limitations and gaps in our knowledge on the relationships between social media use and body dissatisfaction and then frame the aims and objectives of the current research.

## **1.2 Defining body image**

Body image is a subjective and multidimensional construct encompassing an individual's perceptions, thoughts and feelings regarding one's own body (Cash, Morrow, Hrabosky, & Perry, 2004; Grogan, 1999). These can encompass both positive and negative perceptions of the body (Grogan, 2010). Body image concerns are thought to arise when an individual experiences disturbance in these dimensions (Striegel-Moore & Franko, 2004) and these can profoundly influence an individual's psychological wellbeing and quality of life (Mond et al., 2013). Body image is most commonly operationalised in terms of dissatisfaction with bodily appearance. Body dissatisfaction is defined as "a person's negative thoughts and feelings about his/her body" including one's body size, shape, muscularity, muscle tone and weight and usually involves perceiving a discrepancy between one's own body and one's ideal body (Grogan, 1999, p.2). Body dissatisfaction is generally conceptualised along a continuum where individuals are dissatisfied with their appearance at one end, satisfied at the other, and where most individuals fall in the middle, experiencing "normative discontent" with their bodies (Grogan, 2010).

However recently, positive body image, which involves acceptance and appreciation of one's body, has been identified as a distinct construct that produces positive and unique outcomes for psychological wellbeing (Tylka, 2011a; Tylka & Wood-Barcalow, 2015b). Positive body image is not merely the absence of negative body image (Webb et al., 2015), but is a distinct multidimensional construct that accounts for unique variance in wellbeing outcomes when

controlling for negative body image (Tylka & Wood-Barcalow, 2015) . Indeed, individuals who endorse a positive body image can continue to be dissatisfied with aspects of their body, indicating that positive and negative body image co-exist and are independent constructs (Pope et al., 2014; Tiggemann & McCourt, 2013). Positive body image is most commonly conceptualised in terms of “body appreciation”, which is an acceptance and appreciation of body appearance and functions despite perceived flaws, a mindful awareness and responsiveness to bodily needs and an ability to process negative body-related messages in ways that are self-protective (Tylka & Wood-Barcalow, 2015b). Body appreciation is distinctly associated with positive outcomes for wellbeing including improved self-esteem, self-compassion, adaptive coping and positive health behaviours including intuitive eating (Augustus-Horvath & Tylka, 2011; Halliwell, 2015; Tylka & Wood-Barcalow, 2015b).

Although the importance of investigating and promoting positive body image has increasingly been recognised, body image is still most commonly operationalised in terms of dissatisfaction with bodily appearance (Tylka, 2011a). Additionally, body dissatisfaction has been most extensively evaluated in empirical work on social media’s effects. This is because body dissatisfaction is a clinical indicator of a host of negative psychological, physical and socioemotional outcomes (Mond et al., 2013). Although this thesis primarily focuses on body dissatisfaction, it includes a consideration of positive body image and body appreciation, in recognition of their importance in influencing body image outcomes.

### **1.3 Why Body Dissatisfaction is problematic**

Body dissatisfaction is the most robust risk and maintenance factor of eating disorders (Stice & Agras, 1998; Stice & Shaw, 2002; Thompson et al., 1999). Body dissatisfaction also predicts disordered eating (Cruz-Sáez et al., 2018), binge eating (Stice et al., 2002), restrictive eating/dieting (Markey & Markey, 2005), exercise avoidance (More, 2017), muscle dysphoria and anabolic steroid use (Blouin & Goldfield, 1995). Body dissatisfaction also predicts self-harm and suicidal ideation (Brausch & Muehlenkamp, 2007), anxiety (Kostanski & Gullone, 1998), depression (Kostanski & Gullone, 1998; Stice & Bearman, 2001) and reduced self-esteem (Paxton, Neumark-Sztainer, Hannan, & Eisenberg, 2006; van den Berg, Mond, Eisenberg, Ackard, & Neumark-Sztainer, 2010). Furthermore, body dissatisfaction influences broader life outcomes by impeding the engagement of body dissatisfied individuals in various educational, social and extra-curricular activities (Halliwell, Diedrichs, & Orbach, 2014; O Connell & Martin, 2012).

#### **1.4 Who is Body Dissatisfaction problematic for?**

Adolescence and young adulthood are considered particularly vulnerable times for the development of body dissatisfaction (Voelker et al., 2015)<sup>1</sup>. Adolescence and young adulthood represent challenging transitional periods that require individuals to navigate biological, emotional and psychological changes while also meeting the demands of a highly pressurised and appearance-focused society (Bluth & Blanton, 2015). Although developmental changes occur more gradually in young adulthood versus adolescence (Bonnie et al., 2015), body image issues are prominent at both of these transitional developmental stages (Bucchianeri et al., 2013). Body image is an issue that becomes particularly salient for adolescents, given the physical bodily changes they experience due to puberty and the central role bodily appearance plays in their identity development at this stage (Bluth & Blanton, 2015). Overall, body dissatisfaction increases as children transition from middle school to high school (early/mid adolescence) and further increases in transition to young adulthood (Bucchianeri et al., 2013). This thesis will comparatively investigate body image in young adults and adolescents who are at these transitional periods, and who are most likely to be impacted by body image issues.

Body dissatisfaction manifests in both men and women. Historically women have been found to experience greater levels of body dissatisfaction than men; however, body dissatisfaction has been recognised as a growing issue among males. Male body image was initially neglected as an area of study because males were less likely to present with clinical eating disorders (Olivardia, Pope, Mangweth, & Hudson, 1995) and body image was not thought to be an important aspect male self-concept (Hargreaves & Tiggemann, 2006). Furthermore, early measurement tools failed to capture distinct manifestations of male body dissatisfaction and underestimated its prevalence (Olivardia et al., 2004). However, over the past two decades, male body image has become a focus of body image research due to substantial increases in weight concerns and body-image related disorders such as Anorexia Nervosa and Muscular Dysmorphia in men (Drahansky et al., 2016; Tod et al., 2016). Although the bulk of the research maintains that body image issues are more prominent and problematic among females (Whitaker et al., 2019) some research now suggests that men and women value body image equally and experience equivocal levels of body dissatisfaction, but the manifestations of body dissatisfaction differ among genders (Kumar, 2016; Turel et al., 2018). Despite increased recognition of the importance of body image among males, research on male body image remains sparse. This reflects a troublesome gap in our knowledge and ability to effectively target and address male body image concerns. This thesis therefore sought to investigate body image concerns of both men and women.

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<sup>1</sup> Adolescents are defined by the WHO as individuals aged 10-19 years (Sacks, 2003). Dube et al. (2006) distinguishes between early adolescents aged  $\leq 14$  years, middle adolescents aged 15-17 years and late adolescents aged 18-20 years. Bleyer and Albritton (2003) considers young adults as those aged 15-29 years.

Although conceptualisations of gender identification have recently evolved, reflecting the conventional approach in the literature, this thesis adopts a cis-normative perspective and views gender as a binary rather than fluid construct.<sup>2</sup>

#### **1.4.1 Body Dissatisfaction Prevalence Rates**

Body dissatisfaction is considered to be highly prevalent, with some widely cited papers (e.g., Garner, 1997), espousing the notion that body discontent is normative among adults and adolescents (Frederick, Jafary, Gruys, & Daniels, 2012; Rodin, Silberstein, & Striegel-Moore, 1984; Tantleff-Dunn, Barnes, & Larose, 2011). However, establishing precise prevalence rates has been obfuscated by the lack of consensus in operational definitions, the lack of validated measures of body dissatisfaction and the lack of random samples used in epidemiological studies of body dissatisfaction (Fiske et al., 2014). A review of seven studies containing prevalence rate data on US adults reported that body dissatisfaction levels varied between 11-72% for women and 8-61% for men (Fiske et al., 2014). Other European-based studies using objective random samples estimated rates of dissatisfaction of approximately 50% in women and 35% in men (Matthiasdottir, Jonsson, & Kristjansson, 2012; von Lengerke & Mielck, 2012).

Within the Irish context, the “Looking Glass Survey” survey of 1,000 Irish adults conducted by the Women’s Council of Ireland (2015) found that 41% of Irish women were either unhappy or very unhappy with how they looked, and that this dissatisfaction discouraged their engagement in life activities, such as applying for a job (20%) and attending the doctor (8%). The My World Survey (Dooley et al., 2019) involving a national sample 6,779 young Irish adults aged 18-25 years, found that 44% were dissatisfied with their bodies, while only 31% reported that they were satisfied/very satisfied and 25% reported that they were neither satisfied or dissatisfied. Women (53%) reported greater levels of body dissatisfaction than men (42%).

Body dissatisfaction is also widespread among adolescents, with a cross-cultural study of 26 countries indicating that adolescent body dissatisfaction rates are relatively high and range from 31-62% in girls and 14- 40% in boys (Al Sabbah et al., 2009). Body image has been consistently rated as being among the top reported personal concerns of adolescents and youths in national studies conducted in the UK (British Youth Council Youth Select Committee, 2017), Canada (Kids Help Phone, 2016), Australia (Bullock et al., 2017) and Ireland (O Connell & Martin, 2012; Chambers et al., 2017). Chambers and colleagues (2017) found that second only to exam related pressures, body image was the greatest source of stress impacting on the mental wellbeing of Irish youths aged 13-19 years. A national survey in Ireland revealed that 43% of youths aged 10-21 years were dissatisfied with their body image (O Connell & Martin, 2012). Another cross sectional study of Irish adolescents aged 12-18 years, revealed that 81% of Irish girls and 55% of boys reported desires to modify their body shape (Lawler & Nixon, 2011). The most recent My World

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<sup>2</sup> In studies with young adults (Chapters 2 & 3), participants could indicate that they did not identify with binary gender categorisations and select “other” as an option, however this was not investigated in depth.

national study of 10, 459 Irish adolescents aged 12-19 years, showed more promising trends in terms of body satisfaction; 46% were either satisfied or very satisfied with their bodies, 28% were neither satisfied or dissatisfied and 26% were dissatisfied/very dissatisfied. However, body satisfaction levels dropped from 58% in younger adolescents in their first year second level education, to 39% in older adolescents in their final year of second level education. Moreover, girls (38%) were far less satisfied with their bodies than boys (57%) (Dooley et al., 2019).

#### **1.4.2 Body dissatisfaction, an issue on the rise?**

Rates of body dissatisfaction have been reported to be on the rise. The All Party Parliamentary Group (APPG) on Body Image (2011) reported that rates of negative body image in the UK are increasing. This increase in body dissatisfaction is also purportedly evinced by the Girl Guides' "Girls' Attitudes Survey" where the proportion of 7-21-year olds who are satisfied with how they look has decreased from 73% in 2006 to 61% in 2011. However, some studies (e.g., Bucchianeri, Arikian, Hannan, Eisenberg, & Neumark-Sztainer, 2013) suggest that rates of body dissatisfaction may have plateaued and that apparent increases in body dissatisfaction are attributable to more precise measurement of the construct. Nonetheless, body dissatisfaction constitutes a substantial and problematic issue.

## **1.5 Causes of Body Dissatisfaction**

The causes of body dissatisfaction are considered multifaceted but broadly include biological, developmental, dispositional, sociocultural and environmental factors (Fitzsimmons-Craft, 2011; Polivy & Herman, 2002). Sociocultural factors have been identified as instrumental in the development of body image concerns and eating pathology (Fitzsimmons-Craft, 2011). Sociocultural theory constitutes a primary theoretical framework within which these issues have been conceptualised (Rodgers & Melioli, 2016).

### **1.5.1 Sociocultural Theories of Body Image**

The Tripartite model of Body Image (Thompson et al., 1999) is a theoretical framework that draws together the various sociocultural factors influencing body image and eating disturbance (Cash, 2005). The Tripartite model, proposes that social agents, namely family, peers and the media influence body image perceptions by conveying messages that emphasise the importance of appearance and pressurize the attainment of unrealistic body ideals (Keery, 2002; Thompson, Covert, & Stormer, 1999; Thompson, Heinberg, et al., 1999; Tylka, 2011). These body-related messages are proposed to influence self-perceptions directly and indirectly via two mediating mechanisms: internalisation of and appearance comparisons with body ideals.

#### ***1.5.1.1 Body Ideal Internalisation***

Body ideal internalisation is defined as “the extent to which an individual cognitively ‘buys into’ socially defined ideals of attractiveness and engages in behaviours designed to produce an approximation of these ideals” (Thompson & Stice, 2001, p.181). The mass media has been identified as one of the most potent transmitters of cultural standards of beauty and body. Repeated exposure to extreme body ideals in the media is posited to distort body image perceptions such that individuals view these bodies as normal, desirable and expected (Gerbner et al., 2002). Additional media messages praising body ideals and linking the possession of such bodies with success and happiness, also reinforce the desirability of these bodies and fosters body ideal internalisation (Thompson et al., 1999). Thompson and colleagues (1999) propose that body ideal internalisation directly influences body dissatisfaction by highlighting bodies that are impossible to attain and indirectly influences body dissatisfaction by interacting with other risk factors for negative body image, including dieting and negative affect. Internalising body ideals is problematic, because the ideals that are cognitively endorsed tend to be extreme, unattainable and unachievable and the failure to exemplify these ideals becomes a source of body dissatisfaction.

The thin ideal, which is characterised by a lean physique with little body fat and a narrow waist, has been extensively endorsed and pursued by females in Western culture. Wiseman and colleagues (1992) noted that the female bodies depicted in the media have become progressively

thinner over the years and were estimated to be 13-29% below the recommended body weight for adult women. These progressively more extreme depictions of this ideal in the media have coincided with increased rates of body dissatisfaction and eating disorders (Lew et al., 2007).

More recently, a “fit/athletic” body ideal, characterised by both a lean and muscular physique, is thought to have surpassed the “thin ideal” as the prevailing body ideal for women (Benton & Karazsia, 2015; Homan et al., 2011; Robinson et al., 2017; Thompson et al., 2004). Although some research suggests that the fit ideal is less detrimental than the thin ideal (Homan, 2010; Ramme et al., 2016), other research suggests that this fit ideal may produce greater levels of body dissatisfaction in women than the thin ideal as it purportedly contains an added prescription of being muscular as well as thin (Benton & Karazsia, 2015; Robinson et al., 2017).

The dominant male body ideal, the “muscular ideal”, characterised by v-shaped torso, low body fat, visible abs, large biceps (Cafri, Yamamiya, Brannick, & Thompson, 2005; Frederick et al., 2007; Grogan, 1999) has also become progressively more extreme (Law & Labre, 2002), with some depictions of the muscular ideal exceeding the anatomical proportions considered physically possible for males (Martins et al., 2011). Despite the extremity, this muscular ideal is highly sought after, with 90% of American male college students reporting desires for increased muscularity (Frederick et al., 2007).

Internalisation of body ideals has been consistently associated with body dissatisfaction in adult males and females (Karazsia & Crowther, 2009; Shroff & Thompson, 2006) as well as adolescents (Knauss et al., 2007). Those who strongly internalise body ideals experience greater levels of body dissatisfaction than those who don’t endorse these ideals (Dittmar, 2009; Ryan & Morrison, 2011). Furthermore, body ideal internalisation has been found to precede and predict tendencies to engage in appearance comparisons, which is the other factor that mediates between exposure to sociocultural influences and body dissatisfaction (Rodgers et al., 2015).

#### ***1.5.1.2 Appearance-based Comparisons***

Social comparisons are defined as cognitive judgements (both intentional and unintentional) that are made by individuals about their own attributes relative to others (Jones, 2001). Social comparisons have been found to be particularly influential in the formation of body image perceptions as they facilitate the evaluation one’s own body in relation to cultural body ideals. Appearance-based comparisons with body ideals is posited to highlight discrepancies between one’s own body and the ideal, thereby giving rise to body dissatisfaction (van den Berg, Thompson, Obremski-Brandon, & Coovert, 2002). This can encourage engagement with maladaptive eating behaviours designed at reducing this discrepancy and attaining societal body ideals if they are personally endorsed (Thompson et al., 1999).

Social comparison theory (Festinger, 1954) posits that humans have an innate drive to compare themselves to others to evaluate their standing on a particular domain. It also proposes that the target selected for comparison influences the affective outcomes arising from that comparison (Festinger, 1954). Upward comparisons, which involve comparisons with individuals considered superior to oneself, have typically been associated with negative self-evaluations, while downward comparisons, which involve comparisons with individuals considered inferior to oneself, have been typically associated with self-enhancing evaluations (Suls, 2012). Lateral comparisons, which involve comparisons with those who are perceived as equivalent in a particular way also tend to yield self-enhancing effects (Sohn, 2010; Wheeler & Miyake, 1992). The way social comparison information is processed also influences outcomes (Collins, 1996). Individuals may process comparisons in terms of similarities with themselves and the target (assimilation) or differences between themselves and the target (contrast) (Collins, 2000). Contrasting oneself with upward targets is assumed to produce negative self-evaluations, while contrasting with downward comparisons enhances self-evaluations. Conversely assimilating with upward targets is thought to boost self-evaluations but assimilating with downward comparisons diminishes self-evaluations. Although appearance comparisons have the propensity to both increase and decrease body satisfaction, in the domain of body image, comparison behaviours tend to yield mostly negative outcomes (Dijkstra et al., 2010).

Consistent with this, Myers and Crowther's (2009) meta-analysis of 156 studies revealed that appearance comparison processes, particularly upward comparisons, were associated with greater levels of body dissatisfaction. Furthermore, ecological momentary assessment studies reveal that individuals tend to engage in upward appearance comparisons and subsequently report increased guilt and body dissatisfaction (Leahey & Crowther, 2008). Furthermore, individuals with pre-existing body dissatisfaction tend to make more appearance comparisons and experience more negative effects following these comparisons (Leahey & Crowther, 2008). The largely negative influence on body image perceptions associated with media consumption, has been largely attributed to the fact that it encourages individuals to predominantly engage in contrastive upward comparisons (Vogel, Rose, Roberts, & Eckles, 2014). The media promulgates extreme body ideals which individuals compare themselves to despite the extremity of the comparison (Engeln-Maddox & Engeln, 2005; Strahan et al., 2006). As the body ideals that men and women pursue have become more extreme in recent years, the perceptions of contrast between one's own body and these ideals may have increased (Sypeck et al., 2004).

In addition, because body ideals have become so extreme, they may be perceived to be less attainable. Perceived attainability of standards of comparison has been observed to moderate the effects of comparisons on body image. Testa and Major (1990) manipulated beliefs about attainability of comparison targets and found that individuals who perceived that they had no control over their outcomes experienced negative self-evaluations when they engaged in upward



comparisons. However, those who believed that they could control their own outcomes, experienced positive self-evaluations when engaging in both upward and downward comparisons. Similarly, Joshi and colleagues (2004) observed that individuals who perceive weight to be highly controllable and body ideals to be attainable, tend to experience positive self-evaluations following upward comparisons to media ideals. However, as body ideals are largely perceived as difficult if not impossible to obtain, it is more likely that upward comparisons with these ideals will negatively influence body image perceptions. Bessenoff (2006) found that individuals with high body image discrepancy were more likely to engage in body comparisons and more likely to experience negative affect following exposure to media ideals, particularly if they perceived this ideal as being unattainable.

Other factors that have been noted to increase the propensity to engage in appearance comparisons include pre-existing body dissatisfaction, low self-esteem, high negative affect, high self-uncertainty, and high social comparison dispositional tendency (Dijkstra et al., 2010). Increased engagement in social comparisons, even those purported to produce self-enhancing effects, is associated with increased negative effects on body image (Bessenoff, 2006; Collins, 2000). Bessenoff (2006) posits that individuals who engage in more comparisons experience greater dissatisfaction and then because of this dissatisfaction, engage in more body comparisons to gain more self-relevant information to try reduce feelings of insecurity/inadequacy and thus the cycle perpetuates and body dissatisfaction is maintained.

## **1.6 Moderators of body dissatisfaction**

Body ideal internalisation, appearance comparisons and body dissatisfaction have been reported to be moderated by age, gender, body mass index and ethnicity (Halliwell & Harvey, 2006; Wildes, Emery, & Simons, 2001). This review will focus on gender and age because these are most pertinent to the current research, which aims to document the relationship between social media use and body dissatisfaction in young adult and adolescent, men and women. Furthermore, focusing on age and gender also enables a tighter research focus, while still incorporating the two most investigated moderating factors of body dissatisfaction (Quittkat et al., 2019).

### **1.6.1 Gender**

The literature investigating influence of gender on body ideal internalisation, appearance comparisons and body dissatisfaction has yielded mixed results. Historically, women have been reported to invest more in their appearance, experience greater preoccupation with their body image, engage in more self-monitoring and self-evaluation (Sullivan & Harnish, 1990), more body-related discussions (Shannon & Mills, 2015). Women have also been reported to experience greater levels of body dissatisfaction than men (Muth & Cash, 1997), experience greater distress from

perceived dissatisfaction (Pigitore et al., 1997) and exhibit higher rates of eating disorders than men (Hudson et al., 2007).

Similarly, adolescent girls have been found to experience greater body dissatisfaction than boys (Kantanista et al., 2015; Lawler & Nixon, 2011). Adolescent girls have been reported to invest more in appearance, internalise appearance ideals to a greater extent and engage in more appearance conversations than boys (Lawler & Nixon, 2011; Papp et al., 2013). This has been attributed to the centrality of body image to female self-concept/self-identity. Body image is considered a greater component of female self-worth versus males, and physical appearance is thought to confer greater social value to women than men (Stefanone et al., 2011).

Furthermore, adult and adolescent females engage more frequently in appearance comparisons than their male counterparts (Lawler & Nixon, 2011; Papp et al., 2013) and tend to engage in more problematic comparisons than men (Franzoi et al., 2012). Women are more likely to engage in upward rather than downward and lateral appearance comparisons, and these comparisons tend to be more self-critical than men's comparisons (Franzoi et al., 2012; Leahey & Crowther, 2008; Ridolfi et al., 2011). When men self-evaluated using upward appearance comparisons, they were more likely to compare to these targets based how they hoped they would look like in the future, and thus their comparison orientations were more self-hopeful than self-critical (Franzoi et al., 2012). Furthermore, men viewed body ideals as more attainable and achievable than women and thus approached comparisons with a self-improvement motive rather than a self-evaluative motive. Men were reported to experience greater body-esteem than women because of these self-hopeful and improvement-orientated appearance comparison tendencies (Franzoi et al., 2012). Franzoi and colleagues (2012) posited that men could afford to engage in these more salubrious comparison tendencies because body image was less of salient and pressing issue for them. Additionally, individuals, especially women, fail to engage in self-protective downward comparisons in the domain of body image/weight (Franzoi et al., 2012; Strahan et al., 2006), and even when they do, these downward comparisons fail to produce self-protective effects on self-evaluations (van den Berg & Thompson, 2007).

However, these comparisons have been primarily evaluated in appearance-related dimensions and it is now recognised that body dissatisfaction manifests differently in males. While some males do strive for thinness, or desire to lose body-fat (drive for leanness) (Smolak & Murnen, 2008), males are largely thought to be concerned with enhancing muscularity and the visibility of muscles (Frederick et al., 2007; Grogan, 1999). Internalisation of the muscular ideal has been consistently linked with body dissatisfaction in males (Ryan & Morrison, 2011). However, males also have been observed to internalise body image in terms of body functionality as opposed to body aesthetics (Grogan & Richards, 2002). Physical body functions that showcase male strength, stamina, athleticism and physical prowess can emphasise an individual's masculinity and reflect their possession of a healthy, ideal body (Drummond, 2008; Gill et al., 2005). These physical functionalities are often expressed through sport and men have been observed to

conceptualise their body image in terms of their performative abilities in sport or exercise (Drummond, 2008). Failure to perform physical functions that reflect their masculinity is thought to induce body dissatisfaction among men (Adams et al., 2005). Some research suggests that men conceptualise in terms of both functionality and appearance (Grogan & Richards, 2002), and that the value given to these dimensions differs with age; with older men tending to conceptualise body image more in terms of functionality rather than appearance, and younger men tending to value aesthetics and muscularity as primary appearance goals (Murray & Lewis, 2014). Peer teasing, fear of adiposity and body-related commentary from sexual partners have also been linked with male body image issues (Grogan & Richards, 2002; Ogden & Taylor, 2000; Ryan & Morrison, 2009).

It is now acknowledged that body dissatisfaction is widespread in men and is associated with a host of negative psychological and physical consequences (Cafri et al., 2005). Coinciding with heightened levels of male body dissatisfaction, increases in maladaptive body-change strategies such as excessive exercise and steroid use have been observed in men in the last two decades (Pope, Phillips, & Olivardia, 2000). Epidemiological studies have also revealed that the prevalence rate of eating disorders in men has increased in recent years and that this increase has occurred at a faster rate than women (Murray et al., 2017).

The increased prevalence of body dissatisfaction in men in recent years has in part, been attributed to increased visual depictions of the male body in popular media (Pope, Phillips, & Olivardia, 2000). The male body has been observed to be depicted to a greater extent in the media and these portrayals have been noted to become increasingly muscular, lean and exaggerated in recent years (Law & Labre, 2002; Leit et al., 2002). The heightened visibility of the male body is thought to be problematic for body image because it provides increased opportunities to engage in appearance comparisons, which highlight discrepancies between oneself and body ideals thereby inducing dissatisfaction (Blond, 2008). Indeed, increased use of traditional media has been associated with greater engagement in muscle building techniques (Smolak & Stein, 2006). Furthermore, male bodies have been reported to be presented in more sexualised and appearance-focused manners, which is thought to be problematic for body image perceptions (Carrotte et al., 2017; Kimmel & Tissier-Desbordes, 1999).

Adult men have been reported to increasingly experience pressure to attain ideal bodies at levels comparative to women (Miller & Halberstadt, 2005). Similarly, Irish adolescent boys have also been found to experience comparable pressure to girls to conform to specific body ideals for peer acceptance (Kenny et al., 2017). Some research now appears to suggest that men and women value body image equally and experience equivocal levels of body dissatisfaction, but the manifestations of body dissatisfaction differ among genders (Kumar, 2016; Turel et al., 2018).

While emerging research suggests increased parity in terms of body image investment and satisfaction in men and women and a diminished role of gender as a moderator of body dissatisfaction, it is still largely maintained that body image issues are more prominent and problematic among women (Whitaker et al., 2019). For example, in the Edcoms and Credos

national survey (2014) while adolescent boys reported significant pressures to conform with body ideals and invested heavily in appearance, body image was not rated as a priority for them. However, body image is consistently rated as a greater priority for girls in national studies (O Connell & Martin, 2012; Chambers et al., 2017).

Buote and colleagues (2011) suggest that although men and women report comparable effects in experimental studies, women experience higher body dissatisfaction in “real world” environments because of differences in the everyday exposure to body-related messages. Buote and colleagues (2011) argue that women experience greater exposure to body ideals, and these body ideals are more pervasive, homogenous and rigid than male ideals. This argument based on content analyses of magazine images and messages which revealed that depictions of male bodies were more diverse in terms of age, body type and attractiveness than female bodies, which were almost exclusively thin, young and attractive (Buote et al., 2011). Furthermore, in their cross-sectional study, both men and women reported that women were exposed to body ideals more frequently than men in daily life and that female body ideals were more stringent and inflexible than male body ideals (Buote et al., 2011). Additionally, experimental exposure to images of homogenous body ideals was found to produce negative effects for body image in both men and women; however, exposure to images of heterogenous bodies that varied in age and body size did not produce these negative effects. The authors posited that in typical experimental exposure studies individuals are exposed to images of homogenous body ideals which elicits similar levels of body dissatisfaction in men and women. However, the authors argue that in “real world” scenarios men are exposed to more heterogenous bodily depictions, which contrasts with women who are almost exclusively and continuously exposed to homogenous body ideals that negate their body image and therefore women experience greater body dissatisfaction than men (Buote et al., 2011).

Furthermore, the literature on appearance comparisons suggest that males tend to engage in more self-protective comparison behaviours versus females (Franzoi et al., 2012), and this could explain why women experience greater day-to-day body dissatisfaction. Nonetheless, it is evident that male body image requires more research attention as the literature on body image remains largely dominated by studies of female adolescents and college students (Whitaker et al., 2019).

Furthermore, despite the prevalence of body-related issues in men, male body image remains a “hidden” and underexplored issue because sociocultural discourses which dictate that body image constitutes a primarily female concern (Hargreaves & Tiggemann, 2006; Whitaker et al., 2019). Qualitative research with Irish adult men revealed that body image was considered a common and normative experience for men, yet one that was rarely discussed because it was not considered “masculine” to discuss body image issues or seek help for such concerns (Ryan & Morrison, 2009). Similarly, adolescent boys frequently deny that body image is an issue of importance for them; however, the findings of qualitative research suggests that boys (including Irish boys) do value body image, but may be reluctant to disclose this or to talk about body image because of fears of being perceived as effeminate or gay (Hargreaves & Tiggemann, 2006;

McSharry, 2009). As a result of this stigmatisation, men (especially younger men) may be less likely to raise or discuss body image concerns (Griffiths et al., 2014). These findings were echoed by a study of 1,005 adolescent boys aged 8-18 years, where it was reported that body image issues were mostly kept to oneself or were laughed off in order to avoid being teased or bullied by peers (Edcoms, & Credos, 2014). This dismissal of body image issues in boys was suggested to be damaging because it prevented boys from resolving and addressing body issues as girls could (Edcoms & Credos, 2016). These findings suggest that dominant discourses around masculinity may inhibit men from engaging in discussions about body image issues. While male body image may no longer be overlooked as a topic to be researched, it may be more difficult to encourage men to discuss these issues and men may downplay concerns that they do have (Whitaker et al., 2019). This is an issue that must be considered while researching body image with men.

### ***1.6.2 Age***

Research suggests that body ideal internalisation and appearance comparison mechanisms may be amplified in adolescents given the unique developmental tasks they undergo during this developmental stage. In addition to negotiating physical changes, adolescents must also establish their personal and social identities (Brown & Lohr, 1987; Harter, 1990). Physical appearance is an attribute that strongly influences identity development in adolescence. This appearance identity must be established in a society that emphasises the importance of physical appearance and pressurises the attainment of certain ideal body standards (Voelker et al., 2015). Adolescents are strongly influenced by social agents such as peers and media when forming appearance identities (Crone & Konijn, 2018; Dohnt & Tiggemann, 2006). Therefore, adolescents may be more likely to internalise the body-related societal messages they encounter and may experience greater body dissatisfaction as a result (Voelker et al., 2015).

Furthermore, when establishing their identity, adolescents frequently compare themselves with similar others to gain information and evaluate themselves relative to others (Brown & Lohr, 1987; Harter, 1990). Greater levels of appearance-comparison behaviours are associated with higher levels of body dissatisfaction, and thus adolescents are at risk of developing body image concerns given the extent to which they engage in these behaviours (Tiggemann & Miller, 2010).

As meta-cognitive abilities develop, adolescents tend to become highly self-conscious and egocentric, which can lead them to be very judgemental and self-critical in this comparative, evaluative process (Elkind, 1967). These critical evaluations are amplified by adolescent self-absorption tendencies such as the imaginary audience, whereby individuals believe that they are the focus of other people's attention and the personal fable (Elkind, 1967), whereby individuals believe that the challenges and experiences they confront are unique to them (Lapsley et al., 1989). These

processes can also lead adolescents to become fixated on their perceived bodily discrepancies which can result in body dissatisfaction.

### **1.7 Evaluation of Tripartite Model of Body Image**

The Tripartite Model of Body Image (Thompson et al., 1999) has received extensive support, with path models and prospective studies supporting the role of sociocultural influences (family, peer and media) and mediational factors (appearance comparisons/internalisation), in the development of body dissatisfaction in women (Field et al., 1999; Keery et al., 2004; Thompson & Stice, 2001). The Tripartite Model has been refined for men and includes romantic partners as an additional sociocultural influence and contains dual pathways (muscularity and body fat dissatisfaction) through which muscular enhancement and disordered eating behaviours occur (Tylka, 2011b). The Tripartite Model and its refinements for males have also been extensively supported in studies with adolescent boys and girls (Karazsia & Crowther, 2009; Keery et al., 2004; Papp et al., 2013; Shroff & Thompson, 2006; Smolak et al., 2005).

Cross sectional studies of men and women have found the Tripartite Model to yield moderate-good fits to the data in adults (Menzel et al., 2011), and marginal (Shroff & Thompson, 2006) to strong model fits in adolescents (Papp et al., 2013). The Tripartite Model has also been found to explain a moderate proportion of the variance in body image outcomes; Karazsia and Crowther (2010) found that the adjusted Tripartite Model accounted for 31% of the variance in muscularity body dissatisfaction in adult men, while Smolak and colleagues (2005) observed that the model yielded a total adjusted  $R^2$  of .47 in adolescent boys. In adult women, Rodgers and colleagues (2011) found that the Tripartite Model explained 43% of the variance in drive for thinness in Australians, and 29% of this variance in French participants. The Tripartite model was also found to explain the data significantly better than Stice's (2001) Dual Pathway Model in adolescent girls (Keery et al., 2004). While some cross-sectional studies have found minimal support for the full Tripartite model, they have found stronger support for the mediating roles of appearance comparisons and body ideal internalisation in the development of body dissatisfaction (Morrison et al., 2004). Longitudinal studies, experimental studies and meta-analyses also strongly support the role of body ideal internalisation and appearance comparisons as mediators of body dissatisfaction and social influences (Cafri, Yamamiya, Brannick, & Thompson, 2005; Rodgers, McLean, & Paxton, 2015). Given the support for these mediating mechanisms, this thesis will focus primarily on investigating these appearance comparisons and body ideal internalisation behaviours.

### **1.8 Positive Body Image and Mechanisms**

Although the Tripartite model (Thompson et al., 1999) is a useful model for describing the factors that predict body dissatisfaction, the recent strengths-based approach for promoting

psychological health, emphasises the importance of not only documenting risk factors but also protective factors of body dissatisfaction and positive body image (Goodyear, 2020; Tylka, 2011a). It has recently been noted that countering body dissatisfaction alone is not sufficient to produce healthy outcomes for body image - fostering positive body image is also required (Cook-Cottone, 2015; Piran, 2015). Although this thesis predominantly focuses on documenting body dissatisfaction, it diverges slightly at this point to describe positive body image because of proposed overlap in the factors mediating both body dissatisfaction and positive body image.

As mentioned earlier, positive body image not merely the absence of negative body image, but a distinct construct that is mostly operationalised in terms of body appreciation. Although far less is known about the mechanisms underpinning body appreciation and how to promote it, similar factors outlined in the Tripartite Model have been implicated in fostering body appreciation (Andrew et al., 2016). The Integrated Model of Body Appreciation (Andrew et al., 2016), posits that body appreciation is directly predicted by perceiving body appreciation from others. It also proposes that lower engagement with appearance-focused media, increased engagement with non-appearance focused media and greater self-compassion results in reduced appearance-related processing (which includes appearance comparisons, thin-ideal internalisation and body objectification) - this in turn results in body appreciation. Like the Tripartite Model (Thompson et al., 1999), this model identifies appearance comparisons and body ideal internalisation as mediators of body appreciation. Reducing body ideal internalisation and appearance comparisons may not only reduce body dissatisfaction, but also increase body appreciation. Therefore, efforts that target mediating mechanisms to reduce body dissatisfaction may also produce changes in body appreciation which are important to consider.<sup>3</sup>

Another aspect of positive body image that might be particularly relevant to this research, is the self-protective cognitive style or protective filter associated with body appreciation. Protective filtering is defined as the internalisation of positive body related messages and the rejection of negative messages (Andrew et al., 2015). Individuals who protectively filter content purposively avoid idealised body-related content, criticise and reject narrow societal body ideals and negative body related messages and selectively attend to positive body related messages (Andrew et al., 2015). By reducing the extent to which individuals internalise body ideals, this protective filter could help reduce body dissatisfaction, while also promoting positive body image. Furthermore, Halliwell (2015) proposes that this protective filter could encourage individuals,

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<sup>3</sup> The Integrated Model of Body Appreciation has not been corroborated by other research and was not investigated as a model for explaining body image outcomes in this thesis. However, as it is a model that is proposed to explain body appreciation and because it contains mechanisms that are relevant to this research, it was considered useful to briefly outline here.

especially women, to reduce the extent to which they make problematic upward contrastive comparisons with body ideals and increase self-enhancing comparisons on dimensions other than appearance – which could also yield protective effects for body image. Because these aspects of positive body image may modulate body ideal internalisation and appearance comparison behaviours and influence outcomes for body image, they are important to consider, particularly when investigating social media’s influence on body image.

### **1.9 Social Media: An additional sociocultural influence**

Sociocultural theories have recently included social media as a potential influence on body image perceptions; however, relatively little is known about how social media influences body image perceptions. Given its highly visual, appearance focused, peer-focused, interactive nature, social media is posited to exert a strong influence on body image perceptions of males and females (Perloff, 2014b).

### **1.10 Social Media and Relevance to Body Image**

Social media are an increasingly ubiquitous aspect of contemporary society, and have transformed how individuals socialise, communicate and attain information (Solomon, 2016). Social media are defined as “websites and applications that enable users to create and share content or to participate in social networking” (Kaplan & Haenlein, 2010, p. 63). Social networking sites (SNSs) constitute a type of social media, that enable users to create personal profiles composed of photos, videos, blogs, which are displayed to friends, followers or the general public (Kaplan & Haenlein, 2010). Although social media include a range of different platforms (e.g. Twitter, WhatsApp) most body image research has focused on visual-based, body-focused SNS platforms including Facebook, Instagram and Snapchat (Fardouly & Vartanian, 2016). Although SNS platforms constitute a type of social media, the two terms are used interchangeably, and we will use the term social media to refer to SNS activity also throughout this thesis.

Social media are used extensively, with 95% of youths aged 16-24 years reporting that they use social media at least on a weekly basis (Ofcom, 2020). Individuals aged between 16-24 years have globally been found to devote the longest periods of time on social media (Mandler & Buckle, 2018) and spend on average, 2 hours 15/30 minutes per day using social media (Mandler & Buckle, 2018; Ofcom, 2020). The My World National survey (Dooley et al., 2019), found that 99% of young Irish youths aged 18-25 years, and 96% of adolescents aged 12-19 years had a social media profile or account. Aligning with global figures, young adults spent considerable amounts of time on social media per day; 30% reported using social media for three or more hours per day, 30% reported 2-3 hours, 29% reported 1-2 hours, while 11% used it for less than one hour per day. Similarly, 34% of adolescents spent three or more hours online, 29% reported 2-3 hours, 25%



reported 1-2 hours and 12% less than one hour. The visual platforms implicated in body image research including Facebook (96%), Snapchat (89%) and Instagram (87%) are the most popular social media platforms among young Irish adults. Similarly, Irish adolescents report preferences for Snapchat (96%), Instagram (90%) and Facebook (54%) (Dooley et al., 2019).

Adolescents and young adults are the most prolific users of social media and therefore it is important to study social media effects in these age cohorts as these groups are the most likely to be impacted by their engagement with it (Burnette, 2017). Adolescents and young adults are also likely to be the cohort that are most strongly influenced by social media; research has found that social agents (parents, peers and the media) exert particularly strong influences over male and female body image during these developmental stages (Crone & Konijn, 2018; Dohnt & Tiggemann, 2006; Edcoms & Credos, 2016). Given that these social influences coexist and interact on social media platforms, youths who are highly sensitised and suggestible to such influences may be particularly impacted by social media (Crone & Konijn, 2018). It is important to understand the extent to which young people's body dissatisfaction is influenced by social media and the features of social media platforms that contribute to this.

From a developmental perspective, it is also pertinent to compare the effects of social media on adolescents versus young adults. Research indicates that there are differences between young adults and adolescents in the social media platforms they use, the behaviours they engage with and the gratifications they seek from social media (Smith et al., 2018; Valkenburg et al., 2016). It is important to understand how these differences may impact on body image perceptions of the two cohorts. These cohorts also differ in regard to the extent to which social media has been part of their developmental experience. The adolescent cohort investigated in this thesis, will be among the first generation to have grown up with social media, which contrasts with young adult samples, who are likely to have accessed social media platforms in mid-late adolescence or early adulthood, when these platforms first emerged circa mid 2000s (Brown & Marin, 2009; Throuvala, Griffiths, Rennoldson, & Kuss, 2019). It would be interesting to investigate whether this trajectory is perceived to influence body image perceptions in adolescents versus young adults. Differences in levels of adolescent psychological wellbeing have been observed in recent years (Twenge et al., 2018). Contrasting with general improvements in American adolescents' psychological wellbeing between 1995-2012, notable declines in psychological wellbeing have been observed between 2012 and 2016 and these declines have been attributed to increased screen time and social media use by adolescents (Twenge et al., 2018). In terms of body image, it might be expected that social media exerts stronger and more negative effects on adolescent body image who are likely to have been exposed to social media at younger ages and for more protracted periods of time, than young adults. Furthermore, adolescents may not have had the same opportunities as young adults to develop their body image perceptions independent of the adverse appearance-focused social media context, which may further negate their body image perceptions. Research is required to investigate

whether there are generational differences in social media's effects on body image, and how they may influence body image perceptions.

### **1.11 Social media's influence on body image**

Like traditional media, social media propagate content that endorse the attainment of body ideals. However, social media platforms offer unique affordances that may extend body ideal internalisation and appearance comparison processes and may amplify media effects on body image (Bandura, 2001).

Social media are highly visual platforms and contain a proliferation of appearance focused content. The volume of visual content on social media far exceeds that of traditional media, with an estimated 100 million photos and videos uploaded to Instagram per day (Omnicores Agency, 2019). Much of the images uploaded are body-focused images or "selfies" emphasising the focus on physical appearance. Personal social media profiles also tend to be primarily populated with images of oneself and physical appearance is consistently identified as a central focus of self-presentation on social media (Rodgers & Melioli, 2016). According to Baker's Instagram Marketing Report (2019), fashion, beauty and sporting goods were among the top five performing industries on the platform, which further highlights the appearance-centric nature of social media. Rodgers and Melioli (2016a) posit that this disproportionate emphasis on appearance in social media spaces may serve to heighten body internalisation and body image concerns.

This strong appearance-focus on social media has also been facilitated by the presence of communities/shared spaces that have been specifically dedicated to the pursuit of body-related goals. These body-focused communities can be easily accessed using metadata tags, which allow users to add their post to or browse within a large, co-created online repository of content devoted to that tag (Deighton-Smith & Bell, 2017). Users can follow body-related pages and profiles and hashtags so that this type of content populates their newsfeeds (Carrotte et al., 2017). This ease and accessibility to body-related messages may heighten body-ideal internalisation mechanisms and subsequent dissatisfaction following failure to attain these bodies.

Fitspiration (an amalgamation of "fitness" and "inspiration") is one such highly popular body-focused trend that aims to encourage individuals to attain "fit ideals" and to pursue healthy, active lifestyles to achieve this (Boepple & Thompson, 2016). Fitspiration content encourages participation in the "fit lifestyle" through motivational quotes, testimonials, instructional workout regimes visually appealing images/videos of health foods and attractive "fit ideal" bodies (Carrotte et al., 2017). Although fitspiration espouses to promote health and fitness, content analyses of fitspiration on social media have revealed a number of problematic themes including a central focus on thinness and weight loss, exercising for appearance rather than function and the presentation of the male and female body in objectified manners – all of which have been

associated with negative outcomes for body image (Boepple & Thompson, 2016; Carrotte et al., 2017). Individuals may readily internalise fit ideals because of their ostensible links to health and fitness; however, as alluded to earlier, failure to attain these highly prescribed ideals, may produce body dissatisfaction. This dissatisfaction may be heightened with fitspiration content because it may be seen as also reflecting a failure to adhere to a healthy diet/lifestyle, which are broader goals valued by society (Deighton-Smith & Bell, 2017). The ubiquity of fitspiration and other body-focused pages serve to amplify internalisation and comparison processes on social media.

In addition to the visible, appearance-focused nature of social media, content on social media is also more personalised and reflects content related to the self, rather than the broad, generic content seen in traditional media (Fardouly & Vartanian, 2016). Furthermore, social media content is both personalised for and self-selected by the user, which arguably heightens the personal relevance of posts and strengthens the comparisons (Fardouly & Vartanian, 2016). Unlike the heterogeneous mass audiences targeted by traditional media, social media audiences constitute homogenous groups and reflect a media of one's peers (Perloff, 2014a).

Social media platforms offer new and extended ways for individuals to compare their appearance with that of their peers. Social media platforms facilitate users to browse, follow and view the appearance-focused profiles, photos and visual "stories" of their peers. The ease of accessibility to peer-related content and the heightened insight into the activities engaged with by peers can increase the propensity to engage in appearance comparisons with peers (Chua & Chang, 2016). Some research has suggested that appearance comparisons on social media are more damaging than real life peer comparisons (Chou & Edge, 2012; Fardouly et al., 2017). It is proposed that individuals compare their own lived experience with carefully curated, idealised version of peers, which may encourage greater perceived discrepancies between themselves and their peers, thereby increasing dissatisfaction levels (Fardouly et al., 2017; Vogel, Rose, & Roberts, 2014). Furthermore, social media features such as location check ins, photo tagging and other inbuilt surveillance tools, heighten extent to which behaviour can be monitored and surveilled by peers, and may intensify peer comparisons and the associated pressures to adhere to the appearance expectations of peers (Fuchs & Trottier, 2015; MacIsaac et al., 2018).

Social media provides additional information about peers such as popularity indices (as indicated by number of friends/followers, likes and comments received) that are not necessarily available offline, which may serve to further distort perceptions of targets and subsequent social comparisons (Pai & Schryver, 2015). Feedback indices such as "likes" and comments provide a quantifiable index of comparison and amplify the impact of upward comparisons (Carollo, 2015; Fardouly et al., 2017). Adolescents may be particularly responsive to the receipt of "likes", comments and other feedback indices that signify social acceptance (Bell, 2019; Sherman, Payton, Hernandez, Greenfield, & Dapretto, 2016), because of the heightened sensitivity to rejection and responsivity to social rewards in the adolescent brain (Blakemore & Mills, 2014).

The relative anonymity and social distance afforded by social media has been posited to encourage appearance teasing and the posting of hurtful, insulting comments, which may have a detrimental effect on body image (Berne et al., 2014). The impact of peer judgement may be further magnified for both males and females because of the visible, public and enduring nature of peer feedback on social media (Chua & Chang, 2016).

Social media also enables individuals to follow and interact with content produced by celebrity figures who are considered influential comparison targets for youths. Following or comparing oneself to many “strangers” and celebrity figures on social media has been associated with negative psychosocial outcomes (Lup et al., 2015). Individuals are exposed only to the idealised aspect of the celebrity’s life and therefore comparisons tend to be distorted because of the inability to draw on counter-examples from personal experience that balance this idealised perspective (Weinstein, 2017). Comparisons with targets that are viewed as very extreme and dissimilar to oneself, tend to elicit fewer negative outcomes than targets that are perceived as more similar and attainable (Collins, 2000). However, social media now enables individuals to consume daily/hourly/minutely newsfeeds and stories of celebrities, which increases their accessibility to this information and enhances perceived psychological closeness with these comparison targets (Kaplan & Haenlein, 2010). This perceived familiarity may heighten pressures to attain body ideals, especially fitness goals, given that users have increased access to exercise regimes and food/diets that influencers/celebrities may record and share. Individuals may experience more guilt or dissatisfaction for failure to adhere to the lifestyles or instructional advice of the influencers/celebrities they follow, given the extensive insights celebrities now can share (Bell, Deighton-smith, & Hurst, 2019).

Furthermore, social media facilitates users not only to consume, but also to generate personal profiles and produce and share content on them. The process of creating personal profiles may serve to subtly reinforce the importance of physical appearance on social media (Bell, 2019). Physical appearance has been identified as the most important aspect of self-presentation on social media and personal profiles on social media are frequently populated with “selfies”, which are self-portraits of oneself, typically of one’s face or body (Bell, 2019; Shin, Kim, Im, & Chong, 2017). The proclivity to post images of oneself, including “selfies” on social media, has been associated with a greater tendency to value external physical appearance and adopt an objectified perspective of body image (MacIsaac et al., 2018). Body-objectification, in which individual’s scrutinise their body from an observers perspective, is prevalent on social media, and constitutes an additional mechanism through which social media influences male and female adolescent body image in mostly negative ways (Cohen et al., 2018; Hanna et al., 2017).

Social media platforms also facilitate individuals to engage in selective self-presentation in which they can deliberately highlight positive aspects of the self and enhance, edit, filter and photoshop images posted of the self, while also limiting unflattering pictures (Lonergan et al.,

2019; Toma & Hancock, 2010). These impression management strategies can enable users to present idealised versions of themselves and their bodies, and this can distort perceptions and heighten perceived discrepancies between actual and ideal bodies (Manago et al., 2008).

Social media has also been recently propagated with “body acceptance” and “body-positive” messages which reject body ideal attainment and endorse self-care and self-love of one’s body. Body positive content contains images of diverse (often larger) body types, which flaunt “bodily flaws” such as flab or cellulite and which are accompanied by messages of self-acceptance and self-love (Cohen et al., 2019). This content may reduce the extent to which individuals internalise and compare to body ideals, in addition to promoting greater body appreciation (Cohen et al., 2019). Social media may also be a venue for self-expression and a place to receive informational and emotional social support which could also promote positive outcomes for body image (Goodyear et al., 2019; Third et al., 2017). This suggests that, in addition to a range of potentially problematic features, there may be aspects of social media that serve more protective effects for body image

## **1.12 Overview of research findings on Social Media's Influence on Body Image**

Research into the effects of social media on body image has burgeoned in recent years. The following section will provide an overview of this research and outline our current understandings of how social media influences adolescent and young adults' body image. This section will outline how social media use and especially engagement with body-related content on social media, is associated with increased body dissatisfaction in experimental, correlational, longitudinal and qualitative studies. Evidence supporting the role of appearance comparisons and body ideal internalisation in the production of body dissatisfaction on social media will be also discussed, as well as the influence of gender and age as moderators of these effects.

### **1.12.1 Experimental studies**

Early experimental studies sought to investigate whether exposure to body ideals on social media elicited body dissatisfaction by comparing body (dis)satisfaction scores pre and post exposure to body ideals that were presented in social media contexts. Studies either exposed participants to their own social media news-feeds (Fardouly & Vartanian, 2015; Mabe et al., 2014), images extracted from social media posts or fabricated personal social media profiles (Appel et al., 2016; Haferkamp & Krämer, 2011). Mirroring trends of traditional media's influence on body image (Barlett et al., 2008; Grabe et al., 2008; Groesz et al., 2002), experimental studies on social media have generally reported small-to-moderate increases in body dissatisfaction following exposure to idealised body-related content on social media (Holland & Tiggemann, 2016).

Studies comparing the influence of exposure to body ideals on social media versus traditional media have yielded mixed results. While studies report that traditional and social media produce equivocal effects, others mostly find that social media exposure produces greater body dissatisfaction than traditional media (Fardouly et al., 2015a). However, due to methodological limitations, it is unclear whether these larger effect sizes are due to the compelling nature of the social media platforms themselves, or the types of messages that are conveyed about the body by social media, or a combination of the two (Tiggemann & Zaccardo, 2015). Some studies have revealed that experimental exposure to the "fit ideal" produces greater levels of body dissatisfaction in women than the "thin ideal" as it purportedly contains an added prescription of being muscular as well as thin (Benton & Karazsia, 2015; Robinson et al., 2017). This provides support for the notion that the content influences body image outcomes. Other studies have found that social media affordances influence body image perceptions in problematic ways. For example, Kleemans and colleagues (2018) found that exposure to photos that were manipulated on Instagram yielded worse outcomes for body image than exposure to unedited original photos; furthermore, individuals often struggled to recognise whether an image had been edited or not and this heightened body dissatisfaction because idealised images were perceived as being normal.

However, disclosing whether photos have been edited or not on social media has not been found to improve body image perceptions (Tiggemann et al., 2017). The process of editing and enhancing one's own photos before posting them to social media has also been found to negatively impact female body image (Mills et al., 2018). Mills and colleagues (2018) posited that retouching photos highlighted an individual's perceived flaws or imperfections thereby negating body satisfaction. Further research is required to pinpoint the extent to which social media content and affordances influence body image perceptions.

In general, experimental studies have struggled methodologically to capture the dynamic, interactive and personalised nature of social media within a controlled environment (Fardouly & Vartanian, 2016). However, despite these limitations, experimental studies reveal that even brief exposure to body ideals or body-related content on social media gives rise to body dissatisfaction and it is likely that repeated exposure to body-related content would exert a cumulative effect on body dissatisfaction levels; however, further research is required to establish this. Research is also required to investigate the effects of experimental exposure to body ideals and body-related social media content in adolescents. Many studies have documented temporal increases in body dissatisfaction following experimental exposure to body-related media images (Durkin et al., 2007; Durkin & Paxton, 2002); however, there is a dearth of studies that have investigated exposure effects in social media with adolescents. Similarly, there is a lack of experimental studies investigating social media effects in males. Meta-analyses have found that exposure to body ideals in traditional media elicited body dissatisfaction in males (Barlett et al., 2008; Blond, 2008). While it is likely that similar effects would be observed with exposure to body-related content on social media, research is required to establish this.

### **1.12.2 Correlational studies**

Initial correlational research into social media effects largely found that increased social media use was associated with worse outcomes for body image (Holland & Tiggemann, 2016). While some studies failed to observe a relationship between social media use and body dissatisfaction, these studies investigated broad social use and did not distinguish between the platforms used (Saiphoo & Vahedi, 2019). Some platforms, notably Facebook and Instagram, have been implicated in body image issues because of the visual and appearance focused nature of these platforms (Brown & Tiggemann, 2016; Meier & Gray, 2014). Earlier studies also only investigated broad measures of social media use, such as total time spent on social media and frequency of use, but not specific behaviours engaged with by social media users (Cohen, Newton-John, & Slater, 2017).

Subsequent research has revealed that it is the propensity to engage in appearance-related behaviours on social media that predicts body dissatisfaction and not just total time spent on social

media (Cohen et al. 2017). Specifically, engaging with photo-based activities (Meier & Gray, 2014) or following appearance-focused accounts on social media (Cohen et al., 2017) have been observed to produce negative body image outcomes, indicating that increased exposure to body-related content facilitates increased opportunities to compare and internalise this content (Mingoia, Hutchinson, Wilson, & Gleaves, 2017). Engaging in negative appearance comparisons, especially with peers, has been found to mediate the relationship between exposure to body-related content on social media and body dissatisfaction in women (Fardouly & Vartanian, 2015).

Cross-sectional and prospective studies (Stice & Agras, 1998; Stice & Bearman, 2001) have consistently found that individuals who strongly internalise body ideals tend to experience greater levels of body dissatisfaction and tend to be more negatively impacted by exposure to body ideals (Dittmar & Howard, 2004). Studies have also found that with increased age, social media tends to exert less negative effects on body image, and this is attributed to decreased internalisation and appearance comparison processes in older users (Saiphoo & Vahedi, 2019).

Some research suggests that women experience more negative outcomes arising from social media use than men and this may be due to differences in social media usage patterns between men and women (Chua & Chang, 2016). Women have been found to report spending more time engaging in appearance related content on social media including posting more photos of themselves and investing more in photo selection and editing than men (McAndrew & Jeong, 2012). Furthermore, images of female bodies tend to attract more attention, scrutiny and commentary versus images of male bodies on social media (MacIsaac et al., 2018). Women tend to value the receipt of likes/comments on social media posts more than men, and tend to be more negatively affected by the failure to receive validation for their self-presentation on social media (Chua & Chang, 2016). Adolescent girls have been reported to use the numbers of “likes” received on posts to evaluate the level of peer approval for their bodily appearance (Chua & Chang, 2016). The receipt of many likes is indicative of success in conforming to peer beauty ideals and confers a level of acceptance, status, popularity and enhanced wellbeing to recipients (Chua & Chang, 2016; Valkenburg, Peter, & Walther, 2016). However, failure to receive this validation can be a highly distressing experience that gives rise to body dissatisfaction, lowered self-esteem and problematic body-related behaviours in adolescent girls (Chua & Chang, 2016).

Men appear to be far less impacted by peer feedback indices such as likes/comments on social media, but tend to experience body dissatisfaction via appearance-related teasing and comments received on the content they share online (Kenny et al., 2017a). However, two recent meta-analyses have found no difference between social media’s effect on body image in men and women (Holland & Tiggemann, 2016; Saiphoo & Vahedi, 2019). Both analyses revealed that that gender did not moderate the relationship between social media use and body dissatisfaction. Saiphoo and Vahedi (2019) suggest that social media is targeted at both genders who use social media extensively. This contrasts with traditional media that portrayed predominantly female



images and therefore may have elicited disproportionate effects in women. This also aligns with recent body image research that has failed to identify gender differences in body dissatisfaction levels (e.g., Kumar, 2016; Turel et al., 2018).

However, in Holland and Tiggemann's (2016) meta-analysis, only six articles looked at gender differences, of which five reported that men and women responded similarly to body-related content on social media, for example, exposure to body ideals increased feelings of body dissatisfaction in both men and women. However, two of these studies did not investigate the magnitude of these effects for men versus women, nor were any moderator analyses conducted (Haferkamp & Krämer, 2011; Kim & Chock, 2015). Another study did find gender differences in the magnitude of body shame and self-objectification in women and men but did not find statistically significant differences in body shame and sexual assertiveness in men and women – indicating that there were in fact gender differences in body-related constructs (Manago et al., 2015). Furthermore, the generalisability of two of these studies (de Vries et al., 2014, 2016) may be limited because they were conducted in the Netherlands, which is considered a “feminine” culture where gender differences are reported to be less distinct according to Hofstede's (1998) cultural dimensions theory, and therefore it is unclear whether the absence of gender differences exist in other more “masculine” countries such as Ireland. Therefore, Holland and Tiggemann's (2016) inference that there are no gender differences in terms of social media's impact on males and females is questionable. While Saiphoo and Vahedi (2019) had sufficient power to detect moderating effects of gender, they only included studies in which participants reported active use of social media. Studies involving passive use of social media, such as receiving likes or comments were not included. It is possible therefore that there are differences in how male and female body image perceptions are impacted by feedback indices on social media as indicated by single studies (Chua & Chang, 2016; Kenny et al., 2018). Although it is likely that body dissatisfaction is an equally pressing issue for men and women and that both genders are similarly impacted by their social media use; however, further research is required to establish this.

In general, correlational studies suggest that increased investment in and engagement with appearance focused content on social media is associated with greater body dissatisfaction, and this relationship is mediated by internalisation and comparison processes. Individuals are differentially affected by social media depending on the extent to which they engage in internalisation and comparison processes.

### **1.12.3 Longitudinal research**

While these correlational studies suggest an association between increased appearance focused behaviours on social media and body image concerns, these studies are limited in their ability to determine the directionality of this relationship. Longitudinal studies are required to establish this; however, there is currently a dearth of studies that have investigated long term

effects of social media use on body image (Fardouly & Vartanian, 2016). The few longitudinal studies that have been conducted suggest that increased social media use is predictive of body dissatisfaction and that pre-existing levels of body dissatisfaction do not predict social media use (de Vries et al., 2016; Hummel & Smith, 2015; Smith, Hames, & Joiner, 2013). One study found that engaging in problematic appearance-related behaviours on social media was predictive of body dissatisfaction four weeks later (Charmaz, 2003). An ecological momentary assessment study, which tracked college women's appearance comparison tendencies at multiple points throughout the day for the duration of a week, revealed that upward appearance comparisons made on social media were more deleterious than upward appearance comparisons made in person or any other context (Fardouly et al., 2017). The authors posited that the idealised presentation of comparison targets on social media may result in more extreme comparisons being made and may highlight larger perceived discrepancies between oneself and the comparison targets (Fardouly et al., 2017).

Few longitudinal studies have been conducted with adolescents. One study followed Latino adolescent girls over a 6-month period and found no prospective or concurrent relationship between social media use and body dissatisfaction (Ferguson et al., 2014). However, the failure to observe effects on body image specifically may be explained by the broad measures used to capture social media use, which including gaming and blogging. This study did find that social media use predicted increased peer competition, which was associated with body image, suggesting that social media may have exerted indirect effects on body dissatisfaction (Ferguson et al., 2014). A longitudinal study that investigated the effect of a Dutch social media site (Hyvnes.nl) on body image in Dutch adolescents reported that increased use of this platform was associated with greater body dissatisfaction at an 18 month follow up (de Vries et al., 2016). However, given that the first study's measure of social media is so broad, and the other is so context-specific, it is difficult to generalize these findings to social media sites popularly used by adolescents.

The generalizability of longitudinal studies is also limited by their relatively short duration ranging from seven days (Fardouly et al., 2017) to four weeks (Hummel & Smith, 2015; Smith et al., 2013) (with only one study of extended duration, 18 months (de Vries et al., 2016)) and their predominant focus on female body image. However, these longitudinal studies appear to support the causal role of negative appearance comparisons on social media in producing body dissatisfaction.

#### **1.12.4 Qualitative studies**

Relatively few qualitative studies have investigated social media's influence on body image, and those that have, have almost exclusively investigated adolescents' experiences of social media. Qualitative studies will be discussed in more detail in Chapters 2 and 4; however, in short these studies have found that, social media is a strong source of appearance pressure males and

females (Burnette et al., 2017; Edcoms & Credos, 2016; Grogan et al., 2018); that adolescents endorse sociocultural ideals of leanness and fitness despite their scepticism of unrealistic nature of fitnesspiration content (Bell et al., 2019); that adolescent boys are less aware of photo manipulation practices and perceive body ideals as attainable (Edcoms & Credos, 2016) and that critical processing of body ideals and appreciation of diverse body types can protect against the negative effects of social media's influence in adolescent girls (Burnette et al., 2017). These studies have also found that adolescent and young adult body image is influenced by appearance comparisons with celebrities and peers and that photo-sharing and self-presentation are problematic behaviours for adolescents and young adults, eliciting high levels of self-criticism and dissatisfaction especially among girls/women (Bell, 2019; Grogan et al., 2018). Although there are not many qualitative studies, they do indicate that social media exerts a strong and often negative influence over body image perceptions of adolescents and young adults. However, further research is required to understand how young people, especially young adults, select and process body-related social media content and the motives for engaging with content and platforms in these ways.

#### **1.12.5 Positive influences of social media on body image**

Few studies have investigated features of social media that could exert positive effects on body image; however, Diedrichs and Lee's (2011) experimental study found that exposure to average sized fashion models versus thin and no models was associated with increased positive body image in men and women who had moderate to high trait levels of body ideal internalisation. This finding could suggest that the greater diversity of bodies exhibited on social media may serve protective effects; however, this was not investigated directly and also a comparison of exposure to a muscular ideal was not investigated for men, which limits inferences regarding protective effects of "average bodies" on social media and for men. Another experimental study found that exposure to "body positive" images was associated with improved mood, body satisfaction and body appreciation versus thin ideal and appearance neutral images in women, but these effects were not investigated in men (Cohen et al., 2019). Additionally, following exposure to these body positive images, young women also experienced increased body-objectification, which is typically associated with poorer outcomes for body image, indicating that the beneficial effects of this content may be limited (Cohen et al., 2019). Two other studies found that an advertising campaign, in which images were not digitally altered, exerted protective effects for body image and were perceived as being helpful for promoting positive body image among adult women (Convertino et al., 2019; Rodgers et al., 2019). Overall though, there is a dearth of studies that have investigated protective features for body image on social media, particularly with men and adolescents.

### **1.13 Critical overview and directions for future research**

Content analyses reveal that social media contains large volumes of body-related content, while correlational and experimental studies report that increased social media use is associated with greater levels of body dissatisfaction, lower body esteem and problematic body-related behaviours in both males (Fox & Rooney, 2015) and females (Fardouly et al., 2015a) adolescents (Meier & Gray, 2014) and college students (Fardouly et al., 2015a; Lee et al., 2014). Evidence also exists to support the relationship between social media use and body dissatisfaction and the mediation of this relationship by internalisation and appearance comparison processes (Rodgers & Melioli, 2016).

However, most of the studies on social media's effects on body image have been confined to adolescent and college age female samples and have failed to investigate male body image despite the increased recognition of body image as an issue of importance for men (Fardouly & Vartanian, 2016; Perloff, 2014b). To redress this issue, the current thesis will aim to incorporate both male and female experiences of body image on social media. Furthermore, most body image research has been conducted in Western societies such as the USA, Canada, Australia, Britain and the Netherlands (Perloff, 2014b); however, few studies have been conducted in the Irish context, and even fewer have investigated social media's impact on body image in Irish samples. Country grouping has been found to moderate the effects of social media on body image, with Australians noted to experience poorer body dissatisfaction than Europeans or North Americans following social media use, despite all three prescribing to "Western" beauty ideals (Saiphoo & Vahedi, 2019). Although Ireland would prescribe to Western ideals of beauty, it does constitute a unique cultural context, that is shaped by both American and European influences (O'Toole, 2002), and is in need of investigation particularly when considering the high rates of body dissatisfaction reported by Irish youths (Dooley et al., 2019).

There also are gaps in our knowledge about how body dissatisfaction manifests and how it can be mitigated on social media, which need to be addressed. Although appearance comparisons and body ideal internalisation are found to mediate the relationship between social media use and body dissatisfaction, little is known about the precise features or behaviours on social media that amplify or reduce these mediating processes. It is not known whether the unique affordances and content on social media outlined in the literature review simply magnify the appearance comparison and body ideal internalisation behaviours observed in traditional media, or whether they transform how these mediating mechanisms operate – thus far the potential influence of affordances/content on body image has been mostly speculative. Additionally, while appearance-focused behaviours have been implicated with heightened body dissatisfaction, the precise

appearance-related behaviours engaged with by young people and how they impact body image requires further documentation. Furthermore, as discussed in the literature review, the body image outcomes arising from appearance comparison behaviours are influenced by the target, direction, perceptions of similarity with and motives of comparison and it is likely that social media content and affordances have influenced these dimensions of comparison. However, little research has investigated how social media has influenced these dimensions of comparison or how they operate in the social media context to influence body image outcomes. This thesis will therefore seek to investigate the appearance comparison behaviours engaged with by young people on social media, the factors that influence these behaviours and their outcomes for body image.

Additionally, further research is required to understand the ways that body-related content is perceived by young people, and the extent to which this content influences body image perceptions and body-related behaviours. There is a need to understand this, because the body-related messages on social media have been noted to differ from traditional media in terms of form and content. Notably there appears to be an increased focus on health, fitness and “fit ideals” on social media which may alter appearance related pressures. Coinciding with this, is a recent influx of body-positive content espousing “body positivity” and “body acceptance” which may serve protective effects for body image and reduce appearance comparisons with body ideals. However, little is known about how these messages influence body image perceptions (Betz & Ramsey, 2017). Additionally, while the influence of generating and sharing content of one’s own body on social media has been investigated in women, little is known about image sharing practices in men and how they influence male bodily perceptions.

Moreover, much of the research investigating the effects of social media on body image has been quite simplistic and has failed to account for the complex nature of social media effects. Studies attempting to identify simple, direct effects of social media use on body image are likely to have underestimated the nature/strength of social media’s impact (Perloff, 2014b). Contemporary media effects models (Slater, 2007; Valkenburg & Peter, 2013) acknowledge that social media usage outcomes are the product of complex, reciprocal transactions between the media content and the social media user. The Uses and Gratifications framework (Katz et al., 1973; Rubin, 2009) states that individuals selectively attend to and process certain kinds of media in order to fulfil social, psychological and physiological needs. Several individual difference and social contextual factors interact to influence outcomes for body image. Individual differences are posited to govern the types of media attended to, the motivations to seek that media and the subsequent effects of media exposure (Fitzsimmons-Craft, 2011; Katz et al., 1973; Rubin, 2009; Valkenburg & Peter, 2013).

Research has identified some dispositional factors associated with problematic social media use and negative outcomes for body image, including low self-esteem, negative affect, pre-

existing body image concerns, strong body ideal internalisation (Perloff, 2014). However, little research has investigated the motives underpinning the selection and processing of body-related content on social media. It is important to understand the motives underpinning appearance comparison behaviours because they have been noted to influence the affective consequences of these behaviours. For example, comparing oneself for self-improvement motives has been associated with more positive outcomes for body image (Halliwell & Dittmar, 2005), while poorer body image outcomes tend to be associated with comparing oneself for self-evaluative reasons (Martin & Gentry, 1997). There is a need to understand motives underpinning social media use, given the highly active roles users play in consuming and producing the content that gives rise to body dissatisfaction (Sundar et al., 2015). This thesis will aim to document the motives underpinning content selection and will attempt to identify how individuals interact with social media to influence outcomes of use (Melioli et al., 2016).

This thesis will also investigate whether there are differences in the motives underlying the selection and processing of body-related content on social media between adolescents and young adults, and whether this impacts on body image outcomes. Developmental factors have been implicated in the selective use of and responsiveness to media content. For example, research has found that adolescents tend to seek out more emotive, risk-taking, humorous media content while adults tend to seek non-arousing, uplifting media content (Valkenburg & Peter, 2013). However, the motives and gratifications in sought in relation to body-related content on social media have not been well documented among adults or adolescents.

In addition to content selection and motives of use, media effects models have also emphasised that the outcomes of media use are also influenced by the ways that individuals interact with the media and respond to its content/affordances. To date there has been little research on how individuals process body-related content on social media or the strategies used by young people to protect or promote body image on social media. Although protective filtering has been identified as an aspect of positive body image that may alleviate body image concerns arising from social media use, very little research has investigated this concept (Andrew et al., 2015). This thesis will also investigate the processing and coping strategies employed by young people to foster healthier outcomes for body image on social media.

Although the literature has traditionally focused on body dissatisfaction because of its associations with eating pathology (Tylka, 2011), it has recently been noted that countering body dissatisfaction alone is not sufficient to produce healthy outcomes for body image - fostering positive body image is also required (Cook-Cottone, 2015; Piran, 2015). Although this thesis will mostly focus on identifying risk factors for body dissatisfaction, in recognition of the fact that exploring protective factors is important for encouraging health body image, it will include a consideration of positive body image and ways it can be promoted it on social media. As far less is known about the content and affordances that may serve protective benefits for body image, this

thesis will aim to close this gap by identifying factors that may buffer appearance comparison and body ideal internalisation behaviours.

A qualitative approach, involving focus groups was considered well suited to addressing these gaps and providing a detailed and nuanced account of these mechanisms. Such an approach is particularly warranted given the lack of qualitative research investigating social media effects on body image, especially in adults and men.

In addition to these gaps our knowledge of social media effects, shortcomings in the methodologies employed to investigate social media's impact on body image have also been identified. Experimental studies have been critiqued for their lack of ecological validity, while many correlational studies have used outdated, unvalidated and unsystematically constructed scales, often consisting of only one or two items. Other scales have borrowed directly from measures used in traditional media research and have simply substituted the word "social" in place of "traditional" media in self-report questionnaires. Such a practice is largely inappropriate given the differences in appearance-comparison affordances provided by social and traditional media (Solomon, 2016). As discussed above, social media propagate differing content and are more visual, accessible, interactive, appearance-focused and peer-focused and these contextual characteristics may produce unique effects on appearance comparison behaviours and subsequent body image perceptions (Rodgers & Melioli, 2016; Solomon, 2016). However, the influence of these contextual factors on appearance comparisons in social media have not been extensively explored to date. This thesis will address the core limitations of measures/scales applied to address appearance comparison behaviours on social media and will use the findings of focus groups studies to develop a psychometric measure to more adequately capture this important mediating mechanism on social media.

Developing this comprehensive understanding of the mechanisms that underpin body dissatisfaction on social media is essential to inform efforts to mitigate body dissatisfaction arising from social media use. Body image is a longstanding issue, and yet limited progress has been made in the development of effective interventions to tackle body dissatisfaction (Yager et al., 2013). At present, existing interventions have been considered to be restricted in their ability to improve body image perceptions (Alleva, Sheeran, Webb, Martijn, & Miles, 2015). A meta-analysis of 62 stand-alone body image interventions reported that they produced small-to-medium effects in improving body image ( $d=0.38$ ) and reducing body ideal internalisation ( $d=0.37$ ) and large reductions in social comparisons ( $d=-0.72$ ) (Alleva, Sheeran, Webb, Martijn, & Miles, 2015). However, when the authors corrected for biases within and across studies, the effect size of changes in body image was small, while other outcomes were not considered reliable once biases were accounted for (Alleva et al., 2015). Similarly, Yager and colleagues' (2013) systematic review of body image interventions for adolescents revealed that only 7 out of 16 interventions were effective in producing significant change in at least one outcome variable, and effect sizes were small ( $d=.22$  -

.48). Furthermore, body image intervention studies have been limited by small sample sizes, the exclusion of male participants, the lack of randomized controlled designs and the failure to include sufficient longitudinal follow ups (Yager & O’Dea, 2008).

Social media is a challenging space for body image and there is a pressing need to develop ways of helping youths navigate and manage themselves in this tenuous environment (Perloff, 2014b). Thus far, social media literacy programmes have been trialled as a way to address body dissatisfaction on social media, and while one study found that they were effective in producing gains in body image outcomes in adolescent girls (McLean et al., 2016c), similar gains have not been observed in adolescent boys (Tamplin et al., 2018). Worryingly, Alleva and colleagues’ (2015) meta-analysis identified media literacy programmes as being contra-indicated for body image as they focus people’s attention towards idealised bodies that are unattainable, and although people can rationalise that these bodies are not attainable, they still experience body dissatisfaction from these undesirable comparisons. There is an evident need to develop alternative and effective ways of addressing body dissatisfaction on social media. This thesis aims to use the findings about risk and protective factors for body dissatisfaction, obtained from focus group and scale development studies, to inform the development of an intervention to counter body dissatisfaction.

More specifically, it will explore self-compassion as an alternative way to address body dissatisfaction. Compassion focused approaches (e.g. Gilbert, 2009, 2014; Neff, 2003; Wallmark, Safarzadeh, Daukantaitė, & Maddux, 2012) have recently received research attention as approach that can address body dissatisfaction and also promote positive body image. Compassion focused approaches aim to help individuals relate to themselves in kinder, more understanding ways, with the hope that this may counter the critical self-evaluations about one’s body, which are at the root of body dissatisfaction (Albertson, 2013). In particular, self-compassion may help negate the competitive appearance comparisons associated with body dissatisfaction and encourage comparisons to be interpreted with a more balanced, perspective that promotes body-appreciation rather than judgement (Albertson, 2013). Preliminary findings suggest that compassion-focused interventions are effective in improving body image outcomes in adults; however, these findings must be interpreted cautiously due to methodological issues in the field. Furthermore, little is known about their effectiveness in adolescents (Rahimi-Ardabili et al., 2018). This thesis will investigate Paul Gilbert’s (2010) Compassionate Mind Training—approach as a way of countering problematic appearance comparisons on social media to reduce body dissatisfaction and improve body-appreciation. Literature pertaining to compassion focused approaches will be further discussed in Chapter 5.



### **1.14 Thesis aims**

This thesis aims to:

1. Document how social media influences the appearance comparison and body ideal internalisations that give rise to body dissatisfaction in young adults and adolescents
2. Identify social media factors that intensify or buffer against appearance comparisons and body ideal internalisation in both males and females
3. Use these findings to inform intervention/prevention efforts to counter body dissatisfaction.

### **1.15 Thesis objectives**

To meet these research aims our objectives were to

1. Conduct separate focus groups with young adults and adolescents to explore social media's influence on body image, including the appearance comparison and body ideal internalisation behaviours engaged in and the factors (e.g. social media features/personal characteristics) that influenced them.
2. Compare adolescent and young adult's perceptions of social media's influence on body image by using the same interview schedule for both focus groups
3. Use the focus group findings and extant literature, to develop a psychometrically sound measure that quantified appearance comparison behaviours specific to the social media context.
4. Evaluate the reliability and validity of this scale in a large sample.
5. Use findings from our studies and existing literature, to inform the development of a psychosocial intervention that could address problematic appearance comparison behaviours on social media and reduce body dissatisfaction in youths.
6. Evaluate the feasibility, acceptability and effectiveness of such an intervention using a mixed methods approach

### **1.16 Thesis outline**

This thesis will begin by qualitatively exploring appearance comparison and body ideal internalisation behaviours on social media in young adults and adolescents (Chapters 2 and 4). It will proceed to address some of the methodological issues surrounding the measurement of appearance comparison behaviours (Chapter 3). It will then investigate ways to address body dissatisfaction arising from social media use and will describe compassion focused approaches as a novel way to address body dissatisfaction arising from social media use (Chapters 5, 6 and 7). Key findings and reflections will be summarised in the concluding chapter (Chapter 8).

## **Chapter 2. A Qualitative Investigation of Social Media's Influence on Young Adults' Body Image**

### **2.1 Chapter aims**

Chapter two qualitatively explores young adults' experiences of social media and body image. It outlines existing qualitative studies conducted with adults and the gaps this study aims to fill. It then describes the methodology used to analyse qualitative data for this and subsequent qualitative studies (Chapters 4 and 6). The findings are then discussed in relation to relevant literature and will also be compared with outcomes of adolescent focus groups (Chapter 4). Findings will also be used to develop a psychometric scale to quantify appearance comparison behaviours on social media (Chapter 3).

### **2.2 Introduction**

As outlined in Chapter 1, body dissatisfaction is a widespread issue among young adults and one that can be strongly influenced by social media use (Mond et al., 2013; Saiphoo & Vahedi, 2019). Although quantitative research has documented the problematic influence of social media on young adult body image perceptions (Holland & Tiggemann, 2016; Saiphoo & Vahedi, 2019), very little qualitative research has been conducted with young adults to explore this influence in detail (Rodgers & Melioli, 2016). Most qualitative research with adults has been conducted in the context of traditional media (Ahern et al., 2011; Diedrichs et al., 2011; Ryan & Morrison, 2009), which we know differs in terms of content and affordances to social media (Solomon, 2016). Social media are more visual, personalised, peer-focused, appearance-focused and accessible; these unique features are important to investigate as they may influence how adults perceive body-related content and/or develop body dissatisfaction from social media use (Solomon, 2016).

Only one study (to the author's awareness) has qualitatively investigated how social media and its unique features, influence body image perceptions in young adults (Grogan et al., 2018). Interviews with 18 American women aged 19-22 years revealed that social media, especially Instagram and Facebook, exerted a mostly negative influence on body image perceptions. Women's endorsement of fit/athletic ideals and their appearance comparisons with peers and celebrities were problematic for body image. Celebrity comparisons exerted less of a negative impact than peers because their images were known to be photoshopped. Posting and editing images of oneself on social media also negatively impacted body image perceptions. Generating idealised versions of themselves on social media drew participants' attention to their perceived flaws, heightened self-monitoring of their appearance and increased their appearance comparisons with others. Although selfies and personal profiles provided a venue for self-expression, this was

limited by the constraints of having to post content that aligned with pre-existing ideals to receive validation and acceptance from others in the forms of “likes” and “comments”.

Although informative, this study was conducted with a relatively small number of participants and it is unclear how generalisable the findings are, particularly to an Irish context. Further research is required to assess how photo posting and editing behaviours influence adult body image perceptions. Additionally, while this study provides insight into multiple behaviours through which women can develop body dissatisfaction, less is known about the image posting, photo-editing and other body-related behaviours engaged with by men and how it is perceived to influence their body image. Little qualitative work has been conducted with adult men despite growing evidence that body image is an increasingly important issue for men and that social media reportedly exerts comparable influences on male body image as female body image (Saiphoo & Vahedi, 2019). This study sought to close these gaps by investigating both adult men’s and women’s appraisals of social media, the body-related behaviours they engaged in, how they responded to appearance-related feedback and how social media influenced their body image.

It is important to understand how men and women appraise body-related content on social media as it is likely to influence the types of body ideals internalised. The body ideals that individuals internalise shape the body-related behaviours that individuals engage in and the perceptions individuals form about their own bodies (Grogan, 1999; McCabe et al., 2015; Thompson et al., 1999). Social media propagate diverse body ideals, with the fit ideal emerging as the prevailing body ideal for men and women (Betz & Ramsey, 2017). Qualitative analysis of open-ended survey responses of 180 adults (150 women), revealed that participants considered fit ideals on social media to have a positive influence on their body image, because they encouraged the pursuit of a healthy lifestyle and a fit body within a community of likeminded, motivated peers (Raggatt et al., 2018). This positive evaluation of fit ideals contrasts with the bulk of quantitative research which suggests that fit-ideal content is more harmful for female body image than the thin-ideal, because it prescribes a standard of beauty that is more difficult to attain (Prichard et al., 2020; Robinson et al., 2017). As Raggatt and colleagues’ (2018) study may have suffered from self-selection bias, where participants may have unintentionally positively skewed perceptions of fitness ideals, further research, with a diverse sample containing more men is required to explore perceptions of fitness content, particularly as social media is known to exert a strong influence on young adults’ diet and exercise behaviours (Vaterlaus et al., 2015).

Research is also required to evaluate young adults’ perceptions of an emerging body-positive movement on social media, which claims to promote diverse bodies and body-acceptance (Betz & Ramsey, 2017; Sastre, 2016). This content is touted to promote positive body image because it counters the narrow, rigid body ideals at the root of body dissatisfaction and might represent a promising way of promoting positive body image on social media (Cohen et al., 2019; Convertino et al., 2019). Interviews with 35 female college students aged 18-23 years found that a

body-positive advertising campaign which included diverse bodies and avoided digitally altering photos was held in high esteem because it made participants feel more positive and accepting of their own bodies (Rodgers et al., 2019). However, the extent to which adults endorse and engage with this content on social media and the ability of this content to enhance body image perceptions is not well known (Betz & Ramsey, 2017; Cohen et al., 2019). This study sought to understand how adults perceive the body-related content they encounter on social media, and to identify the extent to which they endorse the various body ideals that are propagated.

Appearance comparisons have also been identified as primary mediator between social media use and body dissatisfaction (Fardouly et al., 2015b, 2017). However, a fine-grained insight into the targets of comparison, perceptions of similarity with comparison targets and the motives underpinning comparisons on social media has not been established. As detailed in Chapter 1 (Bessenoff, 2006; Collins, 1996; Dijkstra, Gibbons, & Buunk, 2010), we know that these factors (similarity/attainability/motives) influence the outcome of appearance comparisons and understanding how they influence body image perceptions is important for identifying problematic and protective behaviours on social media. We anticipate that social media affordances have increased the number of comparison targets, the frequency of comparisons with these targets and the perceived similarity to these targets, all of which may heighten the influence of social media on body image (Blond, 2008; Chua & Chang, 2016; Kaplan & Haenlein, 2010).

Although little research has investigated this previously, we expect that the new comparison target on social media, the social media influencer/fitness blogger, may exert particularly strong influences on individuals because they are perceived as more relatable despite embodying idealised, largely unattainable lives. We also anticipate that peers and celebrities may exert strong influences on body image; however, existing research is mixed as to whether peers or celebrities exert more influential and detrimental influences on body image (Chou & Edge, 2012; Fardouly & Vartanian, 2016). Additionally, the motives driving comparisons may be influenced by the nature of the content on social media; the motivational aspect tied to fitspiration content may encourage comparisons for body image protective self-improvement motives (Halliwell & Dittmar, 2005; Tiggemann & Zaccardo, 2015; Vaterlaus et al., 2015), or the predominant aesthetic focus may encourage comparisons for more problematic self-evaluative motives (Carrotte et al., 2017; Martin & Gentry, 1997).

Furthermore, previous research has suggested that the appearance comparison strategies of men and women differ. Franzoi and colleagues (2012) found that men engage in fewer appearance comparisons than women; the types of comparisons made by men are more self-protective than women's; men's comparisons tend to be more self-hopeful while women's are more self-critical. Men also tend to engage in downward protective comparisons, while women avoid these comparisons (Franzoi et al., 2012; Strahan et al., 2006), and when they do, they fail to provide protective effects (van den Berg & Thompson, 2007). However, these comparison behaviours have

not been extensively investigated in a social media context to date. This study sought to evaluate the targets with whom adults compared their appearance, the perceptions of these comparisons and impact of these comparisons on body image.

Finally, reflecting a traditional focus in the literature on risk factors, very little qualitative research has investigated ways to protect or promote body image among young adults on social media. Contemporary media effects models (Valkenburg & Peter, 2013), suggest that the outcomes of social media use are in part determined by the user and how they select and engage with content. Given the extended opportunities for users to control their exposure to and engagement with social media (i.e. through actively self-selecting and self-generating content) they arguably play an influential role in determining the body-related outcomes of their social media use (Valkenburg et al., 2016). Therefore, identifying the content selection and processing practices that buffer negative impacts of social media and/or promote positive body image is important for guiding intervention efforts.

Several protective body image strategies have been identified in qualitative research looking at how individuals managed body-related content on traditional media and how individuals achieved a positive body image. Avoidance, critical processing of, and distancing oneself from body ideals, have been identified as factors that protected body image in studies of body image in traditional media (Ahern et al., 2011). Additionally, protective filtering of body-related content, whereby individuals purposively reject idealised body related content and selectively process positive body related content, has been identified as an aspect of positive body image that might be instrumental in promoting body image but has not been extensively qualitatively investigated in the context of social media (Andrew, 2015). Given that we know little about how young adults manage body image on social media, this study seeks explore the strategies (if any) that young adults use to protect and promote body image on social media.

A qualitative approach was well positioned to provide these nuanced insights into the individual and shared perceptions and experiences of social media. Single sex focus groups with young adults (college students) explored 1.) social media's influence on body-related thoughts, emotions and behaviours 2.) the mechanisms through which social media influences body image i.e. appearance comparison and body ideal internalisation behaviours 3.) the unique features of social media (i.e. the content and affordances) that influence body image outcomes and 4.) the strategies adults use to protect and promote body image on social media.

## **2.3 Methods**

### **2.3.1 Design**

Focus groups, which involve guided discussions of research topics in an interactive group setting, were used to investigate social media's influence on body image and individuals' response to this influence. Focus groups were considered suitable because they provide a rich and ecologically valid insight into the opinions and lived experiences of participants in their own words and from their own perspectives (Greene & Harris, 2011). Focus groups also enable detailed, nuanced accounts of respondent's beliefs, attitudes, behaviours and motivations to be collected, thereby facilitating the study aims of understanding young adult's perceptions and motives of social media use. Exploring young people's shared experiences of social media and body image can help determine how young people interact with social media to influence outcomes for body image and can help identify features or behaviours on social media that may be more or less pertinent/influential for body image (Vaughn et al., 1996). Focus groups are considered more useful than one-to-one interviews for this kind of exploratory work, because they facilitate greater elaboration of ideas and provide a vocabulary to discuss topics which may be helpful considering the rapidly evolving nature of social media platforms/practices and the terminology used to describe them (Greene & Harris, 2011; Heary & Hennessy, 2006). Finally, because focus groups have been found to be useful in informing the development of survey instruments and intervention protocols, they were considered appropriate given our secondary aim of developing a psychometric measure to capture relevant appearance comparison behaviours in the social media context (Liamputtong, 2015; Vaughn et al., 1996).

Gender-specific focus groups were conducted because they are reported to facilitate greater comfort and ease in discussing sensitive topics such as social media and body image (Liamputtong, 2015). Furthermore, as men and women are likely to experience body image and social media differently, separate focus groups enable a comparison of these experiences across gender. We aimed to hold equal numbers of focus groups with men and women, containing approximately equal numbers of male and female participants. As recommended by Krueger and Casey (2014), we aimed to have between five and nine participants in focus groups.

There are varied guidelines for the number of focus groups to conduct and sample size, with numbers dependent on the complexity and accessibility of the topic, study design, quality of data and practical constraints (Carlsen & Glenton, 2011; Morse, 2015). Typically, it is recommended that data is collected until "thematic saturation" is reached, i.e. no further themes identified (Glaser & Strauss, 1967); however, it can be difficult to determine how many focus groups are required to achieve this. Guest and colleagues (2017) suggest that 80% of themes can be identified within two to three focus groups and 90% of themes in three to six focus groups, while Morse (2015) notes that fewer participants are required as the quality of data they provide increases. Carlsen and Glenton (2011) recommend that a balance between quality and quantity of data is required. Therefore, while we sought to conduct at least four focus groups in line with Guest

et al.'s (2017) recommendations, we also reviewed transcripts after each focus group to examine patterns of data and themes and aimed to continue recruitment until saturation was reached. Ultimately the number of individuals who volunteered to partake determined recruitment cessation; however, this number was deemed adequate given the exploratory nature of the analysis, the richness of the data provided and the ostensible repetition of themes across groups (Morse, 2015).

### 2.3.2 Participants

A convenience sample consisting of 24 students from a large urban university, 12 female, 11 male and one female identifying as male aged 18-27 ( $M=20.7$ ,  $SD=2.5$ ) participated in the study. Participants were recruited by word of mouth, and from advertisements placed on college notice boards and from notices shared on college email lists and social media platforms. Participants were recruited if they were social media users, college students and aged between 18-30 years. Participation was voluntary; however, psychology students at Trinity College Dublin (TCD) were offered 1 research credit for each half an hour of participation. Four focus groups, two containing men only and two containing women only were conducted. Data on ethnicity or socioeconomic status were not formally collected for focus groups because these were not the primary foci of the present research. As participants mentioned their nationality when introducing themselves at the beginning of the focus groups, it is possible to comment that most participants were Caucasian and Irish; however, this was a multinational sample where there was one English, Singaporean, Indian, Serbian, French and two American participants.

**Table 2. 1**

*Composition and Duration of Young Adult Focus Groups*

Group	Gender	Size	Duration (mins)	Age $M$ ( $SD$ ) [Range]
1	Female	6	58.56	19.83 (1.17) [19-20]
2	Female	6	47.97	19.33 (0.52) [19-20]
3	Male	5	59.55	24.00 (2.38) [22-27]
4	Male (1 female, identifies as male)	7	70.48	20.14 (2.73) [18-26]

### 2.3.3 Materials

Focus groups were audio recorded using an Olympus WS853 voice recorder and qualitative analysis software, MAXQDA (Version 2018.1) was used to analyse the data. MAXQDA is a useful and tool for data management and classification. It aids thematic analysis by enabling researchers to develop coding structures and for these codes to be reviewed and modified as necessary by other researchers. Focus groups were guided using an interview schedule (see Appendix B.6). The interview schedule was guided by five main questions:



1. How social media influenced young adults' body image perceptions (including the types of body ideals internalised, the nature of appearance comparisons engaged in).
2. What features of social media (content and affordances) influenced body image perceptions.
3. What motives underpinned their body-related social media use.
4. How was body-related content on social media processed/interpreted by young adults.
5. What strategies were used to protect/promote body image on social media.

### **2.3.4 Procedure**

This study received ethical approval from School of Psychology Research Ethics Committee, Trinity College Dublin (TCD; see Appendix A.1). On indicating interest in participation, participants were emailed an Information sheet containing study details and were offered a focus group timeslot to attend. Focus groups took place during working hours (9am -5pm) in a designated study room on the college campus. On the day of the study, participants were provided with a description of the research study, research procedures, benefits/risks of participation, participant rights and data use and protection procedures, both in writing and verbally (see Appendix B.1). Participants were encouraged to share their views openly but asked to respect other members of the group and not to discuss details of discussions outside of the group to protect the confidentiality of other group members. Participants were notified of their right to withdraw from the study and measures taken to protect confidentiality. Participants were informed that the study would begin with a general introduction, that more specific questions would follow, that there would be a break at the hour mark and that they would have the opportunity to share any additional thoughts at the end. Written consent to participate in the study and to have discussions audio recorded was obtained prior to study commencement (see Appendix B.2).

Discussions were moderated by the primary female researcher while a secondary female researcher was responsible for notetaking and timekeeping.<sup>4</sup> To help develop rapport and ease participants into the discussion, both participants and researchers introduced themselves and provided a short sentence about themselves (e.g. what course they studied/where they were from) (Greene & Harris, 2011). Discussions were guided by a structured script which began by asking participants to describe their general social media use including the platforms they used, the content they encountered, and the behaviours individuals generally engaged with, before using open-ended questions to address the specific aims outlined earlier in this chapter. Although the script was followed to ensure consistency across groups, conversations were allowed to flow naturally and given the exploratory nature of the study, the moderator was free probe for elaboration or clarification on a response or to explore other related topics if they were mentioned and appeared relevant (Rubin & Rubin, 2012). To ensure that conversations were balanced and that

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<sup>4</sup> According to Yager et al. (2013), men indicate no gender preferences for researchers but when they do, they tend to prefer women researchers because they are perceived as less threatening. Therefore, it was considered appropriate for women researchers to moderate focus groups with men.

all participants had the opportunity to contribute, the moderator gently invited quieter group members to share their views if they wished (Krueger & Casey, 2014). Before concluding the focus groups, a synopsis of key discussion points was relayed by the secondary researcher back to the group. Participants were asked if they felt it accurately reflected their thoughts/opinions and were invited to share any further comments they had. Focus groups lasted approximately 60-90 minutes and participants were invited to take a 10-minute break after an hour had elapsed, during which time refreshments were provided (Krueger & Casey, 2001). Following completion of the focus groups participants were thanked for their participation and provided a debrief sheet (see Appendix B.7) which contained information about relevant helplines that could be accessed if participants experienced any distress from participation in the study.

### **2.3.5 Data analysis**

Focus group discussions were transcribed verbatim by the primary researcher. Data was analysed using thematic analysis, a flexible and widely used approach which “seeks to describe patterns across qualitative data” (Braun & Clarke, 2006, p.9). The analysis was guided by Braun and Clarke’s (2006) six step procedure, which involved firstly becoming familiar with the data by transcribing data, reading transcripts and listening to audio recordings (Step 1). Then, initial semantic codes were generated and assigned to the data using MAXQDA software (Step 2). Semantic coding, which involves characterisation of explicit, surface meaning of content was deemed the most appropriate form of coding of the personal experiences pertinent to the research question. Data were also coded according to an essentialist/realist perspective, which assumes a unidirectional relationship between meaning and experience. This approach allows for a straightforward exploration of motivations, experiences and meaning which were the focus of the research questions. Codes were assigned to a sentence or collection of sentences in a process called axial coding (Breen, 2006). These codes were organised into a coding frame containing concise labels and descriptions of each code (see Appendix E.6 for an example of axial coding). At this point, transcripts were reviewed to ensure no relevant data had been overlooked. Related codes were grouped together, and colour coded to form themes and subthemes (Step 3). For example, codes reflecting “male body ideal” and “female body ideal” were merged to create the “perceptions of body ideals” subtheme which was coded in a light blue (see Appendix E.1 for full codebook).

An inductive approach, which allows themes to emerge from the data rather than being informed by pre-existing literature, was applied to generate themes. These themes were refined by reviewing the data at the level of the coded extracts and entire data sets to ensure that distinct, coherent themes were generated (Step 4). To verify whether these themes characterised the data, inter-coder reliability was conducted both on codes within the coding frame and final themes identified in the data. The secondary researcher who moderated the focus groups reviewed coded manuscript from an independent, informed perspective determined whether each code and each

theme accurately reflected the content of the transcription. As recommended by Breen (2006), the second researcher, using MAXQDA, reviewed the coded transcriptions indicated their agreement or disagreement with each of the pre-existing codes and themes and could suggest additional codes and themes. According to Breen (2006), to attain adequate consistency (reliability), code-to-sentence matches must occur for at least 80% of cases. Agreement between coders was calculated using the Kappa Coefficient (Brennan & Prediger, 1981) in which the observed agreement among the coders  $Pr(a)$  is divided by the hypothetical probability of the coders indicating a chance agreement  $Pr(e)$ . MAXQDA software was used to calculate the Kappa coefficient and agreement rates between both researchers which were high  $K=.92$ , indicating that a high level of inter-coder agreement had been reached (see Appendix E.6 for Kappa coefficient calculations and visual demonstration of how inter-coder agreement was conducted). The primary researcher reviewed the additional codes/themes suggested by the independent researcher and adjusted coding schemes and emerging themes where appropriate. To further refine items and generate a thematic map, codes and themes were reviewed again and some were merged, and others removed. The visual nature of map enabled patterns and links in data to be seen more clearly. Themes and subthemes were assigned names and definitions and a descriptive summary of each theme was provided (Step 5). The whole data set was read with research aims in mind to ensure all data were adequately captured. Finally, themes were described and contextualised within relevant literature on social media and body image (Step 6). These steps were conducted in an iterative, recursive manner to produce a final report and when themes were clearly distinguishable from each other, the iterative interpretive process ceased.

### **2.3.6 Establishing standards of quality and rigour in qualitative research**

Trustworthiness, credibility, transparency, transferability and confirmability are considered desirable features of good qualitative research (Greene & Harris, 2011; Lincoln & Guba, 1985). Trustworthiness (the extent to which findings are authentic) is a critical consideration of qualitative research and was established by triangulating findings with data from across young adult focus groups, adolescent focus groups in Chapter 4 and quantitative data from Chapter 3. Member checking and peer review were also used to ensure findings were trustworthy and credible (i.e. they truly reflect the phenomenon of interest). In peer review, coding schemes and themes were reviewed by the secondary researcher and by the thesis supervisor - an expert in qualitative approaches. To ensure transparency (i.e. clarity of the research process) a clear account of study aims and procedures were delineated, and to enable transferability (the extent to which findings hold true in other settings) to be ascertained, we aimed to provide a “thick” description of data (Kuzel & Like, 1991). To enable conformability (the extent to which findings can be confirmed by others) the researcher consulted extensively with the literature and maintained openness to alternative interpretations (Strauss & Corbin, 1998).

The researcher also adopted a reflexive approach and acknowledged that their own biases and backgrounds shaped the data obtained and the way it was interpreted. Reflexivity is an important way to ensure rigour and quality in qualitative work and requires the researcher's positioning on the research topic to be outlined clearly (Dodgson, 2019). It also requires a recognition of a researcher's position as an insider (with shared characteristics/experiences as participants) and outsider (with distinct characteristics/experiences) and of the power dynamics between participants and researcher that may influence research outcomes (Berger, 2015).

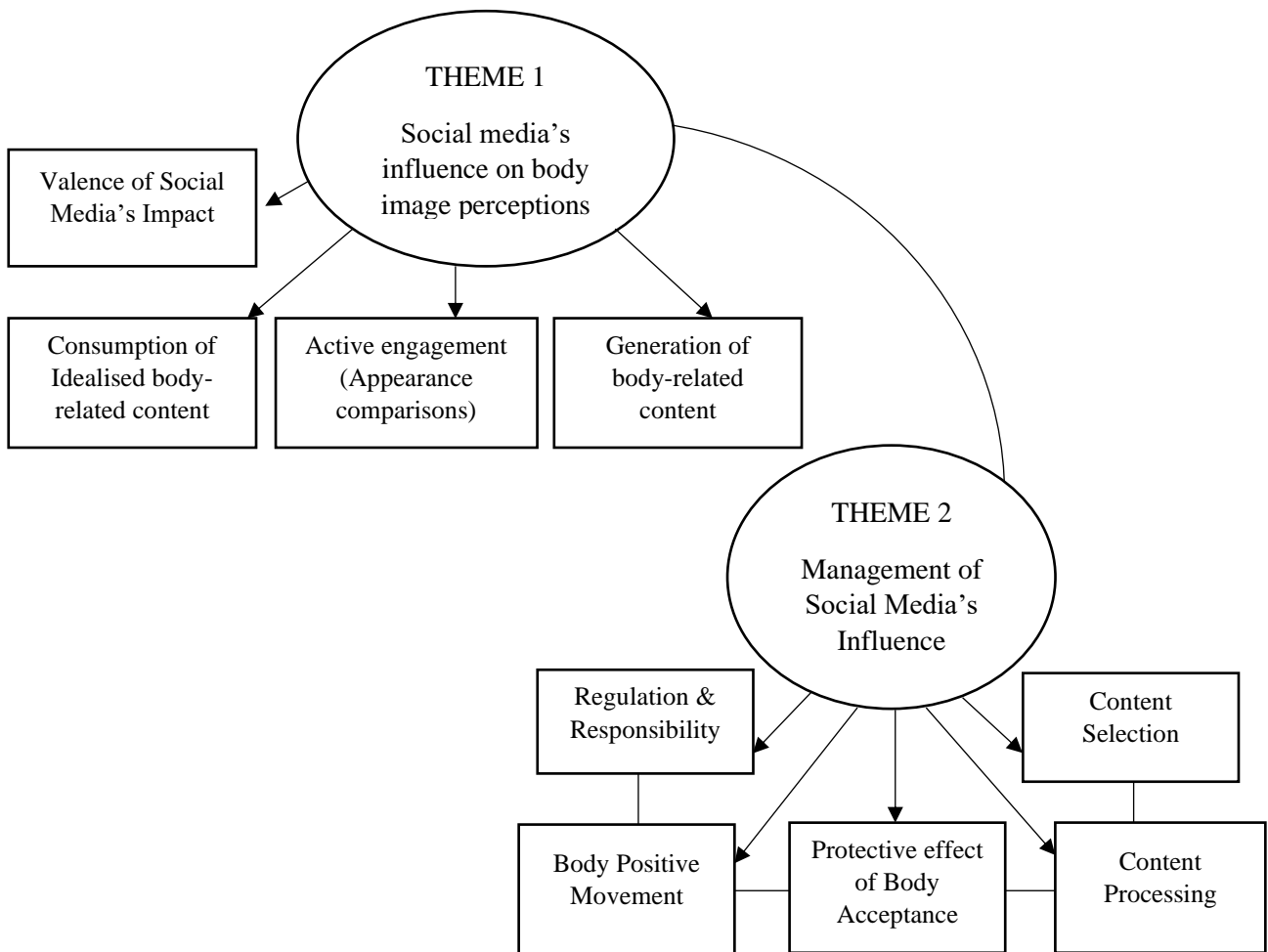
As a white, Irish, educated woman in her mid-twenties I can resonate with the struggles of body image and social media pressures to pursue body ideals, but recognise that the body-related pursuits and pressures of men and adolescents may differ from my own, and that adolescents' experience of social media content and affordances may also be divergent. Furthermore, my teaching role in the college and school, and the fact that some participants were also students in my classes may have affected power dynamics in adult focus groups, while my adult status may have affected adolescents' interactions.

## 2.4 Results

Participants used social media extensively; Instagram, Twitter and Facebook were the most popular platforms mentioned by participants. Participants largely used social media to stay in touch with peers and keep up to date with current events; however, they did observe a heavy appearance focus on social media and considered this constitute almost half of what they encountered while using social media, although few considered this a primary reason for using social media. Two main overarching themes and various subthemes pertaining to appearance-related activities were identified in thematic analysis and are depicted in a thematic map in Figure 2.1. The first theme described how social media content and affordances influenced adults' body image perceptions and the second theme described how young adults managed their social media use and protected and promoted body image.

**Figure 2. 1**

*Thematic Map Illustrating Two Main Themes and Subthemes*



*Note.* Themes are presented in circles while subthemes are presented in rectangles. Arrows represent how themes/subthemes relate to each other.

## 2.4.1 Theme 1: Social media's influence on body image perceptions

### *Subtheme 1: Influence of social media content consumption on body image*

Although body ideals have been widely espoused by traditional media, participants felt that social media amplified the communication of body-related messages and influenced body image perceptions in several ways. Constant exposure to visually compelling, idealised bodies on Instagram “reminded” participants of body image - something that they’d “rarely think of ... in everyday life” (Female6, Group 2). It also moulded their conceptualisations of body ideals and made them conscious of body image issues that they had previously not considered. The “leg day” trend in which muscled legs were identified as a requisite for the ideal male body, despite this not being a prior focal emphasis, was cited as an example of how social media altered attentional focus towards the body and subsequently generated body image issues that had been largely non-existent before.

*Male4, G3 “If a guy was stood there like in shorts, topless I would be looking at the abs usually being like “Jesus Christ, what are they?”, whereas you never, you never think to look at legs, but now it’s, now if someone’s really ripped, the first thing you do is check their legs ... and I feel like I would never have noticed that had it not been for social media ramming it down you”*

The profusion of body-related content also reinforced the perceived importance of body image, particularly among women, who were visually depicted far more frequently than men and who received disproportionately more appearance-focused attention on social media. Although men were portrayed to a lesser extent, they felt that there was a greater emphasis and importance being placed on male bodily appearance and fitness in recent years and believed that this trend was driven completely by social media.

*Male3, G3 “There’s tons of lads who have set up fitness YouTube channels and like blog and record their meals and track their macros and that sort of thing and that’s been like absolutely massive and all 100% revolving around social media. I would say that’s a huge culture now, at least around my age and a bit younger”*

The perceived importance of body image was also heightened by the knowledge that other users were receiving and endorsing certain body-related messages, as indicated by the content they “liked” and “shared” on social media.

*Female3, G1 “You know that everyone else ... is also looking at this, then it’s kind of like, “oh well they know that people can get to this standard” and they’re going to be trying to get to that standard and I should be doing that too or else I’ll kind of be like, below everyone else”*

Both men and women reported that social media created intense desires for individuals to attain body ideals, which for women constituted a “toned, lean, athletic ideal”, a “thin/skinny ideal” or a “curvy ideal” and for men, constituted either a “lean, athletic ideal” or a “muscular, body builder ideal”. The fit ideal was considered the most popular ideal for both men and women, with Instagram explore/search feeds saturated with “*Mainly fitness or celebrity*” content (Male 5, G3). Consumer-laden messages that paired images of body ideals with connotations of material wealth, success and happiness were noted to propel this desire to achieve idealised bodies.

Participants also felt that social media pressurised the attainment of these body ideals. Even though participants were acutely aware that body ideals were largely unrealistic and unattainable, the plethora of body ideals on social media distorted body image perceptions and encouraged individuals to perceive body ideals as not only attainable, but even normal and expected.

*Female3, G1 “It’s normalised, because everyone sees them, so they think oh this is achievable, or you know (.) “I have the potential to look like this and I don’t””*

Social media also propagated the compelling belief that anyone can attain body ideals if they are disciplined and work hard enough. This rhetoric pressurised individuals to attain ideals and made some female participants feel guilty if they did not exert “enough control” over their bodies to achieve these ideals.

*Female5, G1 “You can have this body by working hard but that puts more pressure on you because you feel like “If you can do it, why not me?”. But also, maybe it makes you feel lazier, you feel like “Oh, she’s doing this, but why not me? Am I too lazy to do it?””*

Both men and women acknowledged that there was far more pressure on women to maintain a desirable appearance than men. However, women mostly denied being overtly pressurised by social media to attain body ideals. Women distanced themselves from admissions of influence by describing social media as having a more benign influence (Female 1, G2) “*It’s not like pressure, it’s just a reminder*”. Women also used ambiguous language, such as “*it depends on the person*” or referred to a generalized other “*some people might ... but not me*” when discussing this influence. Yet they reported that social media compelled them to engage in the healthy eating and exercise behaviours that were instrumental in producing these body ideals.

*Female 6, G2 “I don’t think that social media puts an added pressure on me but definitely does add some sort of feeling of like “Oh I should really go to the gym more”. I wouldn’t say that I feel pressured to get that body, but it definitely increases a want*

Some men similarly denied social media’s influence and discussed “influence” in terms of generalised others. However, others openly conceded that social media influenced their body image perceptions and body-related behaviours. However, men reported less pressure to attain appearance-based body ideals. This may be because male bodies are depicted to a lesser extent, and

societally receive less pressure to conform to rigid appearance-based body ideals. However, it also may be attributable to difficulty in comparing relevant attributes of male body image on these solely visual based social media platforms. Men conceptualised body image in terms of functionality and fitness rather than appearance. This was endorsed by a lot of men with one participant noting that male body ideals were *“A kind of an ideal of fitness rather than the physique that goes with it”* (Male 4, G3). Similarly, women noted that social media advertisements were focused on functionality for men and aesthetics for women. It may be the case that reduced salience of this comparison on social media may serve to protect body image in men who predominantly conceptualise body image in terms of functionality as opposed to appearance.

### ***1.1.5 Adolescents more susceptible to social media’s influence***

Although participants acknowledged the influence of social media on body image, they felt that this influence was far more pronounced when they themselves were adolescents. Participants felt that physical/aesthetic appearance was a more central aspect of their identity as adolescents, and men reported that *“the older [they] got, the less [they] want to be muscular and stuff like that – [they’d] rather try to be fit and healthy than trying to just pack lots of muscle on”*(Male 1, G3).

Although they were more appearance focused as adolescents, participants felt that they were somewhat protected from the effects of social media because they were exposed to it in late adolescence. Participants felt that current adolescents were far more appearance focused than previous generations in that they were highly invested in makeup and going to the gym to attain a particular body, which contrasted with their own experience of exercising for fun and sociability as adolescents. Participants expressed concern at this heightened appearance centrism in current adolescents which they attributed to increased exposure to social media at younger ages.

*Female5, G2 “When I was 14/15, I never went to the gym, I more so did sports because I loved it, it was my hobby, I never worried about body image. I mean I have a brother who is 15 and I feel ... younger siblings of my friends who are girls, are like very much more focused on how they look in their bodies, their appearances, than I ever was at that age”*

### ***Subtheme 2. Influence of content creation on body image***

Social media was noted to further heighten the perceived importance of body image and the degree of investment in appearance by enabling individuals to post their own content on platforms. Body image was considered a central aspect of an individual’s online profile and although participants varied in their proclivity to post content about themselves on social media, they were all highly aware of the self-image, including the bodily appearance, that they portrayed to others on social media. Participants reported that they were *“conscious of like how [they] looked”* (Female6, G1), and sought to present their best and often idealised *“Instagram identity and Instagram self-image”*



(Male3, G3) online. Although they did not edit their photos, some did apply filters to enhance images.

Women were perceived to post more selfies and body related images on social media than men. Men refrained from posting selfies or images displaying their muscles because they felt that it was not socially acceptable to display their aesthetic appearance - it was considered more appropriate to boast about athletic prowess. Men and women were conscious of their self-presentation because they were cognisant of the fact that posting images of themselves would invite feedback/judgement; they invested in impression management because they sought validation and acceptance from others.

Feedback indices such as “likes” and “comments” were noted to provide quantifiable validation for appearance and served to focus attention onto the body and heighten perceived importance of body image. Despite best intentions to resist the influence of feedback indices, both men and women admitted to being affected by them; however, women were thought to be influenced more strongly than men. Because of the centrality of body image to female self-concept, these feedback indices were thought to provide women with a visceral way to compare and evaluate their self-worth and failure to achieve sufficient validation was believed to be highly distressing for them. However, this observation was made by men and was not endorsed by women.

*Male 2, G3 “Attractive girls, their profile pictures on Facebook tend to have hundreds of likes”*

*Male 3, G3 “Yeah, a very like, strict quantitative yardstick to the next girls”*

*Male 3, G3 “I know girls who get extremely hung up on the amount of likes they get on an Instagram photo and would even take down the photo if it didn’t hit a certain amount of likes and would be fully, their mood would be thrown off by it”*

However, both men and women felt that appearance-related feedback exerted a particularly strong effect on the body image perceptions of adolescents. Participants described how their younger siblings were highly focused and almost obsessed with the number of likes and comments that they received on the content they posted on social media. Despite the often superficial and inauthentic nature of this feedback, participants felt that adolescents relied on these shallow indices to provide them with a sense of validation and self-worth.

*Male2, G4 “With my sister any time a person posts a photo they’ll like it and comment some generic comment underneath it with a heart and then, so the only reason they are doing it is so that when they post a photo they’ll get things back ... and like get the same validation, even though it’s so hollow and meaningless really”*

Adults felt protected largely from the effects of these feedback indices because they valued quality of feedback rather than quantity of feedback as adolescents did.

*Female5, G2 “On my accounts I get the likes, but people would hardly ever comment, so then if one of my friends does comment and says “oh I love that dress, or you look great or whatever” I actually believe them”*

### **Subtheme 3. Active engagement with social media via appearance comparisons**

Appearance comparisons were also identified as a factor that propelled social media’s influence on body image. As noted by, (Male3, G3) *“Social media definitely makes you more susceptible to comparing yourself to others for sure”*. The saturation of appearance-focused content provided increased opportunities to compare to multiple comparison targets on social media. Participants mostly engaged in upward contrastive comparisons with body-related content on social media. Men, but more so, women compared to celebrities and sports stars despite the extremity of the comparison. While these comparisons did elicit body concerns, ultimately, these targets exerted less influence on body image because they were perceived as very distant. Participants were more likely to compare with a moderate target that fell somewhat short of this extreme comparison.

*Female6, G1 “We can compare ourselves to the best, to the prettiest, the best of the whole world basically on social media. So now it’s easier to compare yourself to like the top of the top rather than like kind of just your local community and like who you are surrounded with ... so, it’s kind of like, the bar is set a lot higher than ever before”*

Social media influencers were considered a more moderate target; they were perceived as similar and relatable to everyday people yet maintained bodies and lifestyles that were highly idealised. Some women reported that social influencers exerted a positive effect on body image as these individuals were considered to be more normal and relatable and put forth content that was considered motivating.

*Female1, G1 “A lot of you know the social influencers are ...not like the celebrities who were born in LA and raised in an actress family. They are more normal, so they try to promote more normality and positivity in general”*

However, for others, the perception of psychological closeness to these social influencers heightened personal body dissatisfaction when individuals perceived that they did not meet this ostensibly attainable standard.

*Female6, G1 “She’s a blogger in Dublin and she’s like stunning and has like really nice outfits and goes travelling all the time and stuff and it’s like but she is just only in Dublin, around the corner and that’s really weird ‘cos compared to like the Kardashians or like you know like in LA, very distant. But like she is literally around the corner having cocktails and I’m like “Oh she’s living that life””*

Other participants reported that they did not compare with social influencers/fitness bloggers because they were personally not interested in the body-related content they shared. However,

participants observed that many of their friends followed or discussed influencers and that there was a large demand for their content online. Men in this sample were particularly cynical of social media influencers, who they felt propagated a lot of unverified and unscientifically supported information related to diet and lifestyle that was problematic for body image. Men did not report comparing extensively with social media influencers but did follow instructional advice and fitness content of individuals on alternative social media forums.

*Male1, G3 "Social influencers - absolute jokes! I think it's just a general trend, people who weren't fit ... they get in good nick, and all of a sudden they are social influencers telling us what to eat, telling us how to live our lives and stuff like that when a lot of the time they are not even qualified to do so and a lot of the advice they are giving is risky, dangerous like. A lot of stuff around diet, performance enhancing drugs they take, the lifestyle they live I don't think is very healthy so ... I would just have no time for them"*

Participants identified peers "who are doing well" as the most "direct, motivating" and behaviourally stimulating comparisons, because they could "relate" to these proximal targets, who were "in a sense, just like [them]" (Male3, G3). Some reported that upward peer comparisons motivated them to improve themselves and their appearance because they perceived that if their friend had "the perfect body" and "[could] do it, then [they] want[ed] to do it too" (Female3, G1). However, others noted that peer comparisons increased competition and produce discontent. Given the perceived psychological closeness with peers, failure to possess peer attributes that appear to be highly attainable was noted to increase appearance-related pressures in some individuals. (Female4, G1) stated, "I feel like if friends have got really perfect bodies then it makes me feel like you have to (.) reach that standard as well". While participants admitted to occasionally engaging in downward comparisons with peers to improve their body-esteem when feeling low, they felt that this was a reactive comparison and not something they actively sought out. Downward comparisons mostly made participants feel guilty for thinking poorly of another individual and were not widely pursued as a strategy to protect body image.

Overall, celebrities and social influencers were noted to exert more deleterious effects on body image perceptions than peers due to the exclusive exposure to idealised versions of these targets.

*Male 4, G4 "The thing that's probably detrimental to like body image would be celebrities rather than peers... If you're comparing yourself constantly to people and you see a lot of that sort of, like idealised stuff ... you'll sort of start comparing yourself and thinking of yourself as lesser"*

Although participants were aware that their peers presented idealised versions of themselves on social media this idealised version could be distinguished by referencing real-life examples of the

peer. This realistic frame of reference served to attenuate the negative effects of comparisons with peers but not parasocial targets such as celebrities and influencers for whom no such reference frame was available.

*Female4, G1 “You never see [celebrities] in real life ... With everybody that you see in everyday you know that like people ... just don’t look like shining stars ... with celebrities we are only ever given images where they are perfect”*

#### ***Subtheme 4: Valence of social media’s impact on body image***

Social media was reported to influence body image perceptions in both positive and negative ways. Participants noted that it could positively influence body image by providing motivational health and fitness information and support. Women generally regarded fitspiration content as inspirational and informative and felt that following fitness bloggers was a healthier focus than comparisons with celebrities in traditional media. Similarly, men recognised the benefits of fitspiration in terms of increasing health-consciousness among males, however they held reservations about the heavy appearance focus and consumer-driven nature of the content. Men felt that fitness bloggers aimed to influence product and brand sales rather than provide genuine and helpful information to users. In contrast, women perceived that fitness bloggers primarily aimed to help individuals improve body image, rather than self-promote and show off.

Some participants were more sceptical of social media’s ability to positively influence body image. Participants reported that body-related posts on social media produced only fleeting levels of inspiration or motivation to engage in health behaviours. Participants also noted that social media could produce more deleterious effects by highlighting discrepancies between one’s perceived actual and ideal body thereby increasing body dissatisfaction and reducing self-esteem. Participants recognised that if individuals compared to reasonable comparison targets, social media could serve as a source of self-improvement. However, as most content was considered idealistic and unattainable, social media was credited more with highlighting discrepancies rather than motivating change.

*Female1, G1 “It creates an unrealistic ideal that everyone feels that they have to meet, but like, I mean I think everyone says, “Oh I would like their body” and it just kind of creates that internalised hatred almost, like “I’ll never have that body””*

#### **2.4.2 Theme 2. Management of social media’s influence**

The extent to which participants experienced positive or negative outcomes was thought to be determined by the individual and their interaction with social media including; the type of content they chose to engage with, the frequency with which they engaged with this content, and the degree

to which they endorsed or invested in the content they consumed. Participants felt that “*everyone is consciously or unconsciously susceptible to*” body-related content recognised that “*susceptibility would be more variable*” (Male 5, G4). Participants identified a cluster of characteristics including, “*a person’s personality type, low self-esteem and poor body image*” (Male 2, G4) which could increase susceptibility to body-related messages; however, participants ultimately felt that the individual could determine outcomes of their use through selecting and cognitively processing content in certain ways.

*Male 5, G3 “Yeah you can use it as a motivation, or you can use it as a shovel to dig yourself into a deeper pit”*

### ***Subtheme 1: Content selection***

Participants acknowledged that the content selected to engage with, influenced the outcomes of social media use. According to (Female 5, G2) “*It’s all about who you choose to follow and what you want to see*”. Participants endorsed a feeling of personal control over outcomes of social media use as they could select the type of content they chose to engage with, the frequency with which they engaged with this content and the degree to which this content influenced them.

Participants suggested that limiting exposure as much as possible to body ideals and electing to engage with content perceived to deliver genuinely beneficial body-related information, were strategies that could promote positive body image on social media. Scrolling through social media “*newsfeeds*” and using the “*explore*” function on Instagram, were considered most problematic behaviours for body image because they exposed individuals to a continuous stream of idealised body-related content. Avoiding scrolling or using these features was identified as a factor that helped protect body image.

Additionally, being discerning and selective in the content and accounts chosen to follow, and curating diverse feeds containing various body types/shapes were emphasised as effective ways to protect body image on social media.

*Female 3, G2 “I think just making the choice to not follow those pages, so that it’s not something that you are constantly ... reminded. ... So, making a decision to not follow the things that you know are going to make you feel bad about yourself”*

*Female 1, G1 “I chose to look more at the positive content on this kind of stuff, so I’d look a lot at the body positivity tags and all those accounts, more so than like kind of the negative”*

Certain types of social media such as “*Reddit fitness*” were noted to provide genuine motivating, instructional advice as to how to achieve health and fitness goals which were noted to differ from the mainstream social media platforms, such as Instagram, which largely facilitated self-promotion and brand/product advertisement brands. However, although participants recognised that there are

*“certainly more positive forms of media exist to provide like more healthy advice on the internet ... it’s definitely not like the mainstream” (Male4, G4) and that “You kind of have to make an active effort to go and find pages that would have different types of bodies on them” (Female4, G2).*

Problematically, participants noted that social media was mostly populated with content designed to manipulate and influence individuals rather than to inspire and motivate.

While participants reported a sense of agency over their social media environment, they noted that this control was limited by *“algorithms [that] push certain things forward even [content] you don’t really actively seek out” (Male5, G4)*. Social media were described as *“a different kind of media [that] definitely tricks you” (Male4, G4)*. Participants were acutely aware that social media platforms were designed by world experts with the purpose of retaining user attention for as long as possible and propagated extreme and sensationalist content in order to retain their attention.

*Male3, G3 “Yeah all of the platforms are working against you, they are all designed by some of the smartest people in the world really to try and keep you on them for as long as they possibly can, and they’ll do whatever they have to, to do that really, like whether that’s pushing sensationalist content or whatever the case may be ... they have even designed the social media platforms to mimic gambling machines, in like the way you pull down, it’s meant to be like a slot machine”*

Participants also noted that *“there’s such a trend towards [extremes] in everything recently, body image included”* which was considered problematic even for individuals without pre-existing body image issues as it served to narrow down and exert *“a weird polarizing effect (Male4, G3) on the body-related content received*. The absence of any moderate common/middle ground was identified as a particularly problematic issue for body image as it limited opportunities to engage with realistic and relatable content.

*Male 5, G4 “[Social media] actually makes extremes of both, in now you have rather than a nice bell curve in which people are mostly in the middle you now have camps of people going to one extreme or the other whereas this person is super athletic and this person is obese ... But now you have two camps saying that they are both ok and they are just yelling at each other and no one, no one meets in the middle”*

Despite recognising the role of algorithms, women endorsed feelings of control over their social media use, especially Instagram. Men on the other hand, felt a degree of control over social media content selection, but ultimately acknowledged that this perceived control was illusory.

*Male 4, G3 “There’s a definite denial - I reckon I’m in control, I’m definitely not”*

*Male 2, G4 “I know I’m being manipulated but I get to choose what is manipulating me”*

### ***Subtheme 2: Regulation and responsibility for outcomes on social media***

Despite this limited control, participants ultimately felt that responsibility for social media outcomes lay with the individual themselves. The absence of formal regulation over social media use gave rise to this sense of personal responsibility. Contrasting with traditional media, social media corporations were viewed as largely distancing themselves from taking responsibility for outcomes of use, despite social media algorithms playing an instrumental role in media selection.

*Male4, G4 “French magazines, they aren’t allowed airbrush models anymore and I guess like in the industry there are changes being made in a more positive direction, but because social media is so accessible and anyone can post, these influencers are the ones who are directly responsible for what image they project to the thousands or millions of people who follow them”*

Participants felt that this lack of regulation was concerning for younger individuals who may freely access body-related content that may be ill-suited to their developmental level. Participants felt that this unregulated social media exposure facilitated the emergence of body image issues at younger ages because youths were primarily exposed to the body-related interests and pursuits of adults.

*Male3, G4 “You have 13 year olds going to the gym 5 times a week and drinking protein shakes everyday (.) it’s like “you don’t need to do that – you are like 13” (.) it’s completely unnecessary ... but they think that that’s what they have to do to get that ideal thing that they have seen now - so it’s sort of a slippery slope the younger and younger it gets”*

The inability to police content produced by individuals was also considered problematic given the potential for the propagation of inaccurate or incorrect body-related information. Participants felt that it was “a very dangerous thing ... especially for younger people to be exposed to all this [content] without some sort of regulation” (Male2, G4). Participants expressed concern about the potential risk/danger involved with the promotion of diet and exercise regimes by social influencers who can often lack the appropriate qualifications to provide such recommendations, especially to young, vulnerable or suggestible individuals who may be influenced to a greater extent by this content.

*Male1, G3 “A lot of stuff around diet, performance enhancing drugs they [social media influencers] take, the lifestyle they live I don’t think is very healthy so ... I think it’s a bad image to portray, especially to kids, to teenagers who see this”*

*Female2, G2 “Social media allows you to become famous - it almost qualifies you to be teaching you shouldn’t be doing [sic], ..... people really do follow it as if it’s qualified information, but it’s not necessarily, it’s just someone who happened to get lots of followers on that platform”*

Participants recognised that it was exceedingly difficult to regulate content produced by individuals including social influencers, “because they are not a corporation, they are not an industry, they are individuals” (Male3, G4) and “they are not responsible in the same way - the moral obligation might not be there” (Male4, G4)

However, participants did note that recently, efforts were being made to counter extreme content and dispel the illusion of body ideals on social media.

*Female1, G1 “I feel like it really is changing because it used to be a lot of focus on, ok you have to look perfect in every picture, you have to edit all of your flaws out, that kind of thing. But it really is now, “this is the reality, take it”*

Participants described heightened efforts on social media to educate individuals about the extensive processes involved in creating idealized social media depictions. This was noted to be achieved by posting content that highlighted photo manipulation methods, lighting effects and body posture/posing practices. Heightening awareness of the falsification of content was also identified as a growing trend among bloggers and social influences on social media.

*Male3, G4 “Like airbrushing has been a thing for years ... yeah efforts are being made to stop it and that’s the thing, that’s the difference, there is an awareness now, whereas before there really wasn’t”*

*Male4, G4 “Lately ... a lot of these fitness or beauty bloggers ... are... kind of exposing the secrets ... in an effort to reduce the harm that it has done to a lot of impressionable people who do believe that that is the norm and that it is something achievable and it is something you should strive to”*

However, some participants regarded these efforts as being largely insufficient as they felt that they had already been exposed to and influenced by these ideals. According to participants, increasing awareness and knowledge of manipulation practices did not serve to mitigate the effects of these ideals on self-perceptions.

*Male5, G4 “It’s a little late at this stage to be going back and saying this is airbrushed and this is airbrushed. Everyone has seen it; it doesn’t matter now ... you just make the base product correct from the start. You don’t just back-peddle and say you know what, that’s not actually what it looked like, now this is what it actually looks like, no one cares. Everyone has seen the ideal, why would they want the reality when they have seen the ideal?”*

### ***Subtheme 3. Body positive movement***

Participants also observed an increased trend towards body acceptance and body positivity on social media. Body-positive content was observed to provide a refreshing counterbalance to body ideals on social media by celebrating diverse body types and encouraging acceptance, self-love and



self-care. Although women endorsed this content and felt that it could exert positive and motivating influences on body image perceptions, they ultimately felt that it didn't change how they perceived their own bodies.

*Female4, G2 "I would endorse it, but I wouldn't say that because I saw a post by someone saying be body positive that I would then feel body positive, but I would want other people to feel body positive, so I would endorse it, but I don't know if it works"*

Women felt that social media posts advocating the acceptance of all body types were not sufficient to change societally entrenched body perceptions that valued certain bodies and ostracised others. Akin to body ideals, women felt that full body acceptance was illusory.

*Female 4, G2 "If you have a body type ... that hasn't been accepted for a long time, a hashtag now on Instagram in the last, what two, three years isn't going to suddenly going to change the entire society's mind in the last however many decades that it's not been the right thing"*

*Female 2, G2 "Just as in the dream body like, it's also a dream acceptance that exists online but doesn't exist in real life I think"*

Additionally, participants expressed concern about the ways that body positive messages were communicated. Some participants found the notion of full body acceptance problematic and felt that it was not appropriate to accept bodies that were detrimental to one's health, such as extremely underweight or overweight bodies. They felt full body acceptance would provide people with a narrative to justify behaviours that compromised their health.

*Female5, G2 "There is a difference between loving your body and accepting your body for what it is and all and health wise, to live a longer life and make better lifestyle choices ... sometimes I think you should love your body but there's also a point where its harming your health.*

However, some felt that the concept of body-acceptance that the body-positivity movement sought to endorse was largely misinterpreted and misunderstood. One participant emphasised that body acceptance involved engaging in self-care behaviours and that loving one's own body is not reflected in engagement in unhealthy lifestyles. She felt that the emphasis of body positivity should be directed at self-care and promoting a healthy relationship with one's body.

*Female4, G2 "Loving your body is not stuffing yourself with chocolate every day, it's not actually loving your body. Loving your body is eating healthily ... what really should be promoted is that "loving yourself and being positive is looking after yourself"*

Additionally, body-positive content was observed to be heavily appearance focused, which problematically reinforced the focus on body image and aesthetics rather than functionality and health.

*Female4, G1 “The whole positive body image, it still is concerned too much with looks and stuff. I think that the best thing would be to ... encourage girls especially, to care about other things and like put their worth in things that isn't their body. Being positive is obviously good but also knowing like your worth isn't in your looks”*

Despite these shortcomings, participants acknowledged that it was a step in the right direction in terms of promoting healthier body image but felt that more progress was required to change perceptions.

*Female4, G2 “Maybe in a few decades of that, of people being more body positive, I think maybe it will be true, but at the moment it's a hope, to try and get everyone to be body positive rather than everyone is”*

#### ***Subtheme 4. Protective processing of content and promoting body image***

Because of this lack of formal regulation and inadequate informal efforts to promote body image participants felt that it was up to the individual themselves to protect their body image. The ways that individuals processed body-related content was considered pivotal in determining outcomes of social media use. Participants felt they had more control over the way they processed information than over their selection of content, with one participant noting that *“It's all in the interpretation”* (Male4, G4). Participants emphasised the importance of processing social media content in a critical and censorious manner; evaluating the authenticity and credibility of posts and maintaining awareness of manipulation and editing practices were considered essential for navigating social media in self-protective ways.

*Male3, G3 “I think you just got to be discerning in terms of who you follow, I mean you have got to put your head on your shoulders and like assess whether or not someone you are following is putting out good content or not and if they don't appear too duplicitous on that and if they are then I think its ok to allow yourself to be influenced by them as long as you know they're legit”*

Being mindful of the way social media interacted with mood, mindset and motives facilitated individuals to manage their social media use in a way that protected rather than aggravated their body image. Participants recognised that when in *“in a worse mood”* even neutral content could elicit negative reactions and make one *“see that negativity even when it isn't there”* (Male3, G4). Additionally, mindset or attitudes were also observed to strongly influence how individuals interacted with social media and body image. Focusing on personal shortcomings or discrepancies

(i.e. comparing for self-evaluative purposes) was observed to negatively impact body image, while focusing on identifying ways to improve and grow (i.e. comparing for self-evaluative motives) was associated with more positive outcomes.

*Male 5, G4 “If you’re comparing yourself constantly to people and you see a lot of that idealised stuff, and you have a lot of issues that are personal body issues, you’ll sort of start comparing yourself and thinking of yourself as lesser”*

Participants recognised that there were times when social media heightened personal discrepancies in unhelpful ways, and that continuing to use social media only served heighten appearance comparisons and negate body image perceptions. Recognising these patterns and being able to adjust social media use accordingly was identified as a way of protecting body image. Participants described how *“making an effort to a range of accounts and kind of reflecting back on [oneself]”* (Female4, G2) and reflecting on how content made them feel, *“then making a decision to not follow the things that you know are going to make you feel bad about yourself”* (Female5, G2) helped them to protect body image. Furthermore, teasing out how they wished to be influenced by social media and aligning social media use with personal goals and values were also identified as factors that helped improve body image outcomes on social media. Although developing awareness of one’s social media use and reflecting on its influence was considered instrumental in promoting body image, participants felt that this awareness was underdeveloped in adolescents and that adolescents were not well positioned to manage their social media use.

*Female5, G2 “If you are aware of what you want your influence to be its quite easy to steer away or steer into a particular direction, but if you are not aware of it and just sort of being like exposed to it, it’s quite difficult (..) to (..) protect yourself”*

Participants also felt that adolescents lacked critical understanding of the social media context and were not equipped with the skills to process body-related content in self-promotive ways

*Male5, G4 “You need to allow kids to continue being [sic] exposed but give them some sort of context in what they are being exposed to. I just think context is a very important thing which is very easy to lose when you just look at social media”*

*Male 3, G4 “I think, I think we will be seeing in the future instead of parents having the sex talk, parents will be having the internet talk, saying make sure you don’t take everything literally”*

Participants did acknowledge that these statements reflected their personal opinions and that this might not reflect adolescents’ true capacities.

### ***Subtheme 5. Protective effect of body-acceptance***

Participants found it difficult to disentangle the effect of social media on their own body image as many experienced the emergence of social media use and body concerns simultaneously. Some felt that body image concerns preceded social media use; however, others identified social media as a trigger for their body image issues. However, most participants conceded that that social media amplified their body image awareness and concerns. Despite this, most participants reported that their body image perceptions improved as they matured and now, as adults they held reasonably positive perceptions of their bodies, with one participant stating *“I don’t say that I am ideal, but I am happy in myself”* (Male5, G4)

Body acceptance was identified as a key protective factor against the negative effects of upward social comparisons and engagement with body-related content on social media.

*Female3, G1 “I feel like if you’re confident enough in like your own body then you can still, you can see everything on social media and can still be like ok, I’m happy as I am. But if you’re not, or even like if deep down you’re not, you’ll see it and you’ll be like I want to be like that and try your hardest to [change]...”*

Breaking the causal chain linking the possession of idealised body types to success in life was identified by body-accepting/positive participants as a crucial realisation and a turning point in their own self and body image perceptions.

*Male2, G3 “I think you are encouraged to think of [body image] like as an instrumental kind of tool, ‘cos like if you are fit and handsome you will get friends and girlfriends and you will be socially active and successful and so on. But then once you get to those stages and you realise you didn’t really sort yourself out beforehand, that, that breaks the causal link”*

Being involved in a relationship in which one’s body was accepted and respected by another person was identified as a powerful factor in facilitating this realisation among men

*Male 4, G3; I would say getting into a relationship was the single most like positive impact to have on body image ... I feel like I started caring about it less and less because if that person can see past it then...*

Additionally, adopting a functionality/health rather than appearance focus and recognising the biological limitations of body change were also identified as ways that they achieved body acceptance.

*Male 2, G4 “I think that it’s not sort of publicised enough that you can’t really change your body type ... people have the body [they] are born with (.) and its potentially not physically possible for you [to change]”*

Finally, deemphasising the importance of appearance and placing self-worth in other dimensions of self-identity also helped participants to improve self and body acceptance.

*Female 4, G1 “The best thing would be to encourage, girls especially, to care about other things and put their worth in things that isn't their body”*

Participant felt that these messages, which fostered body acceptance, were not publicised enough on social media, especially to young people. Given the protective role of body-acceptance, participants emphasised the importance equipping adolescents with the tools to manage social media's influence and build body-acceptance.

## 2.5 Discussion

This study sought to gain a more nuanced insight into the influence of social media on body image perceptions of young adults. Focus groups with young adults (college students) explored the social media content and affordances that influenced body image, the ways body-related content was perceived, and the nature of appearance comparisons engaged in. It also investigated the perceptions of social media's influence on body image and potential strategies used to manage this influence. Thematic analysis revealed two overarching themes and various subthemes pertaining to these goals. Theme 1 discussed social media's influence on body image, while Theme 2 described the ways adults managed this influence to protect and promote body image.

Theme 1 described the considerable influence that social media had on body image perceptions. Although body-ideals have been widely espoused by traditional media, social media platforms were noted to contain unique characteristics that facilitated a more widespread and influential distribution of messages regarding the body (Solomon, 2016). Consistent with literature, the volume of body related content and strong appearance focus on social media increased participants' awareness of and investment in body image (Cohen et al., 2017; Meier & Gray, 2014). Creating personal profiles on social media increased participants' attentiveness to their body image, as they were conscious of how their appearance was evaluated by others (Fox & Vendemia, 2016; Grogan et al., 2018). Additionally, the ability to view peers' usage activity and know that they endorsed body-related content, also increased participants' investment in body image (Park, 2005).

Social media was observed to create desires to attain body ideals, which for women included thin, curvy and fit ideals and for men included, lean/athletic and muscular ideals (Betz & Ramsey, 2017). Aligning with the literature (Benton & Karazsia, 2015; Grogan et al., 2018; Robinson et al., 2017), the fit ideal was considered the most prominent body ideal for men and women. Instagram, with its proliferation of Fitspiration content was credited with this fitness focus. Although participants recognised that these ideals were largely unrealistic, the volume of idealised content on social media distorted body perceptions such that they were encouraged to view body ideals as almost "normal" and "attainable". Additionally, consumer-laden messages linking ideal bodies with notions of success, material wealth and happiness, heightened the appeal of pursuing body ideal attainment. Furthermore, body ideals were convincingly marketed as something that were attainable with enough hard work and effort - these messages pressurised the attainment of body ideals.

Although participants admitted that social media personally increased their awareness of body image, they largely distanced themselves from other admissions of social media's influence; they described pressures in terms of a generalised other rather than themselves personally. It may

be the case that social media did not strongly influence participants body image perceptions, or it could also signify that participants were uncomfortable admitting this influence. The reluctance to admit to social media's influence has been observed in other qualitative studies and is posited to reflect a self-protection strategy that enables individuals to maintain a socially desirable image within a focus group setting (Burnette et al., 2017; Ryan & Morrison, 2009).

Consistent with the literature (e.g., Feltman & Szymanski, 2018), women received disproportionately more appearance-focused attention on social media than men and body image was considered a greater concern for them. However, women denied and downplayed the influence of social media on their body image perceptions, despite evidence to the contrary in their narratives. While men reported being less influenced by body depictions on social media than women (McNeill & Firman, 2014), they did concede that body image was an issue of growing importance for them (Parent, 2013) and felt that social media was the driving force behind this focus. However, men felt that their body image perceptions were buffered from the influence of appearance-focused social media, because they valued functionality rather than appearance in body self-evaluations. These findings align with Carrotte and colleagues' (2017) observation that social media imposes greater appearance-related pressures on men. However, contrasting with the research which suggests that men and women experience comparable pressures to attain appearance ideals (Miller & Halberstadt, 2005) and similar levels of body dissatisfaction from social media use (Kumar, 2016; Saiphoo & Vahedi, 2019), these findings suggest that this functionality focus may protect male body image from the problematic aesthetic focus of social media (Grogan & Richards, 2002).

Social media also influenced participants' body image by providing greater opportunities to compare appearance with various comparison targets (Fardouly et al., 2015b). Aligning with the literature, participants mostly engaged in upward contrastive comparisons on social media (Vogel et al., 2014). However, contrasting with Franzoi and colleagues (2012), the gender differences in appearance comparison behaviours were not observed in this sample; women did not appear to be more self-critical and men more self-hopeful in body appraisals. Furthermore, neither men or women actively engaged in self-enhancing downward comparisons to improve body esteem or regarded this as effective strategy for improving body image perceptions. These contrasting findings may be explained by differences in methodology; Franzoi and colleagues' (2012) study was a self-report questionnaire where responses were private, while this focus group study involved open discussions where participants may have been reluctant to disclose true comparison feelings, particularly around downward comparisons, for fear of providing socially undesirable responses. It may also be the case that the sample's characteristics influenced these findings; women in this sample reported generally positive attitudes towards their bodies and may have engaged in more protective comparison tendencies than women who have been found to experience body dissatisfaction from appearance comparison behaviours. Further research is required to establish

the role of positive body image in influencing appearance comparison behaviours in men and women.

However, aligning with the literature, women did compare more to extreme targets such as celebrities/sports stars than men (Strahan et al., 2006). However, these targets exerted less of an influence on body image perceptions because they were perceived as distant and difficult to relate to. As anticipated, participants did regard social media influencers/fitness bloggers as more moderate and relatable comparison targets; this perceived similarity was observed to motivate individuals because body-goals were perceived to be more attainable (Joshi et al., 2004), but it also served to heighten dissatisfaction when discrepancies in personal body-goals were highlighted (Myers et al., 2012). Although a similar trend was observed in peer comparisons, whereby similarity with peers had both motivating and demotivating effects, peers were generally perceived to have a more positive impact on body image because their bodies were viewed as more attainable.

Social influencers/fitness bloggers were viewed as a highly problematic target of comparison by men, who felt that they propagated unhealthy, unsubstantiated body-related content. Men avoided comparisons with these targets. Contrastingly, women positively evaluated social influencers/fitness bloggers and felt that they mostly endeavoured to inspire and help individuals achieve appearance goals. Despite this, both men and women acknowledged that comparisons with celebrities and social influencers were more detrimental to body image perceptions than peers, because of the exclusive exposure to their idealised lives, which could not be tempered with counterexamples from real life as could be done with peers. This finding contrasts with the qualitative work by Grogan and colleagues (2018), where participants identified celebrity comparisons as less harmful because it was easier to identify photo manipulation of their images which diminished the comparison. However, the finding is consistent with Ridolfi and colleagues' (2011) ecological momentary assessment, in which female participants reported that appearance comparisons with media ideals elicited greater body dissatisfaction than other targets of comparison. Participants in this study similarly reported that the ability to refer to counterexamples of their peers in real life served to mitigate negative effects of comparisons to idealised versions of them. Therefore, idealised presentations of peers did not seem to heighten the impact of comparisons with them as had been suggested previously (Chou & Edge, 2012).

However, aligning with Manago and colleagues (2008), feedback indices on social media were noted to compound the effects of peer comparisons, by providing a measurable index of difference rather than implied or perceived differences as is the case in real life. Both men and women admitted to being influenced by the receipt of likes and comments; however, men believed that women were influenced more by this feedback than men. Men felt that women posted more selfies and images of their bodies than men and relied on this validation to evaluate their self-worth in a way that men did not. This aligns with findings in the literature where women have been found



to invest more in self-presentation and appearance-related feedback (McAndrew & Jeong, 2012). However, women in this sample, felt that they were not extensively influenced by “likes” and “comments” because they didn’t strongly invest in their self-presentations on social media. Furthermore, while men and women reported that they posted only favourable images of themselves and applied filters to photos, they did not edit or manipulate photos. This contrasts with Grogan and colleagues’ (2018), who found that women engaged extensively in photo editing, and these behaviours served to direct attention to perceived flaws with appearance and negate body image. It is unclear whether female participants in this sample were again, distancing themselves from admissions of photo-editing, as they did admit to editing photos and being influenced by “likes” as adolescents, or whether they simply engaged in healthier, protective body-related behaviours on social media.

Consistent with the literature (Saiphoo & Vahedi, 2019; Vaterlaus et al., 2015), social media was perceived to exert both positive and negative effects on body image. As observed by Raggatt and colleagues (2018), women perceived fitspiration content to exert a largely positive influence on body image because it motivated health behaviours and provide instruction as to achieve appearance goals. Although men acknowledged that fitspiration heightened an awareness of health, men felt fitspiration content was too appearance and consumer focused and didn’t provide genuinely helpful or trustworthy body-related information. Men’s critical observations align with content analyses of fitspiration content which indicate that problematic body-related messages underlie the ostensibly positive health focus of fitspiration (Carrotte et al., 2017). It is unclear whether women were less aware of the contrived nature of social media, or whether the fitspiration content they encountered was less deleterious than that observed by men, or whether women viewed social media with a more positive lens. Further research is required to further investigate the differences in these perceptions, as it could inform intervention efforts related to improving critical awareness of body-related content to promote body image.

Participants also noted that the strong appearance focus of social media heightened awareness of and investment in body image. This heightened body-consciousness and self-monitoring was observed to focus attention onto perceived flaws (Grogan et al., 2018). Additionally, because social media contained such extreme, idealised content, it often highlighted discrepancies between one’s own body and their ideal body and gave rise to body dissatisfaction (Fardouly & Vartanian, 2015).

The extent to which social media exerted positive and negative influences on body image was thought to be determined by individual differences in susceptibility to body-related content; as reported in the literature, having low-self-esteem or pre-existing body image concerns was thought to increase the impact social media on body-related outcomes (Bessenoff, 2006; Valkenburg & Peter, 2013). Additionally, body image outcomes were also thought to be influenced by the ways

that individuals engaged with social media and how they processed body-related content (Perloff, 2014b).

The second overarching theme identified in the analysis, documented the ways young adults managed social media's influence on body image, with a focus on the strategies used to protect and promote body image. Participants emphasised the importance of careful content selection and avoidance of newsfeeds/scrolling features for promoting positive body image outcomes but acknowledged the difficulty in accessing beneficial body-related content and avoiding problematic content. Participants recounted the extensive and active efforts required to seek alternative or beneficial body-related content and noted that even despite their efforts to curate promotive and positive feeds, they were likely to receive extreme and undesired content due to social media algorithms. The polarisation and personalisation of content by algorithms were problematic for body image as they made exceedingly difficult to make moderate or realistic appearance comparisons, avoid body-related content or access alternative forms of body image content.

Although personal control over outcomes of social media use were emphasised, men believed that this perceived control was limited by the social media algorithms. Women in contrast, still perceived that they had considerable control over their social media use despite acknowledging the role of algorithms. The contrast in these perceptions are interesting; it may be the case that, for social desirability purposes, female participants wished to appear more in control of their social media use and body image outcomes and stated this in the group. Alternatively, women may be less aware or less sceptical of the role of algorithms in influencing social media choices than males.

This paradox of control requires further investigation, as it could represent a powerful agent/force in perpetuating and maintaining problematic behaviours particularly in relation to body image. For example, it may be particularly difficult for individuals with problematic body-related thoughts to break cycles of problematic social media consumption because they can be pushed content that maintains and reinforces distorted beliefs and schemas regarding the body. Furthermore, active efforts to change body-related schemas and behaviours may be thwarted by the unsolicited receipt of algorithm induced cues/triggers which could facilitate relapse into problematic behavioural cycles and increase feelings of guilt, especially if an individual perceives they are in control of their social media use. While, several models, such as the Reinforcing Spirals of Media effects (Slater, 2007), have made recourse to the fact that personal use of social media can serve to maintain problematic behaviours, none have noted the role of social media algorithms in fostering these. Therefore, it is imperative that future models of models of social media use and body image issues account for the functionality of these algorithms and this paradox of control.

Despite this limited control, participants felt personally responsible for the outcomes of their social media use because of the lack of formal regulation of social media platforms. Social

media corporations were noted to largely absolve themselves of responsibility for problematic outcomes, despite platform algorithms playing a role in media selection. This lack of formal regulation was considered particularly problematic for children and adolescents, who were at risk of being exposed to body-related messages that were harmful, inaccurate or ill-suited to their developmental level. The potentially harmful nature of unregulated, exaggerated and easily accessible body-related content, particularly for those at risk of body dissatisfaction and disordered eating has been observed previously (Vartanian et al., 2012; Vaterlaus et al., 2015), and future research efforts are required to identify ways that help vulnerable individuals escape these problematic spirals/loops and protect body image in a largely body image aversive environment.

It is important to note that since these focus groups were conducted, social media platforms such as Instagram have introduced several features to improve body image outcomes, including blocking pro-eating disorder accounts, redirecting users who search eating disorder related words to seek additional help (Instagram, 2020). Additionally, Instagram have imposed age restrictions on diet and cosmetic products and have trialled hiding the quantity of likes received on posts in several countries, including Ireland (Orlando, 2019; The Guardian, 2019; Instagram, 2020). However, existing efforts to ban pro-eating disorder hashtags have been critiqued as insufficient and have problematically been observed to have driven the issue further underground, making it harder to help individuals struggling with extreme body issues (Chancellor et al., 2016). Additionally, targeted advertising and the reinforcement of body-related content by algorithms, have not been addressed by social media corporations.

However, participants recognised and lauded the recent trend towards realism on social media, which sought to increase transparency and highlight the unrealistic nature of images. However, raising awareness of photo-manipulation practices was not considered enough to change body image perceptions because individuals continued to compare and evaluate themselves against these ideals despite knowing that they were unrealistic and photoshopped. This finding is supported by recent experimental research which found that including disclaimers on posts, which stated that images were photoshopped, did little to change the negative impact of exposure to these idealised images (McComb & Mills, 2020). Participants felt that more active efforts to change content portrayals were required to facilitate meaningful change and promote body image on social media.

Participants welcomed the emergence of the body positive movement as it served to counterbalance the proliferation of idealised content by presenting diverse bodies and positive body-related messages. However, both male and female participants were wary of the ways that messages of body-acceptance were communicated by this movement. Women felt that simply endorsing the notion of body acceptance would not result in the immediate approval of all body types, particularly those that had been rejected by society for decades, such as the overweight body. Subsequently, it did little to improve their own body image perceptions, particularly if they felt their body did not conform with expected body norms. Additionally, some participants found the

concept of unconditional acceptance jarring, as they felt there were times when it was not appropriate to accept certain bodies, for example, when extremely under- or overweight bodies were negating an individual's health. Others felt that the body positive movement was too focused on promoting self-acceptance as a facet of self-love/body appreciation, rather than promoting self-care, which was considered a more vital component of positive body image. Additionally, participants felt that this movement continued to direct the focus towards aesthetics and appearance which ultimately did not help improve body image perceptions.

These concerns echo those identified by Sastre (2016) in a critical evaluation of body positive content, suggesting that body positivity, in its current form, is not the panacea to healthy body image as suggested by qualitative work by Convertino and colleagues (2019) where individuals largely endorsed body positivity. Although participants recognised that this movement represented a step in the right direction towards promoting body image, relying on content to promote body image perceptions was not considered wholly effective because sourcing genuinely helpful body-related content was difficult. Participants emphasised the importance of processing of social media content in self-protective manners in order to promote body image on social media.

Participants described several cognitive processing strategies including cognitively reframing content in a positive light and comparing for self-improvement, rather than self-evaluation motives, that were reported to improve body image. Critically evaluating the authenticity and credibility of posts was also considered necessary for protecting body image but was also considered effortful given the profusion of misleading, idealised content. Being mindful of the influence of mood and mindset on social media use, reflecting on how content made one feel, and aligning social media use with one's mood and motivations was a balance that was crucial for promoting positive body image on social media. The processing strategies mentioned by participants, mirror the "protective filtering" strategies that Wood-Barcalow and colleagues (2010) identified as being characteristic of body positive individuals. As observed by Wood-Barcalow and colleagues, participants were able to process body-related messages in positive ways and reject or diminish the impact of negative body-related messages. Protective filtering has been demonstrated to protect body image when exposed to idealised images in experimental studies (Andrew et al., 2016) and this qualitative study, appears to support the beneficial effects of protective filtering for body image in a social media context. Further research is required to ascertain whether such strategies can be taught or fostered to individuals to help promote positive body image (Halliwell, 2015).

In addition to protective filtering, participants also identified body-acceptance as a core protective factor that helped buffer the negative effects of body image. Body acceptance is the central facet of positive body image, and many participants in this sample expressed that they were content with their bodies and appreciated their bodies despite perceived imperfections (Webb et al., 2015). Although participants still experienced body dissatisfaction from social media use, they felt

that because they were accepting and satisfied with their bodies, they were less negatively affected by social media (Andrew et al., 2015). However, participants reported that body acceptance was something that they developed over time and largely did not reflect the relationships they had with their bodies or social media as adolescents. Both men and women conceded that they had been far more susceptible to social media's influence when they themselves were adolescents. Participants achieved body acceptance by valuing functionality over aesthetics, acknowledging biological limits of body change, valuing other aspects of identity and being accepted by others in romantic relationships (Tylka & Wood-Barcalow, 2015b). Participants felt that these body-promotive messages were not propagated enough on social media, especially to current adolescents, who they believed were more susceptible to social media's influence and less capable of modulating its effects on their body image.

Participants expressed concern over the strong appearance-focus exhibited by current generation adolescents who were observed to "obsessed" with physical appearance; exercising for aesthetics rather than enjoyment and investing heavily in beauty and cosmetics. Participants attributed this problematic appearance-centrism among current adolescents to increased exposure to social media at younger ages. Twenge and colleagues (2018) similarly observed declines in current adolescents' mental health, which they attributed in part to increased screen time at younger ages. Participants felt protected from this appearance-influence because they had been first exposed to social media, relatively late in development, around mid-late adolescence and subsequently felt less affected by it.

Additionally, participants believed that current adolescents were more strongly and problematically influenced by feedback indices such as "likes" and "comments". Participants reported how their younger siblings' self-worth was completely tied up in the quantity of feedback received from peers and described how the failure to receive this feedback, irrespective of how contrived/superficial it was, exerted particularly damaging impacts on their siblings' self and body image. This is consistent with qualitative reports of adolescents' self-presentation and appearance related social media behaviours (Chua & Chang, 2016). Young adults felt somewhat protected from the impact of feedback indices because they valued the quality/genuineness of the comment rather than the quantity.

Participants also felt that adolescents were far less equipped to manage or cope with the strong influence of social media. Participants felt that adolescents were less reflective of their social media use and less aware of the way in which they sought to direct social media's influence. Participants felt that adolescents would particularly benefit from learning how to critically and protectively process content on social media, as they felt that these skills were largely underdeveloped among this cohort. However, participants acknowledged that their assumptions were based on potentially biased retrospective reports of personal experiences and subjective observations of adolescents. Further research is required to ascertain the actual social media literacy levels and coping skills/strategies of the current generation of adolescents. It is plausible

that coping strategies and skills employed by current adolescents, considered “digital natives”, may differ from participant’s retrospective accounts of adolescence, because they are the first generation to have grown up with social media as opposed to the adult sample who were introduced to social media in mid-late adolescence. Gaining insight into current adolescents’ understandings of social media platforms affordances and their interpretation of body-related messages is important to inform efforts to promote body image.

It must be noted that this study was conducted with a small, homogenous sample of educated college students who were largely critical, reflective and aware of their social media use and also mostly satisfied with or accepting of their bodies. Research is required to pinpoint patterns of problematic social media use and potential factors that mitigate negative outcomes for body image in larger, more heterogeneous samples. Furthermore, limitations of focus group design must also be considered. These include the potential for individuals to share opinions that were socially desirable but not reflective of private opinions, in addition to the potential for group dynamics to influence discussions such that certain viewpoints dominated, while others were suppressed. It is also important to take into account that despite efforts to analyse the data in an objective and impartial manner, this study reflects a subjective interpretation of the data and must be appraised with an awareness of potential biases that may have influenced the author.

Overall, social media platforms exerted a strong and mostly negative influence on body image. Social media content and affordances heightened opportunities for body ideal internalisation and appearance comparisons which mostly induced body dissatisfaction. Social media was designed to manipulate rather than motivate, and even content attempting to dismantle body ideals or encourage body positivity were limited in their ability to improve body image perceptions. Individuals were viewed as instrumental in determining the body-related outcomes of their social media use. Selective processing and protective filtering were strategies that helped participants manage their body image on social media. These strategies and fostering body acceptance represent promising targets for future intervention efforts, particularly with adolescents who may at greater risk of body dissatisfaction from social media.

## **Chapter 3. Development and Validation of the Appearance Comparisons on Social Media Scale (ACSMS)**

### **3.1 Chapter Aims**

This Chapter describes the development and validation of a novel psychometric measure to quantify appearance comparison behaviours specific to the social media context. It begins with a review, which describes the limitations of existing scales and how this new psychometric measure plans to address them. This review also highlights the findings from focus groups in Chapter 2, which informed the development of this scale. Focus groups with young adults revealed that the comparison target, motives and direction of comparison, and perceptions of similarity with comparison target influence appearance comparisons and require quantification. Social media influencers and comparisons with self-generated content were identified as additional comparison targets that influenced body image on social media, which also need to be accounted for. This Chapter outlines how these findings informed the generation of scale items and describes the process of refining the measure and validating the factor structure. Finally, psychometric properties of the Appearance Comparisons on Social Media Scale (ACSMS) and its implications are discussed.

### **3.2 Literature review of Appearance Comparison Scales**

Sociocultural theories of body image propose that engaging in appearance comparisons with body ideals on social media can produce body dissatisfaction (Fardouly et al., 2017; Fardouly & Vartanian, 2016). Although research has evinced a link between appearance comparisons with body ideals on social media and body dissatisfaction (Kim & Chock, 2015), the psychometric scales employed to measure this association are significantly limited. Appearance comparison tendencies are mostly captured by correlating participant scores on general appearance comparison scales with their reported frequency of social media use, or by calculating participant scores on existing appearance comparison scales which have been “adapted” to social media by inserting references to social media in original item stems. Both approaches fail capture the nuances of the social media environment and the extended opportunities for appearance comparisons that social media platforms provide. This study sought to address these limitations by developing a psychometric scale that assessed appearance comparison tendencies specific to the social media context.

As discussed in Chapter 1, the social media context is highly visual, appearance-focused, and differs from traditional media in that it is more accessible, personalised, interactive and peer-focused (Perloff, 2014b). Social media enables users to consume, but also produce appearance-related content and receive feedback on this content (Solomon, 2016). Scales that have been developed to assess the impact of social media on body image have either focused on documenting the frequency with which individuals consume appearance-related content (such as the “Social Media Use Related to Body Image Measure”; Lee, Lee, Choi, Kim, & Han, 2014)), or the extent to which they post photographic presentations of themselves online (such as the “Photo-Editing Behaviour Measure” (Fox & Vendemia, 2016) and “The Self-Photo Investment Scale” (McLean et al., 2015)). While these scales identify usage behaviours that potentially influence outcomes for body image none of these scales capture the mechanisms, such as appearance comparisons, that are theorised to underpin problematic outcomes arising from these behaviours.

Only one scale, “The Online Physical Appearance Comparison Scale”(Walker et al., 2015) has been employed to assess appearance comparison processes on social media specifically. However, this scale was developed from an existing appearance comparison scale, the Physical Appearance Comparison Scale-Revised (PACS-R) (Schaefer & Thompson, 2014) and was modified to make it social media relevant by inserting the word “Facebook” into item stems, without altering items to make them suited to the social media context. Furthermore, current appearance comparison scales (such as the Physical Appearance Comparison Scale, PACS-3 (Schaefer & Thompson, 2018)) focus solely on comparisons arising from consumption of media content, but do not quantify unique social media comparisons arising from the self-generation of content, or from comparisons of the feedback (likes/comments) received on personal content versus other users. Studies have found that individuals are highly conscious of their online self-presentation and how it compares with others (McLean et al., 2015; Pai & Schryver, 2015). Individuals, especially female youths and adolescents have been observed to compare the “likes/comments” they receive on self-posted content to their peers and these comparisons have been observed to impact self-esteem (Chua & Chang, 2016; MacIsaac, Kelly, & Gray, 2018). Individuals report that receiving likes can enhance self-esteem and body perceptions; however, receiving less likes than peers, or less likes than expected/desired can undermine their feelings of self-worth and self/body perceptions (Chua & Chang, 2016; Weinstein, 2018). Indeed, in focus groups (Chapter 2), young adults were very conscious of their self-presentation and were influenced by likes/comments received on posts. They compared their self-presentations and the feedback they received on posts, to that of their peers and this was reported to influence subsequent self-presentations. To adequately reflect the social media context, it is essential that appearance comparisons arising from both the consumption and production of content are quantified.

Existing appearance comparison scales also have failed to include relevant, emerging targets of comparison. The most commonly used appearance comparison scale, the PACS-3,



includes items that assess comparisons with models on “billboard advertisements” and “magazines”, which may no longer constitute central targets of comparison for contemporary youths who are reported to engage in less comparisons with traditional medias and paper-based advertising (Pew Research Centre, 2018; Fardouly, Pinkus, & Vartanian, 2017). Social media offers new comparison targets with fitness/health/beauty bloggers, collectively known as “social media influencers” (Khamis et al., 2016), which are not accounted for in existing appearance comparison scales. Social media influencers, especially those who post about diet/fitness/appearance may exert unique effects on body image because they constitute upward targets but are considered less extreme than traditional celebrities. Therefore, individuals may be more likely to compare with social influencers/fitness bloggers and perceive their body ideals as being more attainable (Raggatt et al., 2018), despite their lifestyles being largely idealistic and far from the reach of most individuals (Marwick, 2015). Individuals have reported experiencing body dissatisfaction if they perceive to have failed to attain these purportedly attainable health/fitness body ideals espoused by social influencers (Raggatt et al., 2018). As noted in Chapter 2, young adults mostly considered celebrities and social influencers the most problematic targets of comparison on social media. This was because the singular exposure to the idealised lives of these targets distorted perceptions of normal/attainable bodies and induced dissatisfaction when these appearance goals were not met. However, many women endorsed comparisons with social media influencers because they felt they exerted a motivating influence on health behaviours and body image. Young adult men did not endorse comparisons with these targets but acknowledged that the social media influencer played a pivotal role in increasing the focus on bodily appearance in men. Given the potential role this comparison target plays in shaping young adults’ body image perceptions, the nature of this influence needs to be further explored in larger samples. Therefore, appearance comparison scales should include social influencers/fitness bloggers in order to ensure their applicability to contemporary youths.

In addition to their limited ability to capture appearance comparisons in the social media context, existing appearance comparison scales have been critiqued on their ability to adequately measure various dimensions of appearance comparisons including; the direction of comparison and emotional effects of comparison (Schaefer & Thompson, 2018). Quantifying the direction of comparison, that is, comparisons with upward targets (i.e. individuals who are perceived as being superior to themselves) versus downward comparisons (individuals who are perceived to be inferior to the self) has been fraught with issues. Some items in the Body Comparison Scale (BCS) (Fisher & Thompson, 1999) and the Upward/Downward Physical Appearance Comparison Scale (UPACS/DACS) (O’Brien et al., 2009) have been founded on stereotypical and stigmatising assumptions that celebrity bodies constitute an upward comparison and that overweight bodies constitute a downward comparison. They therefore fail to accurately assess individuals’ actual body image perceptions especially those who may not view overweight bodies as downward or undesirable targets (Schaefer & Thompson, 2018). The PACS-3 (Schaefer & Thompson, 2018) has

attempted to address this issue by asking individuals to report the direction of their comparison using question stem, “When I compare to my peers, I generally believe I look \_\_\_\_\_ than the peer (1. Much worse, 5. Much Better than)”. However, the use of a 5-point Likert response format makes it slightly difficult to distinguish between the three directions of comparison, upward, downward and lateral, therefore a three-point Likert scale may be more appropriate.

Most appearance comparison scales investigate only one or two comparison dimensions and fail to incorporate all dimensions of comparison (i.e. comparison target, direction, emotional effect) together (Schaefer & Thompson, 2018). While the PACS-3 (Schaefer & Thompson, 2018) does incorporate these dimensions, it, does not include other potentially relevant dimensions of comparison such as “perceived similarity” and “motives of comparison”. These two additional dimensions have been theorised to influence the outcomes of social comparisons. According to Collins (2000) perceiving oneself as similar to upward targets enhances self-evaluations and is termed assimilation. Perceiving oneself as different to upward targets produces negative effects on self-evaluations by highlighting personal discrepancies and is termed contrast. Similarly perceiving oneself as similar to downward targets is associated with negative outcomes but perceiving oneself as different from downward targets is associated with positive outcomes. Therefore, perceptions of similarity may provide a greater indication of outcomes of comparisons rather than direction alone (Collins, 2000). Corroborating this, in Chapter 2, young adults described how targets that were perceived as similar exerted the strongest influence on body image perceptions, because they were perceived as more personally attainable. Perceiving contrast between oneself and a similar target (peer/social influencer) was typically associated with dissatisfaction; however, some women reported that perceptions of similarity with social influencers (upward comparisons) exerted positive effects.

Social comparison theory also notes that the motives for comparing oneself also influence outcomes (Jerry et al., 2002; Wheeler, 1966). Self-improvement motives (to improve oneself by comparing to superior others) and self-enhancement motives (to boost self-esteem by comparing to inferior others) are associated with positive outcomes for body image (Halliwell & Dittmar, 2005), while the opposite is generally true self-evaluative comparisons (to evaluate one’s relative standing to similar/superior others) (Martin & Gentry, 1997). Supporting this, young adults in Chapter 2 endorsed the notion that mood and mindset influenced outcomes of comparisons, such that when in a pessimistic self-evaluative mood, negatives could be perceived when content was neutral. However, young adults also noted that comparisons could exert motivating effects when the goal was to self-improve. Therefore, appearance comparison scales should endeavour to include these two dimensions in order to comprehensively capture all aspects of the appearance comparison construct and satisfy content validity.

Although appearance comparisons also largely unconscious activities, individuals are thought to be influenced by these comparisons often without being consciously aware of them

(Want, 2009). Young adults in Chapter 2, reported that they made downward appearance comparisons without realising it, and perceived it as a subconscious rather than active comparison. Exposure to body-related content on social media may elicit such unconscious comparisons that may yield a subtle influence on body image. Given that frequency of exposure to appearance-focused content and engaging in appearance-focused activities is associated with greater levels of appearance comparisons and body dissatisfaction (Mingoia et al., 2017), it is also important to take into account the extent to which individuals are exposed to and engage with appearance-focused content on social media as an indicator of indirect comparison.

It was considered important to capture appearance comparison behaviours of both men and women on social media given that social media usage patterns have been observed to differ between men and women (Duggan & Smith, 2013). Women have been found to spend more time on social media and engaging in photo-based activities than men (McAndrew & Jeong, 2012), and it is plausible these differences in social media usage patterns may be accompanied differences in appearance comparison behaviours and subsequent body image outcomes. Furthermore, it has been found that women tend to engage in appearance comparisons with same sex upward comparison targets more frequently than men (Jones, 2001; Strahan et al., 2006), and are more likely to engage in self-critical comparisons, versus men who tend to engage in more self-hopeful, esteem-protective comparisons (Franzoi et al., 2012). In Chapter 2, while young adult women did appear to engage more in appearance-based behaviours, they didn't appear to exhibit more self-critical comparisons than men. Women reported that they didn't invest heavily in appearance-related behaviours and generally appeared to hold a positive view of their bodies which may have protected them from engaging in "problematic" appearance comparisons. However, given the small sample size it is unclear if these findings generalise to larger female samples. Additionally, a social desirability bias may also have prevented men and women from reporting "problematic" appearance comparison behaviours and therefore these appearance comparisons on social media need to be investigated in more anonymised formats in larger samples to ascertain how they operate in men and women. This scale sought to measure the appearance comparison tendencies of men and women on social media.

In sum, this study aimed to develop a scale that captured appearance comparisons specific to the social media context and the pertinent dimensions of these appearance comparisons that influence body image in men and women.

### 3.3 Scale Development Process

The following section will describe the scale development process which was guided mostly by best practice recommendations outlined by DeVellis (2012). The three main stages involved in scale development: item development (item generation), scale development (theoretical analysis) and scale evaluation (psychometric analysis) and their substages, will be described below (Boateng et al., 2018; DeVellis, 2012; Hinkin, 1995).

#### 3.3.1 Stage 1. Item development

Item development involves a.) clearly conceptualising and defining the construct of interest, b.) generating an item pool that reflects this construct and c.) ascertaining scale parameters such as item stem and response formats which adequately capture this construct (DeVellis, 2012; Morgado et al., 2017).

##### *a.) Defining the construct*

DeVellis (2012) recommends that researchers should outline a well-formulated definition of the construct they intend to measure, which is guided by theory and existing research and which specifies, the attributes and boundaries of the construct and how it relates to existing constructs and their operationalisations.

The purpose of the present scale is to measure appearance-comparison behaviours of young adults in the social media context. To characterise this scale, we drew on definitions provided in the literature (DeVellis, 2012), which for appearance comparisons were evaluations along appearance-related dimensions of personal importance to the individual (Dijkstra et al., 2010), while for social media were “websites and applications that enable users to create and share content or to participate in social networking (Kaplan & Haenlein, 2010, p.63)”. Social media have also been characterised in terms of individual platforms (e.g. Facebook) and the unique appearance-related affordances/features of these platforms.

The ways that appearance comparison behaviours have been operationalised in existing scales were also considered when defining the measure (DeVellis, 2012). Appearance comparisons have typically been operationalised in terms of their direction (upward/downward); the context in which they occur (at the gym/at a party); the body attributes they refer to (weight/shape); the targets with which they are made (peers/celebrities) and the affective response they elicit (positive/negative feelings) (PACS-R/PACS-3/UPACS/DACS) (O’Brien et al., 2009; Schaefer, 2017; Schaefer & Thompson, 2014). Existing appearance comparison scales typically include an item stem that contains several of these dimensions of comparison, and each of these dimensions can differ from one item to the next (O’Brien et al., 2009; Schaefer & Thompson, 2018). For example, Item 14 in the PACS-3 contains three comparison dimensions “When I’m at the gym (context), I compare my overall appearance (body attribute) to the appearance of others (target)”, while subsequent items ask about the direction of this comparison and the affective response it

elicits. Thus, appearance comparisons are best conceptualised as a multidimensional construct, with different forms of behaviour captured within the overall construct.

This scale aims to quantify these multidimensional comparisons of bodily appearance which are specific to the social media context by a.) incorporating appearance comparisons arising from both the consumption and production of social media content and b.) including all relevant targets of comparison on social media for men and women (peers, social influencers, celebrities/sports stars). It also endeavours to capture the various dimensions of comparison on social media including; direction, motives, perceptions of similarity and affective response to both direct and indirect comparisons.

### ***b.) Formulating Item Pool***

The next stage of item development involves the formulation of a pool of candidate items that will be incorporated in the scale. When generating items, it is considered “best practice” to use both deductive methods (which draw on literature and existing scales to provide a theoretical basis for the construct) and inductive methods (which draw on insights/perspectives shared about the construct by the target population in focus groups, to provide an ecologically valid basis for the construct) (Boateng et al., 2018). It is also recommended to generate a large pool of items in initial phases to improve face and construct validity of the measure (DeVellis, 2012; Matsunaga, 2010). As will be discussed in greater detail in section 4.3.2 below, this study used the findings from the literature review, existing scales and focus groups in Chapter 2, to inform the construction of a relatively large pool of 37 items.

### ***c.) Ascertainning Scale Parameters***

As recommended by DeVellis (2012), careful attention was paid to the wording of items to ensure they were unbiased, “clear, concise, distinct and reflected the conceptual definition” (Carpenter, 2018, p.33). Items also sought to incorporate the terminology used by young adults where appropriate to ensure ecological validity (Carpenter, 2018). As recommended by Comrey (1988), a 5-point Likert scale was chosen as the response format for most item stems because it produces the most reliable outcomes, reflects a relatively continuous distribution and allows sufficient response variance to occur. A 3-point Likert scale response format was used on one item to because it was most suited to capturing the three direction of comparison, upward, lateral and downward. As described in section 4.3.2 below, response formats differed across certain items to capture the essence of the items. As noted by Decastellarnau (2017), this is appropriate because item-specific scales yield higher measurement quality. Efforts were made to ensure that suitable instructions were included and that the display format was clear. As recommended by Mengold et al. (2014) each response anchor was verbally labelled and presented in a matrix format to improve

measurement and response quality. Furthermore, the “SurveyMonkey Genius” survey design feedback tool was used to optimise the scale and ensure it was as “user-friendly” as possible<sup>5</sup>. Skip logics were employed where appropriate to reduce participant burden and maximise quality of responses (Peytchev et al., 2006). Although, online surveys are limited by uncertainties over data validity and sampling concerns, they are easy to administer, yield higher response rates, enable access to individuals in geographically distant locations and are cost-effective; thus the online survey format was chosen as the mode of delivery (Wright, 2005). The full list of items and the survey format is presented in Appendix C.3.

### **3.3.1.1 Item generation of the ACSMS**

This scale was partially modelled on the structure of PACS-3 (Schaefer & Thompson, 2018). In the PACS-3, item stems contain a target, a context and a body-attribute of comparison. If the respondent endorses this question, they are asked two additional questions; one about the direction of this comparison (upward/downward) and the second about affective consequence of this comparison (positive/negative). If the respondent does not endorse this comparison, they skip to the next set of comparisons. Similarly, the ACSMS contains item stems with a context of comparison, a target of comparison and a dimension of comparison and participants are asked a series of additional questions if they endorse the stem comparison or skip to the next comparison if they don't. Like the PACS-3 (Schaefer & Thompson, 2018), the scale was also designed to address both male and female appearance comparison behaviours.

However, contrasting with the PACS-3, the context and targets of the ACSMS are social media specific; there is only one body-attribute of comparison, “bodily appearance” versus several used in the PACS-3; the motives of comparison and perceptions of similarity are also included as additional dimensions of comparison in the ACSMS; the 5-point Likert response of (Very dissatisfied – Very satisfied) is used in the ACSMS instead of the 5-point Likert response (Very negative – Very positive) used in the PACS-3, to more accurately capture the affective consequence of comparison and finally a 3 point Likert response (Much worse - Much Better) is used to more precisely capture upward, lateral and downward comparisons versus the 5 point Likert scale (Much Worse – Much Better) used by the PACS-3. Table 3.1 below highlights the similarities and differences in the PACS-3 and ACSMS.

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<sup>5</sup> The SurveyMonkey Genius software uses artificial intelligence, survey experts and machine learning to estimate the percentage (%) completion rate and time to complete the survey and informs users of ways to improve completion rates and response quality (<https://www.surveymonkey.com/mp/surveymonkey-genius/>)

**Table 3. 1**

*Comparison of Similarities and Differences Between the PACS3 and the ACSMS.*

Aspect of comparison	Scale	
	PACS-3	ACSMS
Body attribute	Shape/weight Overall appearance Muscularity	Bodily appearance (body)
Target	Actor/actress Model Athlete Same-sex others Videogame characters New person (same sex) Others	Peers Social Media Influencers (or fitness/lifestyle bloggers) Celebrities/sports stars Content posted of one's own physical appearance "Likes/comments" on appearance related posts versus peers.
Context	Gym Watching a movie/television Surfing the internet Seeing a magazine "Billboards or advertisements" Eating in a restaurant Watching an athletic event Playing videogames "On dating websites or social media networks" In public, "Work or school" Shopping for clothes Party or social gathering Group of friends	Consuming content on social media Self-generating/creating content on social media
Direction	When I make these comparisons, I typically believe that I look _____ than the person to whom I am comparing myself	Do you tend to compare to celebrities/sports starts (target) who _____ than your own?  Likert 1-3: Much Better, Much the Same as, Much Worse
Affect	When you make these comparisons, how does it usually make you feel?	23. How do you typically feel about your own body after comparison with these celebrities/sports stars (target)? Likert 1-5 (Very dissatisfied – Very satisfied)

*Note.* PACS-3 = Physical Appearance Comparison Scale 3 (Thompson & Schaefer, 2017); ACSMS = Appearance Comparison on Social Media Scale; N/A = not applicable.

### **3.3.1.2. Scale composition**

The scale was divided into two parts based on context of comparison, with the first section assessing comparison tendencies when passively consuming social media content (consumption context) such as viewing posts/photos/videos/stories of other users or scrolling through profiles/pages/newsfeeds. The second section assesses appearance comparison tendencies when actively generating social media content (self-generation context) such as posting photos/videos/stories or creating/managing personal profiles. A brief description of each context was presented at the beginning of each question sequence and was followed by a series of questions assessing comparison tendencies within the given context.

#### ***Part 1. Consumption context***

In the consumption context respondents were first asked about comparisons with three comparison targets; peers, celebrities/sports stars and social influencers/fitness bloggers on social media. Participants were first asked to indicate the time spent scrolling through photos of each of these targets on Likert scales ranging from 1-5 (Almost none of the time - Almost all of the time). Participants were then asked to indicate the extent to which these targets post body-related content on Likert scale ranging from 1-5 (Never - Always). These two items were designed to assess indirect comparisons via exposure to body-related content.

Then participants were then asked about frequency of direct comparisons with a given target on Likert scale ranging from 1-5 (Never - Always). If they indicated that they “never” compared to this target they were instructed to skip to the next target item; however, if they indicated that they did compare their appearance to this target, they were asked six sub-questions about this comparison. They were asked about 1. Direction of comparison, 2. Perceived similarity to target 3. Effect of comparison 4. Evaluative motive 5. Enhancement motive and 6. Improvement motive. Participants completed a total 6 question set for each of three comparison targets if they reported that they compared to each of these three targets.

The first sub item assessed the general direction of comparisons and asked individuals to indicate on a Likert scale of 1-3, whether they tended to compare to targets on a who had better, similar or worse bodies than themselves, thereby indicating tendencies to engage in upward, lateral or downward comparisons with targets. The second sub item assessed perceived similarity to targets by asking participants to rate how similar they perceive their bodies to be versus the targets with which they were compared on a Likert Scale ranging from 1-5, (Not at all similar - Very similar). The third sub item assessed the affect that comparisons had on one's evaluation of their own body and asked individuals to indicate on a Likert scale ranging from 1-5 (Very dissatisfied -



Very satisfied), how comparisons with targets made them feel about their own body. The fourth sub item assessed the three main motives for comparison which included; self-evaluation, self-enhancement and self-improvement. The frequency with which each of the three motives underpinned comparison behaviours was evaluated using a Likert scale ranging from 1-5 (Never - Always).

### ***Part 2. Self-generated context***

The self-generated social media context contained different question stems and only one target of comparison; “peers”. In the self-generation context, respondents were first asked the frequency with which they posted images/photos/videos of themselves on social media using Likert scales ranging from 1-5 (Almost none of the time - Almost all of the time). If they reported that they posted content “almost none of the time” they skipped onto the end of the questionnaire.

If they reported that they did post content of themselves “A little of the time” or more, they were asked how frequently they posted content related to their own bodily appearance using Likert scales ranging from 1-5 (Never - Always). They were also asked about their tendency to compare themselves, and how they looked in their social media profiles to peers using Likert scales ranging from 1-5 (Never - Always). Participants were asked to indicate the frequency with which compared the amount of likes they received versus peers on 5-point Likert scales ranging from (Never - Always) and the extent to which body image perceptions were influenced by the amount of likes/comments received versus peers on Likert scales ranging from 1-5 (Not at all - To a great extent). Participants were asked whether receiving more/less likes/comments than peers enhanced/depreciated body perceptions using Likert Scales ranging from 1-5 (Not at all - To a great extent). Finally, respondents were asked about the motives for comparing themselves to others based on feedback indices. Participants were asked the frequency with which they compared “likes/comments” to their peers to evaluate their own level of attractiveness, to improve how they feel about their own body or to learn how to improve their bodily self-presentations using Likert scales ranging from 1-5 (Never - Always).

### ***Summary of Scale Composition***

In sum, there were two contexts of comparison (consumption/self-generation), three targets of comparison (peers/social media influencers/celebrities or sports stars) and one attribute of comparison (bodily appearance). In the consumption context, Appearance comparisons are assessed in terms of four dimensions; 1. Direction (upward/downward/lateral), 2. Similarity of target (assimilate/contrast), 3. Effect of comparison (dissatisfaction/satisfaction), 4. Motive of comparison (evaluate/improve/enhance).

In the self-generation context, appearance comparisons of self-generated content and feedback received on feedback indices with a generalised other were assessed according to 3 dimensions 1.

Direction of comparison, 2. Effect of comparison and 3. Motives of comparison. The scale consisted of a total of 37 items.

### **3.3.2 Stage 2. Scale development (Theoretical analysis)**

This stage involves determining content validity of new scale i.e. ensuring that items truly reflect the construct (Morgado et al., 2017). Carpenter (2018) recommends that the item pool is subjected to an expert review to receive feedback on item quality and the capacity for each item to capture the overarching construct. To facilitate this, the thesis supervisor, an expert in quantitative research methodologies reviewed the items and provided suggestions for item refinement, for example using the word “bodily appearance” rather than “body” to ensure the “body reference” descriptor of appearance comparison was neutral and less ambiguous. Additionally, it was recommended that items referring to comparisons of “likes” obtained on posts should refer specifically to “peers” rather than “others” because as indicated by the literature and findings from focus groups, this comparison predominantly occurs in the context of peers.

### **3.3.3 Stage 3. Scale evaluation (Psychometric analysis)**

Following item generation, the structure of the scale was determined using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). The psychometric properties of the scale were also ascertained using reliability and validity analyses (Morgado et al., 2017). A cross-sectional design with a large sample size was used to verify the factor structure of the ACSMS and to establish convergent, criterion, internal and external validity and internal consistency of the scale. A repeated-measures design was used to determine two-week test-retest reliability of the scale. The methods section describes the psychometric evaluation of the Appearance Comparison on Social Media Scale (ACSMS).

When conducting these analyses, it was hypothesised that

1. The nature of appearance comparisons engaged with on social media, both with consumed and produced content, would influence outcomes for body image.
2. Dimensions of appearance comparison; targets, direction, similarity and motivations would influence body image outcomes.
3. The appearance comparison behaviours that men and women engage in might differ, and this may influence outcomes for body image.

### 3.4 Method of scale evaluation

#### 3.4.1 Participants

Participants were recruited through convenience, snowball sampling and word of mouth using traditional distribution methods (recruitment posters/social media posts/email lists). Data collection was initiated by the primary researcher in September 2018 and continued for a period of 4 months. Participation was voluntary, but undergraduate college students could receive 1-2 course credits for participation. Participants were excluded from the study if they were not aged 18-25 years, did not use social media or if they had completed the survey previously (to avoid repeat responses from single participants).

Of 890 initial responses, 795 were eligible for participation (95 “responses” were deleted because respondents either did not provide consent, did not meet inclusion criteria or not fill in demographic information). The sample contained 639 (80.4%) women, 152 (19.1%) men, and 4 (.5%) other young adults aged 18-30,  $M=22.5$ ,  $SD=3.6$ . Of participants who provided data on Ethnicity ( $n=257$ ), 232 (90.3%) were Caucasian, 12 (4.7%) were Asian, 3 (1.2%) were Black/African, 9 (3.5%) were Mixed Race and 1 (.4%) was Other. Of participants who provided information on Nationality ( $n=538$ ), 398 (74%) were Irish, 30 (5.6) were American, 20 (3.7%) were British, 18 (3.3%) were Australian, 14 (2.6%) were Indian and the remainder of the total 40 different nationalities represented in the sample, were mostly European.

A subset of participants completed the ACSMS at a second time point, approximately two weeks after completing the initial full survey to enable test-retest reliability to be calculated. Streiner and Kottner (2014) recommend a period of 10-14 days between administrations so that respondents don't remember original responses and simply recall them. This subset was composed of Trinity College psychology students who consented to complete a short 5/10 minute follow up for an additional course credit. Although 83 consented to participate, responses were obtained from 71 participants; however, only responses of 63 participants, 43 (68.3%) female, 19 (30.2%) male and one other (1.6%) with a mean age of 20.6 ( $SD = 3.3$ ) were eligible for analysis (8 participants failed to provide identifying information to link their first response to their second response).

### 3.4.2 Measures

*Demographic details:* Participants were asked to report their gender, age, ethnicity, nationality and details about their social media use including; the social media platforms they have an account with, the social media platform they used the most, and the frequency with which they used social media, on a 5 point scale (Multiple times per hour- Less than once a week).

*The Physical Appearance Comparison Scale 3 (PACS-3)* (Schaefer & Thompson, 2018) is a 27-item scale that assesses appearance comparison processes involved in the development and maintenance of body dissatisfaction and disordered eating. The PACS-3 yields sufficient internal consistency with a Cronbach's alpha of  $\alpha=0.85$  for women and  $\alpha=0.76$  for men, in addition to good test-retest reliability with intraclass correlation coefficients ranging from  $r = .74$  to  $.88$  (Schaefer & Thompson, 2018). Concurrent and construct validity was found to be good, with moderate correlations between PACS-3 subscales and convergent measures (UPACS/DACS), and moderate correlations with the Eating Disorder Examination Questionnaire (EDEQ) and Multidimensional body-self relations questionnaire (MBSRQ) in expected directions (Schaefer & Thompson, 2018).

*Upward and Downward Appearance Comparison Scale (UPACS/DACS)*, (O'Brien et al., 2009) is an 18-item scale, that uses 5-point Likert scales to assess the tendency to engage in comparisons with individuals perceived more (Upward comparisons, 10 items) and less (Downward comparisons, 8 items) attractive. This scale demonstrates excellent reliability with Cronbach's alpha of  $\alpha=0.94$  and  $\alpha=0.92$  obtained for each subscale and strong test-retest reliability of  $r = .79$ ,  $r = .70$  for each subscale obtained after a 2-week interval (O'Brien et al., 2009). The UPACS/DACS has been found to exhibit good construct validity with the UPACS producing negative associations and the DACS producing positive associations with the MBSRQ. The UPACS, but not the DACS has also been positively associated with the Eating Attitudes Test (EAT)-26. UPACS/DACS showed good incremental validity, explaining approximately 7% additional variance in body dissatisfaction scores than existing measures (Physical Appearance Comparison Scale, PACS) (O'Brien et al., 2009).

*The Motives to Use Instagram Questionnaire* (Sheldon & Bryant, 2016) is a 20-item scale that assesses general motives to use social media platforms such as Instagram. Cronbach's alpha values for all four factors indicate adequate internal consistency ( $\alpha = 0.67- 0.86$ ) (Sheldon & Bryant, 2016). Interpersonal interactions were positively related to Instagram use for the four motives they identified which included creative purposes, coolness, and surveillance (Sheldon & Bryant, 2016).

*The Appearance Evaluation subscale of the Multidimensional Body Self Relations Questionnaire (AE-MBSRQ)* was used to assess body dissatisfaction levels. The AE subscale contains seven items and has obtained Cronbach's alpha level of  $\alpha =0.88$  for both males and females (Cash et al., 1985, 1986). Test-retest reliability has been found to range from  $r= .81$  to  $.91$  for the appearance

evaluation subscale (Cash et al., 1985, 1986). The expected convergent and discriminant validity of MBSRQ subscales with other body-related measures has received extensive support, as has construct validity of the MBSRQ with other scales and biopsychosocial variables (Cash, 2015).

*Rosenberg Self-esteem scale (RSES)* (Rosenberg, 1965) is a 10-item scale that uses 4-point Likert scales to assess global self-esteem. The RSES is one of the most widely used self-report methods for assessing global self-esteem and demonstrates strong internal consistency of between  $\alpha = 0.88 - 0.90$  and good test-retest reliability of  $\alpha = .82$  after a week interval and good convergent and construct validity (Fleming & Courtney 1984; Sinclair, 2010)

*Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ-4-R)* (Schaefer et al. 2017) is a 22-item scale that uses 5-point Likert scales to assess internalisation of appearance ideals relevant to women and men (i.e., thin and muscular ideals). This scale demonstrates excellent reliability with its 5 scales yielding Cronbach's alpha values ranging from ( $\alpha = 0.83- 0.91$ ). The SATAQ-4 scale scores demonstrated excellent good convergent validity with measures of body image, eating disturbance, and self-esteem. Factorial validity, reliability, and convergent validity of the SATAQ-4 was replicated in multiple international samples (Rodgers et al., 2016; Schaefer et al., 2012).

*Appearance Comparisons on Social Media Scale (ACSMS)* (Mahon & Hevey, nd)

The 37-item ACSMS, as described above, was also administered.

### **3.4.3 Procedure**

This study received ethical approval from Ethics Committee at the School of Psychology, Trinity College Dublin (see Appendix A.2). Participants were invited to complete an online questionnaire, which involved answering a series of questions relating to body image perceptions, attitudes to their body and social media use. The study link, which contained the information sheet, consent form and survey (see Appendix C.1 & C.2) could be accessed by scanning the barcode on the posters or by following the weblink emailed to them on request by the primary researcher. Participants were required to read the information page which outlined the goals of the study, participation rights and the procedures involved prior to participation. After participants provided electronic consent, they completed the questionnaires, which were presented in a fixed order and took approximately 20-30 minutes to complete (see Appendix C.3 for full questionnaire). On completion of the survey, participants were thanked and debriefed. Trinity College students were asked to indicate their consent to partake in a brief, 5-10 minute follow up questionnaire for additional course credit (see Appendix C.4). College students who opted to partake in the follow up, received an email with the follow up link (containing the ACSMS scale only) two weeks after first survey completion. Participants were informed that they had 7 days to complete this follow up survey, after which time their responses would not be counted. Participants received a follow up

email after 6 days to remind them to partake if they had not done so already. On completion of the follow up, participants were thanked and debriefed (see Appendix B.7 for debrief form).

### **3.4.4 Analytic strategy**

#### **3.4.4.1 Initial data screening and descriptive statistics**

Data screening and preliminary analysis were carried out to prepare the data for Exploratory Factor Analysis (EFA). Participants were excluded if they followed the link but failed to provide consent to participate (n=37), failed to meet inclusion criteria (i.e. were not aged 18-25, were not social media users, had completed the study before) (n=21) or if their responses contained significant missing data (>50%) (n=57) (Carpenter, 2018). Following the protocols used in previous scale development studies (Fitzsimmons-Craft et al., 2012), we elected to use complete case analysis (whereby only full responses are analysed) and also deleted listwise responses if they were missing at least one item of the ACSMS (n=231). Descriptive statistics were conducted on the full data set.

Data was screened for normality, outliers and missing data. Normality was assessed by examining levels of skewness and kurtosis (both of which were expected to be within +/- 3 range) and Shapiro-Wilk tests of Normality (which was expected to exceed  $p > .05$ ) and through visual examination of histograms (where an approximately normal distribution shape was expected), q-q plots (where data points were expected to fall approximately in a straight-line), and boxplots (to identify any outliers and distribution of the data). Extreme outliers (exceeding three times the interquartile range (IQR) were removed if they were observed to influence distribution of the data significantly, but otherwise outliers were retained to reflect variation in the data. Patterns of missing data were assessed and a non-significant Little's statistic would indicate that data was missing completely at random (MCAR).

Independent samples t-tests (for continuous variables) and Chi Square tests of Independence (for categorical variables) were also conducted to establish whether there were any significant differences across demographics between completers (individuals without missing values) and non-completers (individuals who had missing values and were excluded from analyses) which may explain missing data. Correcting for multiple comparisons, we imposed a Bonferroni correction of  $p < .01$  to reduce likelihood of Type 1 error. A significant  $p$  value of  $p < .01$  would indicate that the groups differed significantly from each other.

As recommended by Fabrigar et al. (1999) data was then randomly split into two data sets using the select cases option in SPSS, and EFA was conducted on one sample, and CFA was conducted on the next. EFA was conducted on one sample, providing the basis for CFA to be

conducted on the next. Descriptive statistics were conducted on each group, and Independent samples t-tests and Chi Square tests of Independence were also conducted to establish whether there were any significant differences across demographics in the two groups.

Statistical analyses for EFA were conducted on SPSS version 25.

#### **3.4.4.2 Initial item analysis**

Response distributions of the individual items were then examined prior to conducting further analyses (DeVellis, 2012). Items that were highly skewed or with high kurtosis ( $+/-3$ ) or that had low item-total correlations ( $<.3$ ), were eliminated as they would not provide much information and would correlate poorly with other items (Clark & Watson, 1995).

#### **3.4.4.3 Exploratory Factor Analysis**

Adequacy of sample size for factor analysis was guided by the recommendations of Comrey (1988) who suggests that 200 participants is adequate for factor analyses involving no more than 40 items. Sample size was also informed by the recommendation that a minimum 5:1 ratio of participants to items should be included in analyses (Costello & Osborne, 2005; Gorsuch, 1988), which for the 37 item scale would constitute 185 participants. The factorability of items was assessed using Bartlett's test of Sphericity and the Kaiser-Myer-Olkin measure of sampling adequacy. Items were considered appropriate for factor analysis if Bartlett's test was statistically significant and the Kaiser- Meyer-Olkin value was .60 or higher (Tabachnick & Fidell, 2019).

Exploratory factor analysis, using Principle Axis Factoring (PAF), with a Promax oblique rotation was used as this study was interested in uncovering latent variables (Matsunaga, 2010). PAF is also the most robust method of factor analysis and is advised when subjecting a hypothesised model to CFA to ensure results are more generalisable (Fabrigar et al., 1999; Worthington & Whittaker, 2006). Promax was selected because it is one of the most robust rotation methods (Thompson, 2006) and an oblique rotation was used because it the recommended form of rotation when factors are expected to be correlated (Fabrigar et al., 1999).

Relevant theory (Carpenter, 2018), visual analysis of scree plots (Cattell, 1966) and extraction of eigenvalues greater than one (Guttman, 1954; Kaiser, 1960) were used to determine the number of factors to extract. In examining pattern matrices, items were deleted if they failed to contribute to a simple factor solution and failed to meet the minimum criteria of having a primary factor loading of .4 and no cross loadings of .3 and above (Floyd & Widaman, 1995; Ford et al., 1986). Items were retained if their primary loadings were greater than .5 and secondary loadings were less than .3 (Matsunaga, 2010). Factors were retained if they contained a minimum of three items; however, four to five items are recommended (Costello & Osborne, 2005; Fabrigar et al.,

1999). As recommended by Carpenter (2018), items with high coefficient alpha values, which may suggest over-inclusion of certain items, were removed to reduce redundancy in items and improve scale reliability and parsimony.

#### **3.4.4.4 Confirmatory Factor Analysis**

In order to verify the factor structure of EFA, Confirmatory factor analysis (CFA) was conducted in Amos Version 26. Goodness of fit was verified using the following fit indices; root square mean error of approximation (RMSEA), standardised root-mean-square residual (SRMR), comparative fit index (CFI) and the Tucker-Lewis Index (TLI). Good fit was indicated by having; RMSEA values of approximately .08 or below (Browne & Cudeck, 1992), SRMR values of .05 or below (Hu & Bentler, 1999), CFI of approximately .95 and above and TLI values of approximately .90 or above (Hu & Bentler, 1999). Several fit indices were included to ensure a more accurate and conservative estimation of model fit (DeVellis, 2012).

After model fit was established, modification indices were examined to identify potential misfit in the model (Whittaker, 2012). Modification indices reveal the presence of correlated residuals, which are items that share variance that is not explained by the latent variable. Indicating this shared variance within the model can improve model fit and reduce redundancy. When examining modification indices, fit indices with the largest modifications were identified and modified (Whittaker, 2012). The model, adjusting for correlated residuals was then subjected to CFA again.

#### **3.4.4.5 Validity**

Concurrent validity (which evaluated how the ACSMS related to similar existing measures) (Heale & Twycross, 2015) was established by conducting Pearson R correlations with the ACSMS and other appearance comparison scales including the UPACS, DACS and PACS-3. The ACSMS was expected to correlate positively with the UPACS and PACS-3. The ACSMS was expected to correlate positively, but less strongly with the DACS than the UPACS as individuals tend to make more upward than downward comparisons on social media. Correlations of .1 were considered small, .3 were medium, and .5 or more were considered large (Cohen, 1988).

Construct validity (which evaluated how the ACSMS related to underlying theoretical concepts) was determined by calculating Pearson correlations of the ACSMS and other outcome variables associated with appearance comparison behaviours (Kimberlin et al., 2008). It was expected that the ACSMS would negatively correlate with the MBRSQ and the RSES, but positively correlate with the SATAQ-4.

The incremental validity of the ACSMS, that is, the extent to which the ACSMS predicts variance in body dissatisfaction (as measured by the AE-MBSRQ) above existing measures



including the PACS-3 (which measures physical appearance comparison behaviours) and UPACS/DACS (which measure upward and downward appearance comparisons) was evaluated using Hierarchical Multiple Regression (Hunsley & Meyer, 2003). Body dissatisfaction was entered as the dependent variable, then the PACS-3 and UPACS/DACS were entered at Step 1, followed by the ACSMS subscales at Step 2. A statistically significant  $R^2$  change at step 2 would indicate the incremental validity of the ACSMS subscales. The significance of the  $\beta$  values of ACSMS subscales were also examined to enable us to determine the extent to which each subscale predicted unique variance in body dissatisfaction. In order to avoid problems with multicollinearity, Tolerance values less than .10 and VIF values greater than 10 were not included (Kline, 2015).

#### ***3.4.4.6 Reliability***

After identifying the factor structure of the ACSMS, internal consistency of total scale and each subscale was determined by calculating Cronbach's alpha. Values greater than  $\alpha = 0.70$  indicated good internal consistency (Bland & Altman, 1997).

##### ***Test-retest reliability***

Test-retest reliability was determined by calculating the Pearson correlation coefficients between total scores of the first and second administration of the ACSMS for a subset of participants. Prior to conducting test-retest analyses, the duration between first and second administration of the ACSMS was examined, and extreme outliers were removed. Cases with missing values were also removed using listwise deletion. Although participants completed the original 37-item scale in the two-week follow up, analyses were conducted on the 25-item scale. Correlations of .1 were considered small, .3 were medium, and .5 or more were considered large (Cohen, 1988).

### 3.5 Results

#### 3.5.1 Descriptive Statistics

Demographic details for the full sample and the groups involved in EFA, CFA and the subset of participants who completed two-week test-retest reliability are presented in Table 3.2 below.

**Table 3. 2**

*Demographic Details for the Total Sample, EFA and CFA Groups and Participants who Completed Two-Week Test-Retest Reliability*

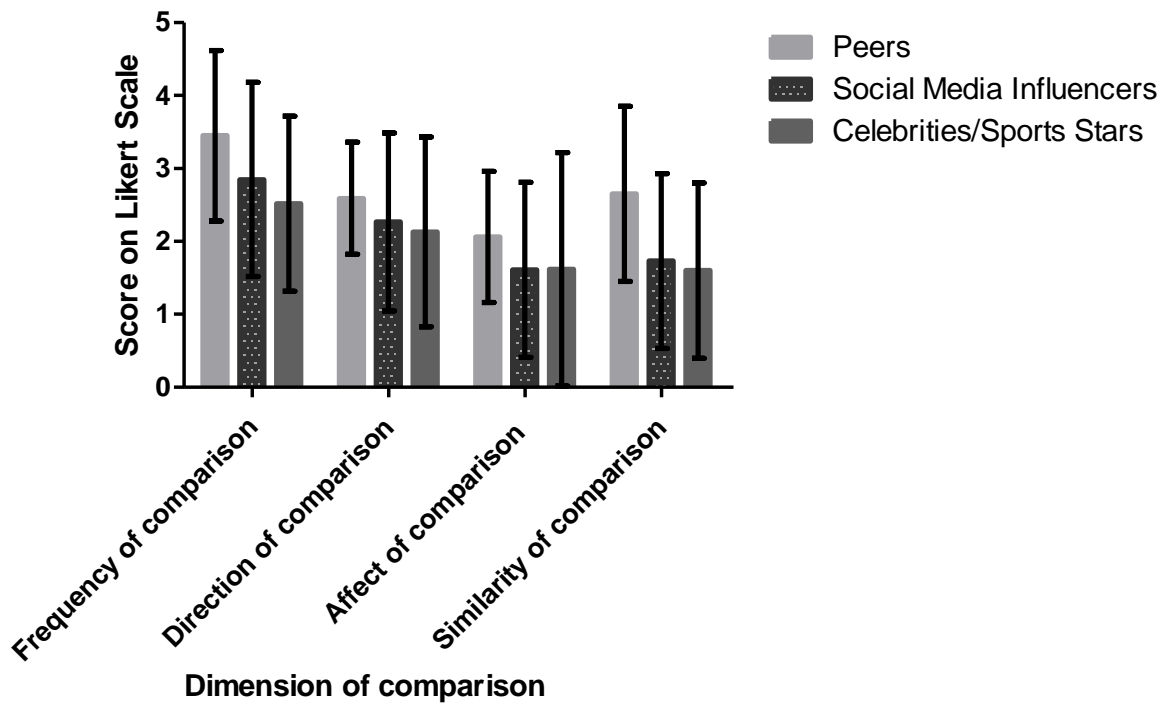
	Total (n=564)	EFA (n=275)	CFA (n=289)	Two-week test-retest reliability (n=43)
<u>Demographics</u>				
Gender				
Female	459 (81.4%)	223 (81.1%)	236 (81.7%)	31 (72.1%)
Male	101 (17.9%)	50 (18.2%)	51 (17.6%)	11 (25.6%)
Other	4 (.7%)	2 (.7%)	2 (.7%)	1 (2.3%)
Ethnicity				
	n=212	n=97	n=115	
Caucasian	191(90.3%)	86(88.7%)	104(90.4%)	N/A
Asian	12(4.7%)	5(5.2%)	8(7.0%)	N/A
Mixed race	6(3.5%)	5(5.2%)	1(.9%)	N/A
Black African/African				
American	2(1.2%)	1(1%)	1(.9%)	N/A
Other	1(0.4%)	0	1(.9%)	N/A
Nationality				
	(n=352)	(n=180)	(n=174)	
Irish	261(74%)	135(75%)	125(71.8%)	28 (65.1%)
American	22(5.6%)	11(6.1%)	11(6.3%)	4 (9.3%)
British	12(2.7%)	5(2.8%)	7(4%)	0
Australian	12(3.3%)	7(2.8%)	5(2.8%)	0
Indian	11(2.6%)	5(2.8%)	6(3.5%)	5 (11.6%)
Other European Countries	27 (7.7%)	14(7.8%)	14(8.0%)	6 (14%)
Other	7(2%)	8(4.4%)	6(3.6%)	0
Most used platform				
Instagram	274(46.8%)	131(46.7%)	146(50.5%)	12 (27.9%)
Facebook	114(20.2%)	57(20.7%)	58(20.1%)	8 (18.6%)
Snapchat	79(14%)	33(12%)	44(15.2%)	13 (30.2%)
Twitter	36(6.4%)	21(7.6%)	15(5.2%)	4 (9.3%)
Pinterest	18(3.3%)	9(3.3%)	9 (3.1%)	2 (4.7%)

YouTube	24(4.3%)	14(5.1%)	9 (3.1%)	3 (7.0%)
Reddit	12(2.1%)	5(1.8%)	6 (2.1%)	0
Other	1(1.2%)	5(1.8%)	2(0.7%)	0
Time spent using social media				
Multiple times per hour	229(40.6%)	110(40%)	119 (41.2%)	18 (41.9%)
Multiple times per day	320(56.7%)	158(57.5%)	162(56.1%)	24 (55.8%)
Once a day	13(2.3%)	5(1.8%)	8(2.8%)	0
Less than once a week	2(0.4%)	2(0.7%)	0	1 (2.3%)
Age. Mean (Standard deviation)				
	22.5 (3.6)	22.6 (3.6)	22.4 (3.6)	20.6 (3.4)

*Note.* We sought to collect data on Ethnicity and Nationality; however, an error was made when inputting questions on SurveyMonkey and Ethnicity was initially omitted. When attempting to correct for the error, subsequent responses only tallied Ethnicity and not also Nationality indicating a glitch in “skip-logic” that went undetected, despite trialling the amended version prior to relaunch. Both variables are presented above to give a representation of the sample. EFA = Exploratory Factor analysis, CFA= Confirmatory factor analysis, N= number of participants

**Figure 3. 2**

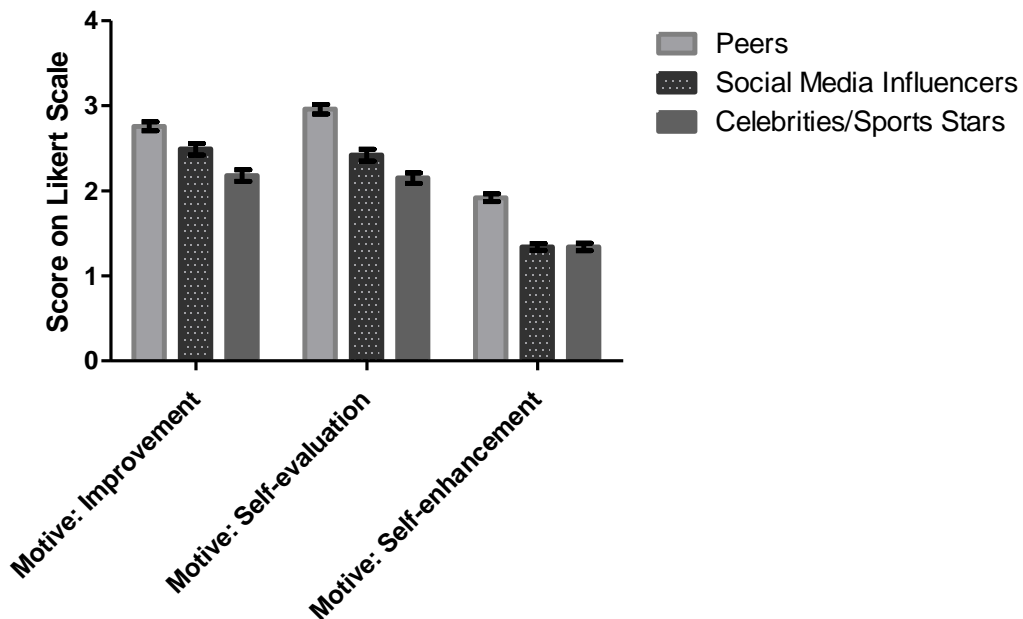
*Mean and Standard Deviation Responses to Dimensions of Comparison.*



*Note.* Frequency of comparison (1=never, 2=rarely, 3=sometimes, 4=often, 5=always). Direction (1=much worse than, 2=much the same as, 3=much better than). Affect of comparison (1=very dissatisfied, 2= dissatisfied, 3=neither satisfied/dissatisfied, 4=satisfied, 5=very satisfied). Similarity of comparison (1=very dissimilar, 2=dissimilar, 3=neither similar/dissimilar, 4=similar, 5=similar)

**Figure 3. 1**

*Mean and Standard Deviation Responses to Motives of Comparison*



*Note.* Likert scale values represent 1=never, 2=rarely, 3=sometimes, 4=often, 5=always.

As seen in Figures 3.1 and 3.2 participants mostly compared to peers followed by social influencers and celebrities. Although participants did compare their self-generated content to peers using likes/comments received, these comparisons were not widely used to evaluate their bodily attractiveness. Comparisons were mostly in upward directions and mostly led participants to feel dissatisfied with their bodies. Self-evaluation was the most common motivation for comparison followed by self-improvement and self-enhancement. Although comparisons with peers still led participants to feel dissatisfied, they exerted the least harm of any of the targets.

### **3.5.2 Initial Item analysis and reduction**

The data was mostly normally distributed, with standardised skewness and kurtosis scores within the recommended values (except for item 4 whose kurtosis score was 2.8). Shapiro-Wilk values were mostly significant indicating that data was not normally distributed; however, qq plots were mostly linear, some histograms were slightly skewed, but they were mostly normally distributed. A significant  $p$  value for Little's test, indicated that data were not missing completely at random. Therefore, we conducted Chi Square tests of independence and t-tests between completers and non-completers to establish potential sources of differences and non-random missingness. There were no statistically significant differences in gender  $\chi^2(4, N=795)=3.37, p=.19$ , frequency of use  $\chi^2(4, 793)=4.24, p=.37$ , ethnicity  $\chi^2(4, N=256)=4.90, p=.30$ , nationality  $\chi^2(4, N=539)=46.91, p=.18$  or age  $t(793)=-.82, p=.41$ , therefore the source of missingness remains unclear.

The sample size of  $N=275$  (group 1) and  $N=289$  (group 2) was considered acceptable for conducting EFA and CFA (Comrey, 1988; Costello & Osborne, 2005). Chi square tests of Independence indicated that there were no statistically significant differences in gender  $\chi^2(2, N=564)=.03, p=.99$ , ethnicity  $\chi^2(5, N=564)=.57, p=.33$ , nationality  $\chi^2(24, N=564)=.70, p=.59$ , most used platform  $\chi^2(7, N=564)=5.5, p=.60$  or frequency of social media use  $\chi^2(3, N=564)=2.75, p=.43$ , while Independent samples t-test indicated there were no significant differences in age  $t(562)=.74, p=.46$  between the two groups indicating their suitability as independent samples.

All items correlated at least .3 with at least one other item and all communalities were all above .3, further indicating that this data was suited to factor analysis. No items were deleted at this stage.

### 3.5.3 Exploratory Factor Analysis

Bartlett's Test of Sphericity was significant  $\chi^2(666)=9842.54$   $p<.001$  and the size of the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO=.91) exceeded the recommended value of 0.6, suggesting that the 37 item ACSMS scale had adequate common variance and that factor analysis was appropriate for these data (Field, 2005).

The 37 item ACSMS was subjected to exploratory factor analysis which initially produced a 7-factor solution that explained 75.83% of the variance. Based on a priori factor loading criteria, 6 items were deleted (Items 1,2,8,11,19,29). Principle Axis Factoring using Promax rotation was conducted again on the remaining 31 items and yielded a five-factor solution explaining 77.02% of the variance. However, factor 5 of this solution only explained a small portion of the variance and contained only two items, which is below the standard threshold of three or more items per factor. Furthermore, the items appeared to align theoretically with those of factor 4, rather than constituting a separate factor. To simplify data and produce a theoretically sound scale, we trialed several approaches of item reduction.

Firstly, we reran the EFA and specified that a four-factor solution should be extracted, however the model that was yielded from this was theoretically incoherent. We then tried to simplify the model by deleting the two items of factor five (items 5 and 6) and rerunning the EFA. A further 5 items (items 10, 16, 18, 21, 25) were removed due to low loadings or high cross loadings. Although this 22-item scale yielded a 4-factor solution, the solution was mediocre in terms of theoretical sensibility, and when it was subjected to CFA, did not yield a strong model fit. The final approach involved the deletion of items in order to improve the Cronbach's alpha value. Three items (5,6 and 14) were removed because they did not discriminate the factor deep structure as intended and reduced the reliability of the statistic. A subsequent two further items (15 and 23) were deleted because they conflicted with a priori factor loading criteria. This yielded a 4-factor solution that appeared theoretically consistent.

The final 26 item scale explained 76.1% of the variance is presented in Table 3.3 and the four factors of the ACSMS are thought to represent dimensions of appearance comparison behaviours on social media. The first factor, labelled Self-Generated Comparisons (9 items), explained 42.3% of the variance and quantifies comparison behaviours related to one's own social media profile. The second factor, labelled Celebrity Comparisons (7 items), explained 20.6% of the variance and reflects comparison behaviours with celebrities on social media. The third factor, Social Influencer Comparisons (6 items) explained 7.7% of the variance and displays comparison behaviours with social influencers/bloggers on social media. The final factor, Peer comparisons (4 items) explains 6.0% of the variance and describes comparisons with peers on social media.

**Table 3. 3***Principle Axis Factor Analysis Factor Loadings for the Appearance Comparisons on Social Media Scale*

Item	Factor Loadings			
	1	2	3	4
<u>Factor 1: Self-generated content comparisons</u>				
28. How often do you post images/photos/videos of yourself on social media?	0.79			
30. How often do you compare how you look in your social media profile, to how your peers look in their profiles?	0.82			
31. How often do you compare the amount of "likes" you receive on your posts versus the amount of "likes" peers receive for similar posts?	0.92			
32. The perception I have of my body is influenced by the amount of likes I receive on my posts relative to my peers	0.94			
33. I use the number of likes received on a photo to evaluate my level of bodily attractiveness in the photo	0.91			
34. Receiving more likes than peers on photos makes me feel better about my body	0.91			
35. How often do you compare the amount of likes you receive to peers in order to evaluate how your body measures up to theirs?	0.90			
36. How often do you compare the number of likes you receive to peers in order to make you feel better about your own bodily appearance?	0.89			
37. Receiving less likes than my peers makes me feel less satisfied with my bodily appearance	0.91			
<u>Factor 2: Celebrity Comparisons</u>				
20. How often do these celebrities/sports stars post content related to their bodily appearance?		0.44		
21. How often do you compare your bodily appearance to celebrities/sports stars?		0.75		
22. Do you tend to compare to celebrities/sports stars whose bodies are ..... your own?		0.92		
24. How similar is your body to the bodies of the celebrities/sports stars that you typically compare yourself with?		0.80		
25. How often do you compare your body to celebrities/sports stars in order to evaluate how your body measures up to theirs?		0.85		
26. How often do you compare your body to celebrities/sports stars in order make you feel better about your own body/appearance?		0.76		
27. How often do you compare your body to celebrities/sports stars in order to motivate yourself to improve your own body?		0.85		
<u>Factor 3: Social Influencer Comparisons</u>				

10. How often do you follow social influencers OR health/fitness bloggers	0.62
12. How often do you compare your bodily appearance to social influencers OR health/fitness bloggers?	.74
13. Do you tend to compare to social influencers/bloggers whose bodies are _____ than your own?	0.95
16. How often do you compare your body to social influencers/bloggers in order to evaluate how your body measures up to theirs?	0.83
17. How often do you compare your body to social influencers/bloggers in order to make yourself feel better about your own body?	0.75
18. How often do you compare your body to social influencers/bloggers in order to motivate yourself to improve your own body?	0.91

Factor 4: Peer Comparisons

3. How often do you compare your bodily appearance to your peers?	0.91
4. Do you tend to compare to peers whose bodies are ..... your own?	0.76
7. How often do you compare to peers in order to evaluate how your body measures up to theirs?	0.88
9. How often do you compare to your peers in order to motivate yourself to improve your own body?	0.64

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*Note.* Factor 1, Self-generated content comparison; Factor 2, Celebrity/Sportsperson comparison; Factor 3, Social Influencer Comparison; Factor 4, Peer comparison. Items that rated the frequency of comparisons were scored on Likert Scales ranging 1-5, (Never - Always). Items rating the perceived similarity with comparison targets were scored on Likert scales 1-5 (Not at all similar - Very similar). Items rating the direction of comparison were rated on Likert scales 1-3 (Worse than, Much the same as, Better than). Satisfaction ratings after engaging in comparisons were scored on Likert scales ranging from 1-5 (Very dissatisfied - Very satisfied). Items rating the influence of self-generated content on body image were scored on Likert scales ranging from 1-5 (Not at all, - To a great extent).

N=352.



**Table 3. 4***Correlations Among Mean and Standard Deviations of the Measured Variables in the Sample*

	1	2	3	4	5	M	(SD)
1.ACSMS: Self-generated comparison	-					15.5 0	(11.67)
2.ACSMS: Celebrity comparison	.25**	-				13.17	(7.00)
3. ACSMS: Social influencer comparison	.30**	.60**	-			13.87	(6.94)
4. ACSMS: Peer comparison	.32**	.56**	.60**	-		10.34	(3.55)
5. ACSMS: Total	.78**	.74**	.77**	.70**	-	52.8 0	(21.92)
6. UPACS	.36**	.60**	.63**	.73**	.71**	34.77	(9.14)
7. DACS	.16**	.25**	.27**	.39**	.36**	20.11	(7.12)
8. AE-MBSRQ	-.14*	-.23**	-.25*	-.38**	-.42**	18.70	(5.49)
9. RSES	-.15**	-.30**	-.33**	-.39*	-.52**	17.81	(6.45)
10. SATAQ-4	.28**	.48**	.54**	.61**	.65**	61.81	(16.79)
11. PACS-3	.253**	.587**	.572**	.628**	.749**	76.29	(29.81)
12. MUIS	.624**	.300**	.414**	.369**	.622**	81.4	(19.24)

*Note:* ACSMS = Appearance Comparisons on Social Media Scale; UPACS = Upward Appearance Comparison Scale; DACS = Downward Appearance Comparison Scale; MBSRQ -AE = Appearance Evaluation subscale of the Multidimensional Body-Self Relations Questionnaire; RSES = Rosenberg Self-Esteem Questionnaire; SATAQ-4= Sociocultural Attitudes Towards Appearance Questionnaire 4; PACS3 = Physical Appearance Comparison Scale 3; MUIS = Motives to Use Instagram Scale. 'Variables are continuous with higher values representing higher levels of the construct'. Possible ranges for variables are UPACS (10-50), DACS (8-40), MBSRQ-AE (6-30) ~ RSES (0-30), SATAQ (22-110), PACS3 (27-135), MUIS (28-140). M= Mean, SD = Standard Deviation. N=352.

~ There are 7 items in AE-MBSRQ; however, one of these items was mistakenly not included in the questionnaire, therefore only 6 items are presented and total scores possible for this item differ from standard scores. Self-generated comparisons (items 30-37), celebrity comparisons (items 22-27), social influencer comparisons (14-18), peer comparison motives (items 7-9), dimensions of peer comparison (items 4-6).

\*  $p < .05$ , \*\*  $p < .01$  \*\*\*  $p < .001$

### **3.5.4 Confirmatory Factor Analysis**

Initial CFA of the four-factor model yielded poor model fit  $\chi^2 = 1107.17$  ( $df = 293$ ,  $p < .001$ ), RMSEA = .098, 90% Confidence Interval .09-.10; CFI = .896; TLI = .884; SRMR = .05. Modification indices revealed several items with highly correlated residuals and fit indices with the largest error were modified and the model was re-run. The final fit indices obtained for the four-factor model indicated relatively good model fit:  $\chi^2 = 825.75$  ( $df = 272$ ,  $p < .001$ ) RMSEA: (.084, 90% Confidence Interval .78-.91), CFI= (.928), TLI= (.914), SRMR = (.052).

### **3.5.5 Concurrent Validity**

As expected, the ACSMS and all subscales strongly and significantly correlated with the UPACS which measures upward appearance comparisons (see Table 3.4). The ACSMS and subscales also had significant but less strong (moderate) correlations with the DACS, which measures downward appearance comparisons. This would be expected as it is often assumed that individuals tend to make upward rather than downward appearance comparisons on social media.

Similarly, the ACSMS and subscales strongly and significantly correlated with the PACS-3, especially celebrity comparisons (which the PACS-3 focuses on as a target of comparison). These two findings indicate that the ACSMS demonstrates strong concurrent validity.

### **3.5.6 Construct validity**

Also, as expected the ACSMS significantly negatively correlated with the AE-MBSRQ. The AE-MBSRQ measures body dissatisfaction, with high scores indicating lower levels of body dissatisfaction and higher scores indicating greater levels of body dissatisfaction. Therefore, as observed, higher scores in the AE-MBSRQ, indicating greater body satisfaction, would be expected to be associated with reduced appearance comparison behaviours.

Similarly, we would expect an inverse relationship between self-esteem scores and frequency of upward comparison. This was what was observed, with ACSMS and subscales significantly and negatively correlating with the RSES (although this relationship was weak).

The ACSMS demonstrated a strong positive correlation with the SATAQ-4 indicating, in line with theoretical expectations, that greater internalisation of body ideals was associated with greater appearance comparison tendencies. Furthermore, greater motives to use Instagram were positively associated with appearance comparison behaviours ( $r=.62^{**}$ ). This was especially true for MUIS subscale motives of Surveillance ( $r=.55^{**}$ ) and Coolness ( $r=.58^{**}$ ). These findings all support the construct validity of the scale.

### ***3.5.7 Incremental validity***

A statistically significant R square at Step 2 in the Hierarchical Multiple Regression was not obtained  $R^2$  Change = .026,  $F(4, 268) = 2.34, p>.05$ . However, the significance value for change score was .056, indicating that it was on the border of significance. When taken separately, the ACSMS explained more significantly variance than the PACSR,  $R^2$  Change = .03,  $F(4, 275)=2.90, p<.05$ , but not the UPACS/DACS,  $R^2$  Change = .02,  $F(4, 319)= 1.93, p>.05$ .

**Table 3. 5***Incremental Variance in Body Dissatisfaction Accounted for by ACSMS Subscales*

	$\Delta R^2$	Adjusted $R^2$	$R^2$ Change	$\Delta F$ (dfs)	$\beta$	T(dfs)
Dependent variable: Body Dissatisfaction (MBRSQ-AE subscale), overall $F(7, 268) = 12.84, p < .001$						
	0.23	0.22	0.23	26.33*** (3, 272)		
PACS3					-0.26	-3.11** (3, 272)
UPACS					-0.26	-3.21** (3, 272)
DACS					0.03	0.59 (3, 272)
Step 2	0.25	0.23	0.03	2.34 (4, 268)		
PACS3					-0.29	-3.35** (7, 168)
UPACS					-0.26	-2.75** (7, 168)
DACS					0.05	0.85 (7, 168)
ACSMS: Self-generated					0.04	0.66 (7, 168)
ACSMS: Celebrity					0.13	1.74 (7, 168)
ACSMS: Social influencer					0.09	1.20(7, 168)
ACSMS: Peer					-0.18	-.18* (7, 168)

Note: N=352. MBSRQ -AE = Appearance Evaluation subscale of the Multidimensional Body-Self Relations Questionnaire; ACSMS = Appearance Comparisons on Social Media Scale; UPACS = Upward Appearance Comparison Scale; DACS = Downward Appearance Comparison Scale; PACS-3 = Physical Appearance Comparison Scale 3. Dfs = Degrees of Freedom,  $\beta$  = beta coefficients. Celebrity also includes "sports star".

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

### 3.5.8 Reliability

As seen in Table 3.6, Cronbach's alpha for the overall scale,  $\alpha=.94$ , and subscales were good;  $\alpha=.97$  Self-Generated Comparisons (9 items),  $\alpha=.97$  Celebrity Comparisons (7 items),  $\alpha=.92$  Social Influencer Comparisons (6 items),  $\alpha=.93$ , (Peer comparisons  $\alpha=.88$  (4 items). No substantial increases in alpha for any of the scales could have been achieved by eliminating more items.

**Table 3. 6**

*Cronbach's Alpha Reliability Values for all Scales*

Scale	Items	Cronbach's Alpha ( $\alpha$ )
ACSMS Total	26	.94
ACSMS: Self-Generated Comparison	9	.97
ACSMS: Celebrity Comparison	7	.92
ACSMS: Social Influencer Comparison	6	.93
ACSMS: Peer Comparison	4	.88
PACS3	27	.97
UPACS	10	.94
DACS	8	.91
MBSRQ-AE	6	.89
RSES	10	.93
SATAQ	22	.91
MUIS	28	.92

*Note.* ACSMS = Appearance Comparisons on Social Media Scale; UPACS = Upward Appearance Comparison Scale; DACS = Downward Appearance Comparison Scale; MBSRQ -AE = Appearance Evaluation subscale of the Multidimensional Body-Self Relations Questionnaire; RSES = Rosenberg Self-Esteem Questionnaire; SATAQ4= Sociocultural Attitudes Towards Appearance Questionnaire 4; PACS3 = Physical Appearance Comparison Scale 3; MUIS = Motives to Use Instagram Scale. N=352.

Composite scores based on total number of items were calculated for each of these subscales, with higher scores indicating greater tendencies to engage in these comparisons. Overall, peers were the most frequent target of comparison (Factor 4;  $M=2.58$ ,  $SD=.87$ ). Factor 3 Social influencer comparisons ( $M=2.31$ ,  $SD=1.16$ ) yielded the next highest composite score. This was followed by Factor 2; celebrity comparisons ( $M=1.88$ ,  $SD=1.05$ ) and Factor 1, Self-generated Comparisons ( $M=1.71$ ,  $SD=1.30$ ).

However, comparison tendencies on social media varied substantially by gender (see Table 3.7). Women exhibited greater propensity to compare with all comparison targets versus men. Peers constituted the most frequent target of comparison for both men and women. However, comparisons to social influencers were the second greatest comparison target for women, followed by similar levels of comparisons with celebrities and self-generated content. This contrasted with men whose second greatest comparison target was celebrities, followed by social influencers and finally self-generated content. Of note, men tended to compare far less to social influencers and self-generated content than women, with men obtaining scores that were approximately half the size of female scores. This indicates that comparison tendencies vary across gender and this may have implications for body image.

**Table 3. 7**

*Mean and Standard Deviation of Composite Factor Scores for the Overall Sample, Females, Males & Other*

Comparison target	Overall score			Female			Male			Other		
	M	SD	Rank	M	SD	Rank	M	SD	Rank	M	SD	Rank
F1 Self-gen.	1.72	1.3	2	1.90	1.29	4	1.00	1.04	4	1.78	2.34	4
F2 Celebrity	1.88	1.01	4	1.97	.99	3	1.54	1.03	2	1.86	1.82	3
F3 Soc. Infl.	2.31	1.16	3	2.52	1.04	2	1.46	1.20	3	2.92	.82	2
F4 Peer	2.59	.89	1	2,70	.79	1	2.09	1.06	1	3.13	.53	1

*Note.* Self-gen = self-generated comparisons; Soc. Infl. = social media influencer and Celebrity = celebrity/sports star. M= Mean score. SD = Standard Deviation. F1 = Factor one.

### 3.5.9 Two-week Test-retest reliability of the ACSMS

Most participants (87%) completed within 14-20 days ( $M=17$ ,  $SD=5$ ); however, there were three outliers (individuals who completed after 9, 38 and 42 days) whose responses were excluded from the analysis. Excluding these outliers resulted in a mean response duration of 16 days ( $SD = 3$ ). A further 18 cases were deleted listwise because they contained missing data. Therefore, analyses were conducted on 42 participant responses.

Test-retest reliability for the total scale was good,  $r=.81$ ,  $p<.001$ . All subscale test-retest scores were significant at the  $p<.001$  level and ranged from moderate to good; F1 Self-Generated content comparisons ( $r=.58$ ), F2 Celebrity comparisons ( $r=.69$ ), F3 Social influencer comparisons ( $r=.68$ ) and F4 Peer comparison ( $r=.59$ ). Overall, test-retest reliability for this scale was considered adequate.

### 3.6 Discussion

This study sought to develop a psychometric scale, the Appearance Comparisons on Social Media Scale (ACSMS) that measured appearance comparisons specific to the social media context. This scale was devised because of the limited ability of existing scales to capture appearance comparisons on social media. Social media constitutes a unique context for body image comparisons and given the observed link between social media use and body dissatisfaction, and the central role that appearance comparisons play in mediating the relationship between social media use and body dissatisfaction, it is important to quantify appearance comparison behaviours in this context (Fardouly et al., 2015a, 2017; Perloff, 2014b). This scale was designed with the purpose of providing detailed insight into the ways young adult men and women compare their appearance to others on social media and to identify potentially protective and problematic appearance comparison behaviours that might inform intervention efforts.

Scale development was guided by extant theory and literature, existing appearance comparison scales and findings from focus groups with young adults (Chapter 2). The ACSMS was designed to measure appearance comparisons made when consuming content (i.e. scrolling through images of others), self-producing content (i.e. the images people post of themselves) and receiving feedback on self-generated content (i.e. the likes/comments one receives versus others). It included peers, celebrities/sports stars, social media influencers and ones' self-generated content as targets of comparison. It also assessed various dimensions of comparison including direction of comparison (upward/downward), similarity with target of comparison (similar/dissimilar), motives to engage in comparisons (evaluate/enhance/improve) and the emotional effect of comparison on self (positive/negative).

In line with Social Comparison Theory (Festinger, 1954), it was hypothesised that dimensions of appearance comparison; targets, direction, similarity and motivations would influence body image outcomes. It was also hypothesised that men and women would engage in different appearance comparison behaviours on social media. Finally, it was hypothesised that the nature of appearance comparisons that individuals engage in on social media, both with consumed and produced content, would influence outcomes for body image and that this scale would be robustly able to capture appearance comparisons on social media to facilitate this evaluation.

Exploratory Factor Analysis yielded a four-factor solution composed of four targets of comparison; Self-generated, Celebrity, Peer and Social Influencer comparisons which explained 76.07% of the variance. Comparisons with self-generated content and the feedback arising from this content explained a large portion of the variance, indicating the importance of these comparisons as components of appearance comparisons on social media. Social media influencers

were also found to be influential targets of comparison, accounting for more variance than celebrity comparisons. This highlights the importance of their inclusion in measures of appearance comparison behaviours. Although similarity, direction, motives and effects of comparison were hypothesised to influence comparison behaviours, the factor structure that emerged indicated that it is the target of comparison that is of primary importance in influencing comparison behaviours.

As hypothesised, there were gender differences in the appearance comparisons that men and women engaged in. Consistent with findings in the literature, women tended to engage in more appearance comparisons with all targets versus men (Strahan et al., 2006). While peers were the greatest target of comparison for men and women, women tended to compare to social influencers followed by celebrities and self-generated comparisons, while men tended to compare to celebrities, followed by social influencers and finally self-generated content. These gender differences in chosen targets of comparison could have implications for body image.

Women's second greatest target of comparison were social media influencers, a target, who men compared with comparatively far less with. As the bodies of social influencers may be perceived as more attainable, women may experience greater body dissatisfaction if they perceive discrepancies between their own bodies and that of these purportedly attainable ideals (Collins, 2000; Raggatt et al., 2018). Men on the other hand, largely tended to compare to sports stars whose bodies may not be perceived as attainable, and consequently may exert less of a pressure on males to achieve those bodies. This seems to align with the finding that women tend to engage in more self-critical comparisons versus men who tend to engage in more self-hopeful, esteem-protective comparisons (Franzoi et al., 2012). On the other hand, appearance comparisons with sports stars could exert greater pressures on men if they strive to achieve these largely unattainable body ideals.

Men also tended to engage far less in body comparisons with self-generated content versus women. This aligns with the literature which suggests that women engage far more in self-presentation and self-objectification of their bodies on social media than men (Freeman et al., 2014). These self-generated content comparisons may serve as an additional channel through which body dissatisfaction may emerge particularly among women (Chua & Chang, 2016; MacIsaac et al., 2018).

This study contained several strengths; the ACSMS and subscales were found to demonstrate good convergent and construct in men and women. Furthermore, internal consistency and test-retest reliability scores of the ACSMS were also considered to be good. CFA also indicated good model fit for this solution. Additionally, to the authors awareness, this was the first scale to quantify appearance comparisons using items that were tailored specifically to the social media experience. It was also the first scale to assess appearance comparisons with self-generated content and social media influencers. The ACSMS also addressed limitations of previous scales that contained stereotyped or ambiguous responses, by asking participants to indicate the direction



of comparisons they engaged in (i.e. comparing with targets perceived as being better, the same as or worse than themselves).

However, this study did contain limitations; there was a gender imbalance of responses, with disproportionately more women completing the questionnaire versus men. This gender imbalance may have influenced the results of EFA and may have biased results towards female-gendered constructs. Future research should endeavour to administer this scale to samples containing equal ratios of men and women. Future research should also examine the psychometric properties of the ACSMS with different age groups, especially adolescents, to assess the generalisability of the scale. While this study was completed by individuals from multiple nationalities, most respondents were Irish and thus the generalisability of scale should also be assessed among various ethnic and cultural groups.

Furthermore, this scale may have been limited in its ability to capture certain aspects of male body image. While research indicates that men tend to highly value body appearance and aesthetics, it has also been found that men conceptualise body image more in terms of fitness and functionality rather than appearance (Grogan & Richards, 2002; McNeill & Firman, 2014). Therefore, future research should endeavour to incorporate function-oriented comparisons to adequately capture male appearance comparison behaviours in the social media context. Additionally, some of the item stems pertaining to comparing appearance-related “likes” received may be less relevant because of Instagram’s recent introduction of a trial whereby the quantity of “likes” on posts are hidden on posts in several countries, including Ireland. However, it is unclear whether this change will be made permanent, and additionally other feedback indices alluded to in item stems (such as comments) continue to exist on Instagram and other social media platforms suggesting that these items may still be relevant for appearance comparison behaviours on social media. Future studies should remain sensitive to the everchanging social media context and ensure items accurately reflect the social media contexts which they purport to measure. Furthermore, although the terminology mentioned by participants in focus groups was used to improve ecological validity, certain terms, such as “social media influencers/fitness bloggers” may have been interpreted broadly by participants and it may be useful in future research to provide a definition of what a “social media influencer” constitutes or use narrower labels, such as “comparisons with fitspiration content” to ensure greater clarity and conciseness. Furthermore, although the item stem describing comparisons with “celebrities/sports stars” was used to facilitate a more gender-neutral comparison, the use of two targets within the one item stem may be considered problematically ambiguous. This is common practice in other appearance comparison scales such as the UPACS/PACS which, for example, includes comparisons with “models/movie stars”; however, future iterations of the scale could use separate item stems for celebrities and sports stars to make this distinction clearer.

Despite efforts to make the survey as optimal and user friendly as possible, the high attrition rates and proportion of missing data was another concern. It is not uncommon for online surveys of this length (approx. 20 mins) to have high attrition rates as participants may have become fatigued and disengaged from the study (Hoerger, 2010). Although there were no statistically significant differences in demographic details between full completers and those excluded because of incomplete responses, it is possible that an attrition bias may have influenced results obtained. Furthermore, the decision to use complete case analysis (whereby only full responses are analysed) and to delete listwise participants who failed to provide full responses to the ACSMS may have reduced the power of the study. To facilitate a logical sequencing of questions, the ACSMS was positioned in the middle of the sequence of questionnaires used in this study - however, this also tended to be the point at which many participants dropped off possibly due to the length of the survey. This resulted in the deletion of a lot of responses. Although the sample size was considered large enough to withstand this data loss, listwise deletion may still have negatively impacted the statistical power of the study. Listwise deletion is also potentially problematic when data is not missing completely at random because it could introduce bias in the estimation of parameters (Newman, 2014). However, according to Jakobsen, Gluud, Wetterslev and Winkel (2017), complete case analysis is considered more appropriate than imputation techniques if large proportions of the data are missing which was the case for this study. Using imputation techniques in instances where missingness is considerable may mistakenly result in study outcomes being interpreted as confirmative when they are not (Jakobsen et al., 2017). However, the limitations of listwise deletion and the potential for bias must be considered when evaluating this study's findings.

Furthermore, the incremental validity of the ACSMS was limited because, the ACSMS failed to significantly explain more variance in body dissatisfaction than the UPACS and DACS. However, the ACSMS did explain significantly more variance in criterion than the PACS-3. Also, the  $p$  value for  $R^2$  change ( $p=.056$ ), was on the threshold of significance, indicating that the ACSMS was close to exhibiting incremental validity. Ultimately though, the ACSMS did not significantly predict body dissatisfaction above and beyond all existing measures of appearance comparison which suggests that the scale may need to be reviewed or revised – a conclusion, not uncommon among exploratory studies or preliminary scale development phases (DeVellis, 2012; Morgado et al., 2017).

However, the inability of the ACSMS to yield strong incremental validity is not a reason to dismiss the utility of this scale. Haynes and Lench (2003) note that the ability to draw inferences about the incremental validity of psychometric scales is limited because incremental validity is highly conditional on the criterion and predictor variables selected and the sample characteristics (such as age and gender) involved. It may be the case that the ACSMS would demonstrate incremental validity if tested on a different sample or if a different measure of body dissatisfaction

was used as a criterion variable. Additionally, Dawes (1999) suggests that a new measure with poor incremental validity may still be useful, if it taps into important theoretical aspects of a construct and demonstrates good content validity. The ACSMS may add theoretical value to predictions of body dissatisfaction, by tapping into unique appearance comparison behaviours on social media.

Further limitations included the lack of inbuilt social desirability catches, the failure to include a test of discriminant validity, the fixed order of questionnaires which limited order effects to be controlled for and the cognitively demanding nature of the questionnaire, with participants required to remember the context of comparison and the target of comparison for question stems. Furthermore, the cross-sectional design of the study (except for the test-retest component) precluded the predictive power of the scale to be determined. Future research should assess the ACSMS prospectively to predict body dissatisfaction scores.

Finally, inherent limitations of the methodological approaches used must be considered. In EFA, these included subjective decisions on selection of observations, factor extraction method, factor retention, type of rotation, and interpretation of items/factor structure (Reio & Shuck, 2015). In CFA, these included subjective decisions on appropriate model fit and adjustment of modification indices (DeVellis, 2012). Although these decisions were guided by theoretical and empirically supported best practice guidelines, their inherent subjectivity may have influenced the emergent factor structure (Reio & Shuck, 2015).

Given role of appearance comparison behaviours in the development and maintenance of body dissatisfaction, and the amplified nature of these comparison behaviours on social media (Fardouly et al., 2017), it would be pertinent to direct intervention efforts towards addressing problematic comparison behaviours. This scale may be used to identify or flag appearance comparison behaviours on social media that may be particularly harmful to body image. Heightening individuals' awareness of their appearance comparison behaviours on social media and enabling them to identify problematic and protective comparisons could be an effective way of addressing body dissatisfaction. By becoming more aware of the effects that comparisons may be having, individuals may be able to manipulate their social media use to mitigate engagement in problematic comparisons.

Overall, this scale addresses limitations of previous scales and provides users with a tool that documents appearance comparison behaviours on social media which have a theorised relevance to body dissatisfaction. The ACSMS demonstrated good reliability and validity and model fit; however, the scale is in its preliminary stage of development and further research should further examine these properties in varied, large samples using prospective research designs.

## **Chapter 4. Qualitatively Investigating Social Media's Influence on Adolescent Body Image**

### **4.1 Chapter Aims**

Chapter 4 qualitatively investigates adolescents' experiences of social media and body image using the same interview schedule for the young adults in Chapter 2. This study was prompted by the findings from Chapter 2, in which adolescents were perceived to be at greater risk of body dissatisfaction and less capable of protecting body image on social media by young adults. This study seeks to investigate the veracity of young adults' beliefs by documenting adolescent's experiences of social media. Findings from adolescent focus groups will be discussed in relation to relevant qualitative literature and will also be compared with findings from young adult groups (Chapter 2) in the discussion. Implications of these findings for the design of interventions to address body dissatisfaction on social media will then be discussed.

### **4.2 Introduction**

As discussed in Chapter 1, increased social media use is linked with heightened body dissatisfaction in adolescents (Meier & Gray, 2014). Adolescents are particularly at risk of developing body dissatisfaction from social media because they are prolific users of social media and engage heavily with appearance-focused platforms (Pew Research Center, 2018). Furthermore, adolescents are developmentally more sensitive to body-related messages and sociocultural agents which may increase their susceptibility to social media's influence (Sherman et al., 2016; Voelker et al., 2015). Given this heightened risk for body dissatisfaction, there is a pressing need to understand the precise relationship between social media use and body dissatisfaction among adolescents. Qualitative research can provide a rich and detailed understanding of this relationship; however, relatively few qualitative studies (n=5) have been conducted with adolescents in relation to social media and body image. This Chapter will review the qualitative studies that have investigated social media's influence on adolescent body image and will outline how the present research attempted to fill some of the gaps in our understanding of this relationship.

Qualitative studies consistently reveal that social media strongly influences adolescent body satisfaction via internalisation and comparison processes. Focus groups with British adolescent boys aged 8-18 years found that social media exerted strong appearance pressures on them via comparisons with sports stars, musicians and especially peers (Edcoms & Credos, 2016). Similarly, in focus groups conducted with 38 American adolescent girls aged 12-14 years, body dissatisfaction was reported to occur in the context of comparisons with celebrities and in particular peers on social media (Burnette et al., 2017). While many girls in Burnette and colleagues' (2017)

study denied that they compared to peers or celebrities, the authors suggested that this denial of appearance comparisons may have reflected efforts to appear socially desirable among peers.

These studies also found that social media influenced the body ideals adolescents internalised and the body-related behaviours they engaged in to attain these ideals. Boys identified a toned, muscular body as the ideal body, but also conceptualised body ideals in terms of “fitness” and “functionality” for a sport (Edcoms & Credos, 2016). Boys sought to achieve ideal bodies and perceived body ideals as being attainable if they put in enough effort to achieve them (Edcoms & Credos, 2016). Boys reported that their motivations to exercise and engage in body-related behaviours were influenced by advertised content online, but they were largely unaware of photo-manipulation of male images online. Girls in Burnette and colleagues’ (2017) study did not explicitly describe body ideals, but contrasting with boys, they were highly critical of the nature of female body ideals on social media and viewed them as artificial, edited and unattainable. Another qualitative study investigated 77, 12-13-year-old British girls’ and boys’ perceptions of fitspiration content on social media (Bell et al., 2019). Fit, slim and toned ideals were largely endorsed by adolescents, despite maintaining the belief that extreme “fit” body ideals were unrealistic and difficult to attain and despite recognition that fit ideals were edited, photoshopped and deceptive. Adolescents felt that this social media content influenced individuals to pursue fitness goals, but the impact of this content on body-related behaviours of adolescents was not documented by the study (Bell et al., 2019). Further research is required to ascertain the extent to which body related content on social media influences adolescent body-related behaviours.

In addition to consuming social media content, the capacity to generate personal profiles and post photos of oneself on social media is found to influence adolescent body image. Chua and Chang (2016) interviewed 24 girls, aged 12-16 years, in Singapore and found that posting “selfies” amplified adolescent girls’ tendencies to compare, evaluate and judge one’s appearance relative to peers. Girls were highly self-critical of their appearance on social media and invested a lot of time and effort in cultivating their social media self-presentations (Chua & Chang, 2016). Similar findings were observed by Bell (2019) who conducted focus groups with 35 boys and girls aged 13-17 years in the UK. Girls were highly selective of images they shared and often edited or manipulated images to enhance their appearance (Bell, 2019; Chua & Chang, 2016). Boys also manipulated and edited the images posted on social media but did this on a far lesser scale than girls (Bell, 2019; Edcoms & Credos, 2016). Contrastingly, girls in Burnette and colleagues’ (2017) study largely denied that they posted “selfies” on social media, with some stating that they were not confident enough to post images of themselves, while others vilified “selfies” viewing them as “egotistical” and a way of “fishing for compliments”. Participants in this sample were considered to have positive body image and therefore, low investment in selfie posting may have protected their body image perceptions. However, given the negative connotations associated with “selfie”

posting, it is likely that denial of this behaviour again reflects a social desirability response bias by participants.

Adolescent girls were found to invest heavily in appearance presentation because they were sensitive to the judgements they perceived or feedback they received from peers (Bell, 2019). Girls were particularly concerned with the number of “likes” and “comments” they received relative to their peers, and reported distress and dissatisfaction on failure to receive sufficient numbers of “likes” (Chua & Chang, 2016). These “like”, “comment” and “follower” feedback indices amplified upward peer comparisons because they provided quantifiable markers of comparison which were not present in real-life. Girls engaged in numerous practices to ensure they received sufficient likes such as pressuring peers to “like” their photos, posting objectifying images, posting at times that would ensure more post-engagement (Bell, 2019; Chua & Chang, 2016). Although boys were also concerned about peer judgement especially from girls regarding their body image, they did not appear to be impacted by feedback indices to the same extent as girls (Bell, 2019; Kenny et al., 2017).

Although body ideal internalisation and appearance comparisons behaviours on social media have been well documented, the motives of this use and how they relate to body image outcomes have been less well explored. As noted in Chapter 1, comparing for self-improvement motives is associated with more beneficial outcomes for body image (Halliwell & Dittmar, 2005), while, comparing one’s appearance for self-evaluative or self-enhancing reasons is associated with poorer body image (Martin & Gentry, 1997). Little is known about the motives underpinning appearance comparisons in adolescents; however, the research suggests that like adults (Franzoi et al., 2012), boys may be more likely to compare for self-improvement motives while girls may compare for more self-evaluative motives. The Edcoms and Credos (2016) survey found that boys compare to others to gain information about how they could “get in shape” and model paths to success. Similarly, Bell and colleagues (2019) observed that social media was viewed as a motivating influence by boys more than girls. However, both boys and girls reported that comparisons to ideals on social media were demotivating because they could not attain these ideals, suggesting that evaluative contrastive comparisons also occur (Bell et al., 2019). Given the tentative nature of these findings, further research is required to pinpoint the motives that drive appearance-related behaviours in adolescents on social media.

Furthermore, it is unclear whether social media use exerts differential effects on body image of boys and girls. Some studies suggest that girls are more strongly and negatively impacted by social media because they use social media differently and invest more in body-related content than boys (Chua & Chang, 2016; McAndrew & Jeong, 2012). However, recent meta-analyses suggest that the magnitude of social media’s influence on body image is the same for girls and boys (Holland & Tiggemann, 2016; Saiphoo & Vahedi, 2019). It has also been suggested that social media’s impact on male body image may be underestimated because of boys’ tendencies to

disclose or downplay body image issues because of stigma surrounding male body image (Griffiths et al., 2014). Indeed, qualitative research with adolescent boys reveals that body image is a concern for them, but that they are reticent to discuss body image for fear of opening themselves up to criticism or bullying by other boys (Edcoms & Credos, 2016). Although this study cannot quantify the magnitude of social media's influence on body image between girls and boys, it can evaluate adolescents' perceptions of the extent to which social media influences their body image, while also considering the role of "male stigma" that could possibly lead to "censored" responses.

Additionally, very little is known about the factors that protect and promote body image on social media. This is because of the literature's focus on identifying risk factors for body dissatisfaction on social media (Tylka, 2011a). Although this study primarily focused on risk factors that amplify mediating mechanisms, it was also considered important to identify factors used by adolescents to buffer these processes to protect body image perceptions. This focus on adolescent protective factors was prompted by the views that arose from focus groups with young adults in Chapter 2. Young adults felt that adolescents were particularly susceptible to the influence of social media and were less well equipped with the knowledge, skills and strategies to deal with challenging features of social media. It was of interest to explore the veracity of these beliefs, including the degree to which adolescents were influenced by social media, their levels of literacy or knowledge of social media platforms and the ways they managed their social media use to protect body image perceptions.

Burnette and colleagues' (2017) study is the only qualitative study (to the author's awareness) to have explored protective and promotive coping strategies used by adolescents on social media. Adolescents reported that they consciously avoided undesirable social media posts that invoked appearance comparisons or body image concerns as a way of protecting their body image. Participants also evinced high social media literacy levels as they were critical of the body ideals encountered on social media, regarding them as edited, photoshopped and unrealistic. The authors posited that adolescents' scepticism and avoidance of idealised-body related content and their appreciation of diverse beauty standards was indicative of protective filtering. Although protective filtering appeared to provide promotive benefits to adolescent's body image in Burnette and colleagues' (2017) sample, it is unclear whether the findings of these focus groups are generalisable across adolescents because the sample was relatively small and homogenous. Outside of this study, little research has investigated if adolescents use protective filtering strategies on social media and whether these filtering skills can be fostered in adolescents, including those with negative body image. The present study sampled a diverse group of adolescent boys and girls to identify whether they critically processed and protectively filtered social media content, and whether they employed alternative/additional strategies to protect and promote body image.

In addition to identifying ways of protectively processing social media content, it was also considered important to investigate whether there are certain social media content or affordances

that might promote body image in adolescents. Social media has been recently propagated with “body acceptance” and “body-positive” messages which have been lauded by adult women as a promising way to decrease body dissatisfaction (Convertino et al., 2019; Rodgers et al., 2019). It is not known whether adolescents engage with this content and whether it exerts protective effects on body image perceptions (Bell et al., 2017).

The aim of this qualitative study was twofold. First this study sought to document the nature and extent of social media’s influence on adolescent body image and address gaps in our understanding of social media and body image. Focus groups facilitated a detailed exploration of the ways that social media influences both male and female body image including; the types of body ideals internalised, the nature of appearance comparisons made, the social media features facilitating these behaviours and motives underpinning them. This study also focused on how adolescents perceive and manage social media’s influence, including their levels of social media literacy and the protective/coping strategies they employ to protect body image.

The second aim of this study was to compare themes that were identified in the focus groups conducted with young adults in Chapter 2. Few studies have considered adolescents’ experiences of social media alongside that of young adults, it was considered interesting from a “stage-oriented” developmental perspective to compare experiences of social media and body image at these distinct transitional phases (Bonnie et al., 2015). As discussed in Chapter 1, biological, psychological and social changes experienced at these developmental phases may differentially influence the ways young adults and adolescents engage with body-related content on social media and the impact this has on body image perceptions (Bonnie et al., 2015; Valkenburg & Peter, 2013). Young adults in Chapter 2 appeared to demonstrate relatively high positive body image but reported that during adolescence their body image was poorer and impacted more by social media. Comparing usage behaviours and coping strategies of adolescents and young adults could provide insights into factors that promote or negate perceptions of body image in the context of social media. In order to compare adolescents’ and young adults’ experiences of social media and body image the same interview schedule was administered to adolescents in focus groups and the findings were compared to that of young adults. This interview schedule explored the ways social media influences adolescent body image, the extent of this influence, adolescents’ perceptions of this influence and the ways they deal with this influence. Given the exploratory nature of the work, no a-priori hypotheses were made regarding the outcomes of this study; however, this study did seek to explore

1. How social media influenced adolescent body-related thoughts and behaviours.
2. How adolescents interpreted and managed social media influences on body image.
3. Differences and similarities in the influence of social media on body image and ways of dealing with social media between adolescents and young adults.



## 4.3 Method

### 4.3.1 Design

Single sex focus groups consisting of 6-9 participants were conducted to assess patterns, motives and effects of social media use on adolescent body image (Heary & Hennessy, 2002). In addition to the rationale outlined in Chapter 2, focus groups were selected for use with adolescents because the supportive atmosphere, informal conversational style and group setting was thought to encourage active participation and place less pressure on participants to respond than in a one-to-one setting (Vaughn et al., 1996). Furthermore, the emphasis placed on the young person's expertise and value of their opinions in focus groups, may help reduce the power differential between the researcher and participant (Grogan & Richards, 2002; Mooney et al., 2009). The same interview schedule that was used with young adults in Chapter 2, was used with adolescents as the Flesch-Kincaid Grade Level reading ability checker indicated that questions were at a level comprehensible by adolescents<sup>6</sup>. However, as recommended by Green and Harris (2011) focus groups with adolescents were shorter in duration than young adults (approx. 30-45 minutes) – although the same number of questions were asked of adolescents as young adults, adolescents tended to provide less detailed responses which enabled focus groups to be conducted within this shorter time frame.

### 4.3.2 Participants

A convenience sample of 29 participants, 23 females and 6 males, aged between 15-16 years ( $M=15.31$ ,  $SD=.47$ ) were recruited from two mixed sex Irish secondary schools, one urban private school and one rural community school. These schools were selected because the researcher had contacts in these schools who were enthusiastic about promoting psychological research. The study was only open to Transition Year students who used social media and who received parental consent to participate. Participants' ethnicity and other sociodemographic information was not recorded. Four focus groups were conducted, three with girls only and one with boys only.

**Table 4. 1**

*Composition and Duration of Adolescent Focus Groups*

Group	Gender	School	Size	Duration (min)	Age M (SD) [Range]
1	Female	1	8	39.57	15.38(0.52) [15-16]
2	Male	1	6	32.23	15.33(0.52) [15-16]
3	Female	1	6	32.35	15.16(0.41) [15-16]
4	Female	2	9	49.49	15.33 (0.50) [15-16]

<sup>6</sup> A score of 8.9 was obtained, indicating that 9<sup>th</sup> graders in the US or 4<sup>th</sup> year (TY) students in Irish Second Level Schools could comprehend the document

### 4.3.3 Materials

Materials used for this study mirror those described in Chapter 2.

### 4.3.4 Procedure

This study received ethical approval from the School of Psychology Research Ethics Committee, Trinity College Dublin (TCD; see Appendix A.3). On receiving permission from school principals to host the study in their school, the researcher visited one school, met with Transition Year (TY) students and informed them of the study verbally in group assemblies. Students were invited to participate and were issued with parental information and consent forms (see Appendix B.3, B.4), which they were encouraged to return to their TY co-ordinator signed by their parent/guardian if they wished to participate in the study. In the other school, the TY co-ordinator informed students of the study in a school assembly and issued the parental information and consent forms<sup>7</sup>. On the day of the study, students with parental consent were again informed of the study both verbally and in writing and required to assent to participate prior to study commencement. Reasons for non-participation were mostly absenteeism, lack of interest or failure to return parental consent forms. In one school, several participants who had received parental consent did not participate in the focus groups because they were involved in a sports match which clashed with the allocated time slots for focus group. In another school, only one boy had returned a parental consent form and indicated interest in participating in the study, but as we did not have ethical approval to conduct one-to-one interviews, this individual could not be included in the study. Participant's gender, age and school attended was obtained in demographic questionnaires that participants completed prior to the focus groups (Appendix B.5). The focus groups were conducted by two researchers; the primary researcher (female) led the discussion while the secondary researcher (female) took notes and kept track of time. Focus groups took place in a designated distraction free room on the school premises during school hours. The same research procedure outlined in Chapter 2 was used; however, the voluntary nature of participation and the limits of confidentiality (i.e. indications of harm to self or others would have to be reported to TY co-ordinator and possibly parents) were emphasised, and participants were told that the focus groups would last 30-45 minutes. On completion of the focus groups, participants were thanked and debriefed (see Appendix B.7)

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<sup>7</sup> Of note, the recruitment rate was higher when the researcher personally addressed participants; however, each school has its own procedure and protocol regarding communication with students which must be adhered to.

### **4.3.5 Data Analysis**

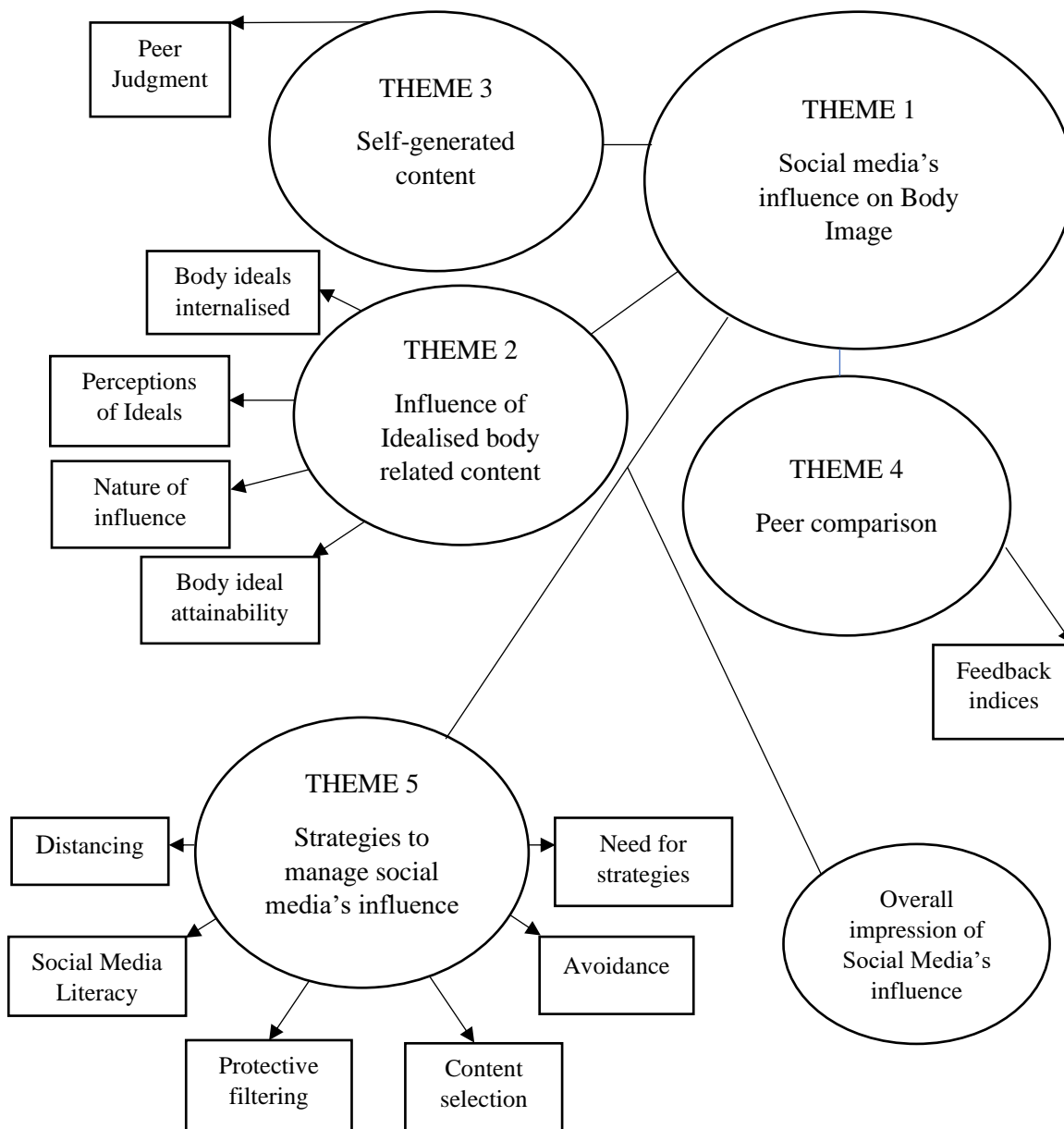
The same method described in Chapter 2 was used to analyse focus group data (see Appendix E.2 and E.5 for coding frame and thematic map). An independent researcher (not involved in conducting focus groups) conducted inter-rater reliability providing an objective perspective on the findings. The researcher reviewed the transcriptions, coding frames and themes and indicated their agreement/disagreement with existing coding frames and themes and suggesting new codes/themes to be included using MAXQDA software. The Kappa coefficient values were high,  $K=.93$ , indicating that a high level of inter-rater reliability had been reached.

### **4.4 Results**

Adolescents were prolific, habitual users of social media showing preferences for appearance focused platforms, Snapchat, Instagram and VSCO. Much of the content that adolescents followed on social media was appearance focused and included fashion, beauty, sports and fitness pages. Adolescents reported that these platforms exerted a strong and mostly negative influence on their body image (Theme 1). Social media influenced adolescent body dissatisfaction in three distinct ways. Idealised body related content influenced body dissatisfaction by highlighting discrepancies between one's body and body ideals (Theme 2). Curating social media self-presentations heightened body dissatisfaction by focusing one's attention to perceived bodily flaws or insecurities (Theme 3). Body dissatisfaction was also driven by peer judgment and feedback (likes/comments) on self-presentations in addition to comparisons of feedback received relative to peers (Theme 4). Although many strategies for dealing with social media's influence were mentioned, many were considered limited in their effectiveness including avoiding problematic content, critical processing of body ideals and engaging in body positive content (Theme 5). Themes are visually presented in Figure 4.1.

**Figure 4.1**

*Thematic Map Illustrating Five Main Themes*



*Note.* Themes are presented in circles while subthemes are presented in rectangles. Arrows represent how themes/subthemes relate to each other.

#### **4.4.1 Theme 1: Social media's influence on body image**

Social media exerted a strong influence over adolescents' body-related thoughts and behaviours. Although some adolescents, particularly boys, denied that social media exerted any influence on them, this denial was later contradicted by discussions revealing how they were impacted by social media. Although adolescents recognised that at times social media could be a positive, motivating space, it was mostly considered to exert a negative influence over all aspects of wellbeing, especially body image. Some girls reported that social media instigated body dissatisfaction

because it focused their attention onto perceived bodily discrepancies. Others felt that while their body image concerns predated their social media use, social media exacerbated these concerns by increasing exposure to problematic content. Participants felt that exposure to social media at young ages was particularly problematic as it limited an individual's opportunity to develop understandings of body image independent of this body image aversive environment.

*Female 2, G4 "The thing with social media is that it really heightens what you already have, and will make sure that you see that thing all the time ... so if you're kind of self-conscious social media will prey on that and make it worse and worse"*

Some platforms were considered more deleterious for body image than others. Instagram was the most problematic platform because of its focus on aesthetic self-presentations and the high value placed on feedback on aesthetics. Platforms such as VSCO were favoured by some girls because they were not as serious as Instagram and did not contain feedback indices "likes", "comments" or hierarchical structures such as "followers" which were problematic features of Instagram.

*Female1 G1 "Instagram - you have to look perfect because you can see how many likes you get and people feel pressured into, they want more likes and that, but you can't see that on VSCO"*

*Female3 G1 "I'd rather post on VSCO than Instagram"*

*Female2 G1 "Yeah you don't feel pressure"*

*Female3 G1 "You can put a picture of you on VSCO with no makeup on, but you wouldn't put it up on Instagram"*

Despite asserting that social media provided very little benefits, individuals felt compelled to engage with it in order to remain socially connected and avoid exclusion. Failure to engage with social media was considered to equate to "social suicide". Adolescents chose to avoid social exclusion at the cost of damaging self-esteem and body image perceptions.

Social media exerted its influence on body image in three ways, through engagement with idealised body-related content, peer-related content and self-generated content.

#### **4.4.2 Theme 2: Influence of idealised body-related content**

Social media contained a lot of idealised body-related content that was propagated by celebrities, sports stars and social media influencers. Celebrities/sports stars were the number one target of comparison for many adolescents, favoured over social media influencers and in some cases peers. Adolescents acknowledged that celebrities' lives were very different from their own but were

influenced by these targets despite this distance. The celebrities followed by girls predominantly “post[ed] pictures of their bod[ies] all the time” (Female1, G1), “in tiny bikinis look[ing] perfect” (Female2, G2). While “Instagram” was considered by boys to be “mega” for sports stars posting images of their muscled “six packs” and “pictures of their arms” (Male, G2) in addition to diet and fitness regimes “and what they are having for breakfast” (Male, G2)<sup>8</sup>

#### **4.4.2.1 Nature of body ideals**

Comparisons with idealised bodies of celebrities and social influencers informed adolescents’ conceptualisations of body ideals. Girls identified a “thin ideal”, “fit/athletic” and “slim and curvy” as the main body ideals for women. Girls also largely conceptualised body image in terms of facial features and some reported that the face was often a greater focus for them than the body. In describing ideal facial features girls emphasised the need for... “Tanned, perfect skin, long hair, eyelashes, good eyebrows, good like cheekbones, nose, straight teeth, white teeth” (Female2, G3)

For boys, muscularity was identified as a male body ideal, but this was endorsed more so by girls who felt that boys wanted to be “muscly” and to have “a six pack” (Female4 &5, G1) Although boys referenced the muscularity and size of their sports idols rather than their athleticism when describing them, boys largely rejected the muscular ideal and repeatedly emphasised a focus on functionality. Boys outlined how possession of a bodybuilder physique would impede performance in other sports such as running and discussed the importance of honing their physique to their sport of interest. Boys were more concerned with fitness, functionality and achieving desirable levels of athleticism within their chosen sports.

Boys were also very apprehensive about weight gain and becoming overweight/obese, largely because of the negative connotations of laziness and lack of success they associated with it.

*Male5 G2 “You don’t want to be a big fat lad going around doing nothing wasting your life, you want to get on in life as well”*

*Female7 G4 “I asked him “Do you genuinely enjoy the sport?” and he was like, “It’s ok, but I can’t quit because I don’t want to be fat””*

#### **4.4.2.2 Nature of idealised content’s influence**

This strong visual focus and omnipresence of body-related content on social media served to reinforce the perceived importance of appearance and body ideals.

*Female3, G3 “That’s just what you see when you turn on your phone. It’s like everywhere. Like they post pictures of their body all the time, or their faces or their makeup so you see*

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<sup>8</sup> Sometimes it was difficult to identify the precise speaker, especially when participants talked unison, therefore when it was not possible to identify the individual, quotes are cited by the group in which they occurred.

*it the whole time. Then with all the other things as well like Snapchat, you send pictures of your face or your outfits or whatever. It's everywhere really, it's hard to miss".*

Adolescents yearned for the idealised physiques and lifestyles of celebrities/sports stars and reported “*constantly comparing themselves to them, saying ‘Oh I would love to look like that’” (Female4, G1). Adolescents sought to gain the attention, positive feedback, adoration and validation these celebrities enjoyed from their physical appearance and their comparisons with these targets were driven by the motive “that maybe if I’ll be like them, I’ll fit in yeah, I’ll be better” (Female 8, G4).*

However, comparing oneself to these ideals served to highlight discrepancies between one’s own physical appearance and that of the body ideals encountered on social media and induced feelings of dissatisfaction and despondence.

*Female4 G1 “I just think a lot of like young girls and girls our age are constantly comparing themselves to what people look like on Instagram and then they feel bad about themselves because they don’t fit a certain image”*

*Male2 G2 “If I see someone else doing well, I’d be like, “Ah well sure I might as well give up””*

Repeated exposure to body ideals also served to remind individuals of their own perceived flaws and encouraged them to fixate on aspects of their bodies that they disliked thereby further heightening dissatisfaction.

*Female1, G4 “Like you keep on seeing these models or these people with the same really skinny stomach ... eventually after seeing it so often you’ll be like, “Oh I want that as well”, and you’ll start thinking about that now too every time you see your own stomach”*

Not only did body ideals on social media induce dissatisfaction among individuals, but also engendered strong feelings of guilt, especially among female participants. The preponderance of “picture perfect” celebrities and influencers distorted participants’ perceptions of what constituted “normal” bodies. Girls reported feeling guilty for not embodying body ideals because they felt that everyone on social media had an “ideal body” and that they too should have these ideal bodies.

*Female2 G1 “Cos they all kind of look the same so you’re thinking like, “Oh, is that what everyone is supposed to look like?””*

Girls reported that these feelings of dissatisfaction and desires to reduce these perceived discrepancies often drove their dietary and exercise behaviours. Adolescents followed dietary and exercise advice of celebrities and social influencers in order to achieve body ideals.

*Female2 G1 “You would see them eating salads and you’re like, “Well if I eat salads maybe that will help”*

*Female6, G4 “At this point we have multiple sets of weights in my room, permanent yoga mat there, we’re like working out like every day basically ... so definitely wasn’t doing that at all, before I was on Instagram more often”*

*Female8, G4 “This Victoria Secret model ... had this video of her doing all these different workouts and things and I was like, “Oh maybe someday I could try that”*

However, the narrative endorsed by celebrities/social influencers, which framed their bodies as attainable through hard work rather than possession of natural beauty, further increased feelings of dissatisfaction and guilt among girls. This was because it made girls feel that it was their own personal failings such as laziness and lack of effort that thwarted their attainment of body ideals. For some girls, idealised body-related content increased their intentions to exercise and eat healthily, but they often failed to follow through on the behaviours. Despite realising that any amount of hard work would still probably not facilitate the attainment of these ideals, these celebrity messages still served to heighten guilt and shame.

*Female6, G4 “On social media ... loads of models ... will post what they do, so they look that way so then you are not really able to say “Oh it’s natural”, even though a lot of it is natural or editing, you’re just like, “They work harder and that’s why they’re like that, so it’s not that they were just born that way, it’s that you’re lazy””*

*Female2, G1 “Just like eating healthy all the time and everything like that. It would kind of make you feel bad for not doing it”*

Boys’ body-related behaviours were also influenced by social media. Boys also reported that body-change behaviours were often driven by feelings of dissatisfaction. As noted by *Male6, G2 “If you’re not happy and you’re overweight and ... you don’t feel healthy like, then you might feel that you need to change your body image then”*. However, boys mostly viewed social media as a source of motivation that encouraged self-improvement. Even when boys felt negative about their bodies, inspiring social media content, could sometimes improve how they felt about themselves.

*Male3 G2 “If I was feeling down and I seen [sic] someone else doing well, to put me in a good mood and I’d try motivate myself to do something good”*

Others reported that social media heightened negative feelings when they were feeling low to start with but could be motivational if they were in a good mood.

*Male2 G2 “If you are kind of sad or depressed or something and you see something, someone that’s so great you might think I can’t do this and put yourself down”*

*Male3 G2 “It honestly depends on what mood you are in that day, like it could upset you or motivate you, it just depends”*



Boys appeared to approach exercise and health behaviours with a more intrinsic motive and engaged in these behaviours to improve fitness and performance levels rather than attain external validation for their appearance.

*Male4 G2 “Like with all the body image sort of stuff, I wouldn’t be just doing stuff to get big massive, if I was going to take influence from something, I follow on Instagram like it would be more to do with performance .. rather than just looking good for other people to compliment you”*

#### **4.4.2.3 Perceptions of body ideals**

Girls were very much aware of the artificial nature of body ideals and were well versed on the poses, postures, camera angles, reflective surfaces and lighting factors that were used to frame pictures in a desirable light. They were also cognisant of photo-editing and filtering practices used to enhance images. However, recognising that a photo was edited did little to mitigate the effect of comparing oneself to that photo. As (Female6, G4) noted “I can tell when like “Oh that photo is probably edited” but like, I’m not actually thinking that you get me? I am just seeing that and I’m like, “Ok the next one”” Therefore, participants were sceptical of efforts to increase awareness of photo-manipulation practices online as they believed that highlighting the deceitful nature of photos did little to improve body image perceptions.

*Female1, G4 “Because a lot of them will post something like “Oh, all of these photos are edited”, but they still post them anyway and people still think they are real”*

Girls also noted that on social media they were only exposed to a highlight reel that showcased an “only the good pictures ... to make it look like their life is amazing” (Female 4, G1) which was noted to further distort perceptions of reality.

However, boys did not demonstrate a great awareness of photo-manipulation practices or the unrealistic, edited nature of images on social media. Contrasting with the girls, they mentioned only a single instance of deceptive imagery, in which a body builder was noted to be a different size outside of the competition season. Boys also reported that they would not easily be able to detect signs of photo manipulation. However, they did note that social media was deceptive in that it created the impression that body ideals were easily attainable and hid the fact that a lot of hard work was involved in achieving such an appearance.

*Male4, G2 “All the stuff they’re posting looks great and that but it’s never showing all the hard work they put in behind it. It looks like just got handed to them”*

#### 4.4.2.4 Perceptions of body ideal attainability

Girls acknowledged that body ideals were very difficult if not impossible to achieve. Participants noted that being too skinny was undesirable and that individuals needed to have their weight distributed proportionately in order to be considered attractive.

*Female1, G4 "Then you're too skinny, you have to be in between. You can't be like too skinny, you can't be like too big, you have to be like perfect"*

The athletic ideal, which was considered the predominant female body ideal, was viewed as even more difficult to attain as it required that individuals not only be thin, but also fit and muscly as well.

*Female6, G4 "It used to be like oh, "you should just be super skinny" ... but now there's this absolutely awful one which is where you have to be both very fit and skinny."*

The curvy ideal was also viewed as unrealistic, as it was considered impossible to naturally have large buttocks with skinny thighs or a skinny, toned waist with big bosom and buttocks.

*Female7, G4 "I think another body image that has become popular is the curvy model, but with the tiny waist, and I think that is so unrealistic because you can't be skinny and have humungous boobs and a big butt!"*

Adolescents also described an emphasis on "natural beauty", the idea that one could only be considered beautiful if they looked attractive with no makeup on, as an additional caveat that raised body ideal standards to an impossibly high level.

*Female1, G4 "But even now it's all naturally pretty. If someone is wearing make-up, it's like "Oh she is not pretty because she is not naturally [pretty]"*

Girls viewed body ideals as unnatural and were highly sceptical of their ability to attain these body ideals without the use of plastic surgery.

*Female4 G3 "No, I don't think anyone can really achieve them by themselves without like plastic surgery, but I try like do what I can"*

*Female4 G3 "Yeah, the way their waist goes in because they have had ribs removed. Or they get like boob jobs, or implants in their arse ... and that's just unachievable. I don't like that at all"*

*Female3 G3 "They start to look like Barbie dolls"*

Girls also acknowledged their ability to attain body ideals through diet and exercise was also limited by factors such as school attendance, parental control over food and difficulty accessing exercise facilities.

*Female2 G1 "A lot of those [celebrities] can go to the gym whenever they want, we have school, so it's hard for us ... Even with food like, you don't get to pick what you have, your ma [sic] already kind of has it done for dinner"*

Despite their scepticism, girls still felt compelled to try and strive for these ideals and still experienced dissatisfaction when their efforts failed to produce desired results.

*Female7, F4 "Well, for a fact I know that they're not completely like that in real life, I know it's heavily edited and everything, but yet I'm still trying to live up to their standards, I'm still trying to look like that and find that I am editing my own photos to try and look like them, try to be someone I'm not and it's just unachievable and this, but I know it, yet I still fall for it"*

*Female3, F4 "It's like you know that perfection, that it's never going to be attainable, but that doesn't stop you from trying to do it all the time"*

Boys on the other hand did not hold similar levels of scepticism regarding the ability to attain body ideals. Boys believed that, with enough work and dedication, these body ideals could be attained. Boys emphasised how the sports stars and fitness bloggers had been like them too at one point, and that it was possible for anyone to achieve what they have, if they were willing to invest enough effort in the pursuit. Boys did not mention anabolic steroids, surgery, posing practices in the curation of ideal bodies.

*Researcher "And do you think it's attainable, what they have achieved?"*

*Male5, G2 "Yeah and anything is if you put your mind to it"*

*Male5, G2 "If you are motivated to do it like"*

*Male3, G2 "Exactly yeah. They were like us at one stage, they weren't always like that"*

Girls felt that boys viewed body ideals as attainable because they endorsed a "fix it yourself" mindset, whereby any personal problem could be solved through one's own action. When applied to body image, boys were thought to maintain the view that with sufficient dietary and exercise effort, body ideals were achievable, and were thought to be largely blinkered to biological limitations of body change.

*Female6, G4 "I also feel like it's that idea that you can fix yourself, that sends for them a big part of it would be like oh having muscle and what not, that's just "oh I need to go to the gym more, I need to do this more, I need to do that more" .... while like they don't really see that, "Oh I'm just not naturally built that way, that is just not going to happen", cos it's all about effort"*

Girls noted that boys also viewed female body ideals as realistic and attainable and felt that boys held them to the same standards as Instagram models and expected them to also have similarly perfect bodies.

*Female4, G1 “Do you know the way we see all these things about all the girls on Instagram, obviously all the lads are seeing that as well, so they are kind of comparing girls to them on Instagram”*

Despite acknowledging that these expectations were unrealistic and unreasonable, girls felt compelled to strive for these ideals as this was the standard that they were being held to and evaluated by, irrespective of how unrealistic these standards were. Girls reported that they did not hold boys to the same standards or did not comment on male appearance or call them out on perceived appearance flaws. Adolescents felt that this double standard of body image disproportionately heightened body-related pressures on girls.

*Female G1 “We don’t really say anything to them [boys]. If they wear the same thing we’d never even notice really and I suppose they wouldn’t either, but they put pressure on us more, definitely”*

#### **4.4.3 Theme 3: Self-generated content**

The ability to post images of oneself on social media also influenced adolescent body image by focusing attention onto one’s appearance and how they presented themselves online. Participants reported being highly selective of the photos they posted on Instagram and conscious of the image they portrayed of themselves to others. Girls were especially invested in curating “perfect” social media self-presentations and reported spending up to “two and a half hours selecting the right photo” and deliberating “Oh does that look ok?” (Female6, G4). As noted by (Female4, G4) “You can take like 100 pictures just to get one”

Some girls did edit or filter their images to enhance their appearance and hide perceived flaws; however, many reported that they did not know how to edit photos or did not edit them for fear of being “found out” to be editing photos. The pressure to present oneself perfectly made girls highly self-critical. One girl, (Female 1, G4) reported that “the more [she] look[ed] at the photo” the more she came to realise “God I hate it - I hate everything about it”. The process of evaluating photos caused girls to “think so much into it ... and see things that other people wouldn’t see” and focus on “something” they themselves “hate but someone else doesn’t even notice it”(Female 1, G4)

Boys did not evince such concern over their appearance in pictures. Girls felt that “guys just don’t care” (Female8, G4) about self-presentation on social media and described how boys invested “no

*effort into the lighting or the angles or the anything in their photos, so theirs is just a mess”* (Female 6, G4). Boys also reported that they posted far less than girls and contrasting with the selfies posted by girls, boys reported only posting group photos with their friends.

#### **4.4.3.1 Influence of peer judgement on self-presentation**

Adolescents were concerned with how they compared to and were evaluated by their peers. Girls stated that they were largely concerned about judgement from the female audience and less so males. Girls described the intense pressure they felt from other girls to have a desirable appearance and present themselves perfectly both on and offline. Girls described high standards and norms that were expected of them, such as dressing according to a specific dress code and having a new outfit for each disco, and how they would be scorned at and vilified for violating these female-female enforced norms.

*Female3 G1 “Going to the ball, the lads wear the same outfit every time, but girls have to get a new dress”*

*Female G3 “You think others will judge ya [sic]”*

Girls described how appearance pressures were also heightened by the fear of receiving negative commentary about on their appearance from peers on social media.

*Female4 G1: Like the comments on Instagram, say if someone posts a picture like, you’ll see people commenting a load of mean stuff and you’re kind of like, “If I post a picture will people be like that?”*

*Female5 G1: Well you might think it’s a nice photo but you’re kind of thinking “Oh, does that person – is it actually that nice?”*

Girls noted that individuals were afraid to express their true selves online or “*to post a photo [they] like*” because “*they [were] afraid other people won’t like it*” (Female 1, G4). Girls described how people tended to post the same types of images, with the same types of poses because these were the images that were likely to secure the receipt of many “likes” and validation.

*Female7, F4: I think a lot of people as well are posting the same photo as other people are posting, they are kind of afraid to post what they actually think or what they want, they just want follow what everyone else is doing which is posting these kind of same photos of you and your friends or you posing*

Girls were also concerned about the judgement of their appearance by boys. Girls sought positive validation from their male peers and were cognisant that “*In a way the more you show in the photo, like the less clothes you are wearing, the more boys will like it*” (Female 8, G4). Girls were influenced by comments provided by boys on social media and reported that the commentary they

received from boys focused largely on flaws with their appearance. Girls described how boys would rarely comment on each other's appearance but would readily comment on the appearance of a girl and draw attention to any minute flaw and this made them feel very exposed and self-conscious.

*Female4 G3 "Yeah, they [boys] do [comment]– they'd notice it and they wouldn't be shy of pointing it out [laughs]. " If they [boys] like get a spot, nothing is said, but if we get them it's like "Oh my God, like it's the end of the world""*

Boys mostly reported that they were not concerned with the likes or comments they received on posts. However, some boys expressed concern over the potential receipt of negative commentary from other boys on their posts and reported that critical commentary on posts could really damage one's self-esteem.

*Male6 G2 "Just sometimes it's about anxiety, that's another reason why we wouldn't post – if they post something, they might be just very overt, I would say and if they had a comment it could really impact because it's just ... so sensitive"*

However, other boys attempted to diminish the impact of negative commentary and reported that that commentary among lads was only designed to slag and "have the craic", and that only "girls [who] "are just more sensitive ... take anything [said] to heart" (Male G2)

#### **4.4.4 Theme 4: Peer comparison influence on body image**

Adolescent body image was not only influenced by perceived judgement from peers, but also by peer comparisons on social media. Because of their perceived similarity and credibility, peers were considered the most influential target of comparison on social media for many adolescents, especially boys. Boys reported that the pressure to be "bulked up" and "eat well" was predominantly driven by the desire "to be better than the other lads beside ya" (Male2 G2), or at least "not [to] be lagging behind" (Male1, G2) their peers.

Girls preferred to "compare with their friends" because these comparisons "weren't as bad" (Female6, G3) "because [they] know that they [friends] are not like, fake" (Female 2, G3) and "It's not filtered"(Female, G3) or "It's not plastic" (Female 4, G3). Some adolescents denied that they compared to their close friends but did compare to "other" peers of the same age who they did not know personally. Adolescents were often more concerned about how they compared to these distant peers and felt that they should be able to achieve what these strangers had achieved because they were the same age.

*Female6, G4 "Even if I don't directly know them or if I vaguely know them, if it is someone who is around my age, I don't care what they're doing, it's like "Oh yeah, that should be attainable for me""*

Participants mostly engaged in upward comparisons. Adolescents, especially boys, mostly denied consciously engaging in downward comparisons; however, one girl group did admit to these comparisons. While downward comparisons initially provided a brief esteem boost, girls reported that they subsequently felt guilty for making a negative evaluation about others.

*Female7 G4: "I think it [social media] has made me a bit of a meaner person because as I scroll through sometimes I'll catch myself saying, "Oh that doesn't look that great, I could have done that better". And then I'll be thinking like "Why am I saying these things?" I should say positive things about them because this is what I am afraid of receiving as well"*

#### **4.4.4.1 Peer influence amplified by feedback indices**

The "comment" and "like" feedback indices were noticed to concretise comparisons with peers as it provided a quantifiable indicator of an individual's self-worth. Girls were especially influenced by feedback indices and sought to receive a large volume of "likes" in order to feel validated and accepted. Feedback indices also signalled popularity levels and social status, with a greater number of "likes" indicating greater peer approval. Adolescents observed that peers who approximated body ideals tended to garner more "likes" and validation, and so possession of body ideals was viewed as being instrumental in facilitating peer validation. Participants described how they compared the number of likes and comments they received on posts to that of their friends. When making such comparisons, participants reported factoring in a follower to like ratio, which ascertained the proportion of likes attained based on follower size. They also weighed up the proportion of perceived authentic versus inauthentic comments. Although comments that appeared to be genuine were viewed more favourably by individuals, ultimately, most participants valued quantity of "comments" and "likes" over the quality.

*Female7, G4 "So it's like "Will this photo equate to a certain amount of likes when I post it?", and yeah that's what kind goes through my head because I don't care about individual people, I'd like to think I don't care what people think but then I end up spending hours thinking I wish I posted this and that"*

On uploading a post, girls reported constantly checking their phone for updates on numbers of "likes" received and experiencing intense anxiety, almost to the point of panic attacks when waiting for feedback after posting content of themselves on Instagram.

*Female4 G3 "My God, and you'd be looking at it every two minutes"*

*Female1 G3 "Yeah to see if you got more likes"*

*Researcher "Really yeah?"*

*Female4 G3 “And having like panic attacks if they don’t – loads of likes so I just kind of ....”*

*Researcher “Was it very competitive?”*

*Female3 G3 “Very”*

Failing to receive sufficient numbers of “likes” or “comments” on posts was considered a significant source of distress as it caused individuals to question the appeal of the post and by extension, the appeal of the individual themselves.

*Female8, G4 “If you don’t get a certain number or something, you might think “Oh God, does everyone think you know, I look really bad in that photo?” or like, so you kind of start to doubt yourself, “Oh is there something wrong with myself?” you know? I know it’s like stupid”*

*Female4 G3 “Seeing other people get loads and you’re like “Oh why amn’t [sic] I?”, and then you’re thinking “Oh they are looking at mine saying, ‘Oh they got double what I got’.”*

*Female G3 “You have to get a certain amount of likes ... or else it’s not like good enough*

Failure to receive enough “likes” was reported to be a humiliating experience for girls and they reported that they would “almost prefer to delete the account than delete the post” (*Female6, G4*) if it failed to reach the desired quota of “likes”. In a bid to receive validation, the act of “liking” posts had been reduced to “a business deal” (*Female4, G4*) whereby one would give a like with the expectation of receiving a like on their own posts. As stated by *Female1, G4* “It’s kind of like a trade, like “Oh if I comment on your photo, you better comment back”, people don’t really like the photo”

Participants reported that they would actively pressure peers to like or comment on their posts, if they had not done so. *Female7, G4* reported “I will go out of my way like messaging my friends, like, “You didn’t comment three times, are you, are you crazy!?”” Such was the intense fear of judgement and rejection that some girls were reported, by boys, to artificially inflate the number of likes they receive by paying for “bots” or “followers” to like their photos. Boys noted that it was easy to detect when girls had bought “likes” because the number of likes received would surpass the number of followers they had or the “likes” were received from foreign users that the girls were unlikely to know.

*Male, G2 “Yeah some of them might go and buy followers”*

*Male4 G2 “Some of them are fairly bad like, they would have 800 followers on Instagram and walking around getting 2000 likes on a picture, they only have 800 followers, how are they going to get 2000 likes – so they obviously buy them like”*



Girls were also aware of individuals who purchased “bot followers” to follow and like posts but felt that the use of these “bots” was confined to social influencers who depended on levels of audience engagement to secure financial endorsement. Girls were highly cognisant about how to maximise reach for one’s posts on social media and described how “*Some people analyse times ... and people who’s on and if your friends have liked it (Female 1, G4)* to increase post engagement and the number of “likes” received. (Female3, G4) remarked that “*It’s a science*”

Girls in one group reported how their concerns regarding the number of likes received had decreased in recent years. Girls in this group felt that this pressure for “likes” had peaked in their first year of secondary school and had lessened subsequently. Girls felt that they had reached a breaking point with the competition of likes, such that they subsequently withdrew their activity on Instagram. Participants felt that experience and maturation enabled them to disengage from the focus on “likes” but current first years were still highly concerned with “likes”. However, other girls conceded that social media was still highly addictive and that their happiness and body satisfaction was often completely contingent on the receipt of sufficient “likes” and validation from others.

*Female7, G4 “The thing with social media is that it’s just really addictive at this point, a few “likes”, it can, it feels like you have taken ecstasy almost [all laughs] it’s like, “Oh wow, thank you (.).” It’s just scary to let something like that be so in control of your happiness.”*

#### **4.4.5 Theme 5: Strategies used to manage body image issues on social media**

##### ***4.4.5.1 Need for protective strategies to deal with appearance-pressure on social media***

Participants conceded that girls experienced more appearance-related pressures from idealised content and peers on social media. Girls were also far more invested in self-presentations and feedback received on social media than boys. However, girls felt that boys understated their body image concerns. Girls felt that boys’ apparent lack of concern about body image issues was an act of pretence as they felt it was less socially acceptable for males to exhibit concerns about the body. Girls felt that although boys tended to laugh off teasing comments about their appearance, underneath this façade of nonchalance, boys were hurt by these comments and did struggle with body image issues.

*Female5, G1 “All the lads will be quiet now [laughs]”*

*Female3, G1 “They’ll act the hard lads”*

*Female5, G1 “They won’t say what they feel ‘cos they never do”*

*Female1, G4 “Like they always make fun of boys who are small, and the thing is with boys though, they’ll kind of laugh it off a lot of the time ... but I think a lot of the time it does hurt them more than they let on”*

Aligning with this observation, it appeared that from the tone and body language of certain members of the male group, expressing complete indifference about appearance reflected a display of machoism rather than a complete lack of concern.

*Researcher “Do you think body image is an important thing for guys?”*

*Males, G2 “No”*

*Male, G2 “Ah yeah it is”*

*Male, G2 “Ah sometimes”*

*Male4 G2: Ah you would care a small bit like, you would want to look well like ... I look after myself, so I do – make sure I’m fit, eat well and all that*

Boys were considered by girls unable to express these concerns given the stigma surrounding male body image. Because body image is a focal concern for girls, girls felt that they were more familiar with narratives pertaining to the body and could more easily seek support for body image issues. Boys were perceived to be disadvantaged in terms of their ability to seek help or to cope with body-related issues on social media because of this stigma.

*Female8, G4 “I think it’s harder for them [boys] to express their feelings, like guys are supposed to be seen as these tough people who can’t really cry or like get upset about these things that are said. Yet I feel like it’s easier for girls, like if they have a problem, to like actually say it, you know (.) you know, be like “Oh well here like, can you stop saying that, that’s hurting my feelings”. Or if they do want to cry it would be kinda [sic] more socially accepted”*

It was evident that both boys and girls struggled with body image issues on social media, but these struggles manifested in different ways. The ways adolescents coped with and managed body image issues on social media also differed between boys and girls.

#### **4.4.5.2 Avoidant strategies**

Adolescents identified several strategies which helped them manage their body image social media. These strategies were largely avoidant strategies and involved unfollowing content that contained body-ideals and reducing their social media use.

*Female7, G4 “I unfollowed all the celebrities and people with unrealistic body goal standards I had on it and then I wasn’t seeing it as much and that helped, I guess.”*

*Female, G1 “Just don’t follow people you don’t like”*

*Female8, G4 “I just kind of stopped using it [social media] as much. Like I’m not, haven’t cut it off – cut it out but like cut down on the amount*

However, some participants felt that avoidance strategies were limited in their effectiveness because products were “*pushed at you sometimes and ads are always just there, and you can’t stop them from popping up*” (*Female2 G1*). Although participants didn’t mention algorithms specifically, they were aware that social media suggested items of interest for them to follow and that it tried to manipulate their usage patterns.

*Female4 G1 “They are trying to get followers by making you look at the people that have these bodies and making you want to follow them to get that yourself”*

One participant detailed how a single search altered her entire newsfeed such that the content she was exposed to, changed from baking and cookie recipes to salad and other health food recipes, which in turn influenced her dietary behaviours.

*Female6, G4 “There would be always these things on food and I was like, “This is great”, and then slowly they start shifting towards, depending on recent liking [activity] then, suddenly all of your food is not those good chocolate chip cookies, it’s all these fancy salads ... so it’s not what you intended to look, but now several hours a day I’m scrolling through salads ... so now I’m really into salads ... this is the kind of food I like make now, while before it wasn’t, so that is slightly due to models on Instagram”*

#### **4.4.5.3 Social media literacy**

Boys and girls were all very conscious of the consumer-driven nature of social media and that they were the focus of targeted advertising. Many advertisements that adolescents were targeted with were related to appearance and included cosmetic teeth whitening and makeup products, gym memberships and clothing. Participants were aware that celebrities and influencers were “*paid to do promotions for like companies or diet brands* and that it was “*very easy to sneak promotions into photos*” (*Female6, G4*) to subtly encouraged them to use certain products. Participants identified this advertising as an immense source of frustration and annoyance but acknowledged it was required for social media companies to profit.

*Male G2 “Yeah on Facebook, you can’t go– every two scrolls there’s an ad, or on YouTube even there’s literally like three ads on every video”*

*Male4 G2 “The only thing is that the companies wouldn’t be able to have the apps or whatever, they wouldn’t be able to work if they weren’t getting some sort of money back”*

The presence of these features led some to feel they had little control over social media content and that they had to “*not care*” or “*ignore*” content (*Female1, G1*). Others, despite acknowledging the

role of algorithms and targeted advertising, perceived that they had complete control over their use and its outcomes.

*Male4, G2 “Yeah you can just what to follow what you want to follow really”*

*Female G3 “We can choose not to post anything, or not to follow them if we want”*

#### **4.4.5.4 Active selection of positive content**

Aligning with control beliefs, boys believed that they could control the outcomes of social media use by selecting content that promoted their self-image. One boy, *Male4 G2*, reported that he “[didn’t] really get negative thoughts from looking at it [social media], usually [he] just look[ed] at positive stuff” However, several girls reported that they did not actively select positive content as they felt that all content on social media was damaging.

Even content designed to improve body image, such as body-positive content was viewed sceptically by girls. While girls acknowledged and applauded increased efforts to promote body-acceptance on social media, they held reservations about the ability of this movement to improve body image perceptions. Participants felt that there was a huge disparity between the message communicated and the image accompanying it; while a picture may be accompanied by a wholesome caption advocating ostensibly positive messages, the picture itself, which was often appearance/body-focused and objectified, was sending the opposite message. According to *Female8, G4* “It’s like the picture portrays a different message to what it’s captioned”

*Female1, G4 “I think it is a lot more positive now, obviously there is, I’m sure there are still a lot of those negative things, but I think a lot of like, famous people are trying to kind of spread more positive images and content”*

*Female2, G4 “I think that, what people say when they post something, like what they say might be positive and well-meaning but nearly the pictures themselves speak for themselves and maybe what they are promoting in the pictures isn’t healthy even though they are saying “self-love””*

Participants also reported that their attention was drawn to the picture rather than to the accompanying text, and so any potential benefit contained in the written part was not often likely to reach audiences.

*Female7, G4 “They say a picture says a thousand words so ... when you go on Instagram. you only see pictures; you don’t see the caption until you click into it”*

Participants also found it difficult to endorse messages of body acceptance, when they were delivered by individuals who embodied these body ideals. Participants felt that it was easy for individuals who had the perfect bodies to promote the notion of body acceptance because they

seemingly had reason to be happy with their bodies. Participants found it difficult to believe that these individuals struggled with body image concerns and thus were reluctant to buy into the notions of acceptance that these individuals were promoting.

*Female4, G1 “A lot of influencers do promote like body confidence and all that but that’s kind of easy for them to say at the same time because they do have the perfect body say for Instagram and all that sort of stuff.”*

*Female9, G4 “Yeah you see a very skinny woman and she says like “Love your imperfections””*

Other self-acceptance content on “Instagram posts” were noted to contain “plus size models rather than just the really stick thin skinny ones” (Female2, G1) which was lauded because it provided a more realistic representation of body image and body types on social media. However, some participants still felt that this reflected extreme body types such as overweight bodies and therefore failed to encompass “normal” bodies such as their own. Furthermore, body ideal content received far more positive feedback and was the main attentional draw that influenced bodily self-perceptions.

*Female, G1 “You’d come across a few diverse where there is like skinny and then there is like heavier people, but you’d come across way more skinnier models”*

*Female2, G1 “But the skinnier ones are kind of getting more positivity back than the plus size ones would”*

*Female4, G1 “Nothing’s like normal if you know what I mean”*

*Researcher “Right ok, so it’s extremes of all of them kind of?”*

*Female4, G1 “Yeah, yeah”*

*Researcher “So nothing in the middle?”*

*Female4, G1 “Yeah”*

#### **4.4.5.5 Distancing strategies**

Another common strategy utilised by both boys and girls was to psychologically distance themselves from targets. Boys distanced themselves from the pursuit of body ideals through acknowledging the difficulty in attaining body ideals and noting that individuals who achieved them had devoted all their time and energy towards this goal. Focusing on differences between the goals and values of comparison targets versus themselves served to increase the psychological distance from these targets in boys and lessen their desire or drive to attain these bodies.

*Male, G2 “They’re kind of devoting their whole life to it”*

*Researcher “Yeah, so it’s really effortful to get where...”*

*Male4 G2 “Yeah that’s their job like”*

*Male2 G2 “Yeah literally is ‘cos they get sponsorships and everything. We’re not going to be getting any of that now so”*

Some girls attained psychological distance from targets by focusing on the manipulated, edited nature of the images. Reminding themselves that these images were fake and unrealistic helped some participants feel better about themselves and their own bodies.

*Female2, G3 “Well I think it helps you – they use filters - if I used filters I would look way better but I didn’t use them so I do think it does make it easier to look at.”*

While this strategy worked for some, most girls noted that these images negatively affected them regardless of the knowledge of their manipulation. Some girls also attempted to distance themselves from comparison targets by acknowledging that although they often liked the appearance of these individuals, they felt that their features were too extreme and ill-suited to their own appearance.

*Female3, G3 “Like I like the way they look but I don’t think I’d like to look as ...extreme as they do. I wouldn’t like it, do you know what I mean? I don’t think it looks normal. But I think it looks normal with them because they all look like that, but if I walked in like them, I’d look weird, I’d look like an alien”*

#### **4.4.5.6 Protective processing/filtering strategies**

One boy suggested that focusing on goals and achievement rather than focusing on discrepancies and feeling self-pity enabled him to process social media in a healthier way.

*Male4, G2 “Depends on what way you view it really. If you look at it like, saying they’re this and they’re that and I’m just here, you’re not – you’re always just going to be feeling shite like. You are not going to move forward at all. If you just take – just watch whoever, take inspiration, try work yourself, if you want to be like them, work yourself towards being like them”*

Avoiding social comparisons and ceasing to judge others and oneself were emphasised as core strategies that promoted body image in general. In addition, accepting one’s uniqueness and viewing difference as a good rather than a negative thing was identified as a way of framing body image in a positive light.

*Female7, G4 “I think the problem overall is that we are looking at difference as if it were a problem, we are saying “Why don’t I look like that? Why can’t I be that person?” But I think we all just have to learn to accept that we are all different and we know these facts, but we chose to ignore them!”*

However, girls struggled to accept their bodies and resisted body-acceptance content. Boys in contrast, reported greater self-acceptance of and contentment with their bodies. For example, (Male3 G2) stated “My life is grand as it is like. I am the way I am, can’t change that like... My body is the way I want it”. However, it may be the case that boys experienced less pressures to change their body appearance and thus were more accepting of themselves, rather than actively employing self-acceptance as a strategy to deal with difficult body-related thoughts arising from social media use. A few boys and girls reported that reflective practices such as taking a step back, conducting reality checks and looking at the bigger picture enabled them to reassure themselves. One girl stressed the value of maintaining a compassionate mindset and endorsed the notion that everyone struggles with the same issues and not to be so harsh and critical towards oneself.

*Female7, G4 “I think we always compare ourselves to the people we see on social media, so we don’t see their flaws, because we are busy pointing out our own in comparison to theirs. We don’t realise that not everyone is perfect as well. And because of that we are kind of blind”*

*Female7, G4 “I just think that young girls need to stop comparing themselves and to take a minute to realise that we are all the same, we are all doing the exact same thing; we are all sitting at home, scrolling. And all the likes we receive, it’s just a double tap of the finger, that person probably doesn’t probably even look at it for more two seconds, we need to stop overthinking everything”*

However, these protective filtering strategies were only mentioned by single individuals in focus groups and did not typically reflect the whole groups’ responses to body-related content on social media.

#### **4.4.6 Overall impression**

Adolescents in this sample were highly competitive with themselves and others, striving constantly to better themselves, improve their bodies, achieve more likes than they had on previous posts and excel across all domains.

*Female 1, G4 “Like you just are always trying to beat your last one [picture], or you don’t want it to be under, like it’s kind of a constant trying to be better than what you last were and just trying to maintain something”*

This competitive mindset drove individuals to feel that they constantly needed to achieve and succeed in order to be valued. Participants reported feeling an immense pressure to be perfect and that anything which fell short of this was considered a failure. This pressure for perfection caused individuals to be highly critical of themselves. Failing to achieve body ideals was interpreted as their personal failure to work hard enough, while failing to attain enough likes on posts led them to

think that there was something wrong with them, that they were not liked and that they were not good enough.

*Female7, G4 "If I don't suit a certain body standard then, I don't know, I don't think my body is not good enough"*

Participants were also highly conscious of how others perceived and judged them which encouraged them to engage so heavily in impression management. Participants feared negative comments or feedback from others, or worse still, the lack of feedback at all. Adolescents wracked with self-doubt, self-uncertainty, insecurity were impelled to seek quantifiable indicators of acceptance and validation for their appearance, irrespective of how superficial this feedback may be. Despite being social media literate and cognisant of the unrealistic, unattainable nature of body ideals, individuals still strove to achieve body ideals as they were tied to these indicators of acceptance and validation. Social media amplified these critical and competitive tendencies and heightened self-consciousness. Overall, social media exerted a deleterious effect on adolescent body image and psychological wellbeing but was hard to avoid as it was considered a crucible of social interaction and social engagement.



## 4.5 Discussion

This study sought to understand how social media gives rise to body dissatisfaction in adolescents. Specifically, this study aimed to identify the patterns, motives and effects of adolescent social media use that modulated appearance comparison and body ideal internalisation behaviours that lead to body dissatisfaction. The responses provided by adolescents to focus group questions and the themes identified in the thematic analysis were compared to those of young adult focus groups described in Chapter 2, to ascertain potential similarities or differences in adolescents' relationship with social media and body image.

Aligning with the literature, adolescents in this sample were prolific users of social media, and reported almost constant, habitual use of these platforms (Pew Research Center, 2018). As cited in recent global and local social media trends (Dooley et al., 2019; Mandler & Buckle, 2018), Snapchat and Instagram were the most popular social media platforms among adolescents. Girls in one school also identified VSCO as a well-liked photo sharing platform that was preferred over Instagram because it did not contain feedback indices such as likes, comments, followers and subsequently did not put as much appearance-related pressure on them. VSCO has not previously featured in body image research and is worthy of research attention because it represents a platform that may contain protective features for body image, namely the lack of hierarchical popularity structures or feedback indices. Overall, Theme 1 discussed how social media was viewed as a negative influence on body image serving as an initiator, maintainer and exacerbator of body image issues, particularly among girls.

Theme 2 explored how exposure to idealised content influenced adolescent body image. Similar to the findings of Bell (2019), adolescents reported that social media influenced the ways that they conceptualised body image and the types of body ideals they endorsed. Several body ideals were internalised by adolescent girls, including; a thin, athletic and a curvy ideal. The athletic/fit ideal was considered the prevailing body ideal for girls; however, girls also identified clear, tanned, flawless skin, white teeth and perfect hair and makeup as components of body ideals. Girls reported that they internalised facial appearance more than bodily appearance, which contrasted with young adults (Chapter 2) who primarily conceptualised body ideals in terms of physique and not facial characteristics. The popularity of “selfies” may be a reason why adolescents place increased value on facial attractiveness (Tiggemann et al., 2018). Adolescents may have internalised facial attractiveness more because they invest heavily in “selfie” presentations on social media (Chua & Chang, 2016) and because their preferred social media platform, Snapchat, involves sending and receiving “selfie” images to communicate with others. Despite this focus on facial features, girls also reported intense desires and pressures to have “perfect” bodies.

In terms of male body image, muscularity was identified by girls as a body ideal sought by boys. However, adolescent boys, like young adult men in Chapter 2, largely rejected the muscular ideal, and internalised the functionality/performance goals for their chosen sport. Boys reported that they were largely unconcerned with aesthetics, except for their fear and apprehension of becoming overweight or fat. These reports concur with the findings of Bell and colleagues' (2019) qualitative focus groups in which adolescent boys also rejected hyper muscularity, strove to improve sporting performance and viewed fatness as something that should be avoided. However, adolescents' rejection of the muscular ideal conflicts with views shared by young adult men in Chapter 2, who reported that they valued muscularity more than functionality during adolescence. Adolescents in this sample may have conflated hyper muscularity with being muscular, because they endorsed the bulk and size of the sports stars, they followed but rejected the hyper muscular body builder bodies. This may explain their apparent rejection of the muscular ideal. Ultimately though, athleticism and sporting prowess was considered by both boys and girls to be valued most by boys in terms of body image.

Adolescents garnered these conceptualisations of body ideals from their comparisons with celebrities and sports stars. As noted throughout the literature, despite the extremity of these comparisons, celebrities were influential comparison targets for girls (Burnette et al., 2017), while sports stars were influential targets for boys (Bell et al., 2019). Adolescents also compared to social media influencers but were more influenced by celebrity/sports star comparisons. Adolescents recognised that celebrities' lives were very distant from their own but continued to compare despite this awareness. Adolescents did not perceive social media influencers to be similar or relatable to them and viewed them as less influential and appealing than celebrities. This contrasts with the women in Chapter 2 who perceived social influencers to be more similar, relatable and influential comparison targets than celebrities. Social influencers/microcelebrities' influence on adolescent body image has not been well documented to date and therefore these findings shed light on the social media comparison targets that influence adolescent body image.

Like young adults, adolescents believed that celebrity comparisons exerted more deleterious effects on body image than peers. This was because adolescents were only exposed to the idealised version of celebrities' lives which they could not reconcile with counterexamples from real life, as they could do with their peers. This concurs with Weinstein's (2017) finding that comparisons with parasocial targets are more distorted than comparisons with peers because individuals lack counterexamples from personal experience to facilitate accurate comparisons. Even when peers presented idealised versions of themselves on social media, adolescents felt that they could distinguish between these ideal presentations and reality, and thus peers were not considered to exert such a negative influence. This contrasts with Chou and Edge's (2012) suggestion, that peer comparisons on social media exert stronger negative effects on body image than real-life peer comparisons, because the perceived discrepancy between one's own lived

experience and peers is greater when peers present idealised versions of themselves on social media. However, the present findings suggest that adolescents can recognise the discrepancy between ideal social media profiles and real life and this can mitigate the negative effect of peer comparisons. In order to resolve these conflicting findings, ecological momentary assessments could be conducted with adolescents to determine whether virtual peer comparisons on social media exert differential effects on body image than in-vivo comparisons in real life.

Theme 3 investigated peer comparisons and how they influenced adolescent body dissatisfaction. Because of their immediacy and similarity, peers were considered more influential targets, especially among boys. While some adolescents initially denied that they compared themselves to peers, this denial was later contradicted by their descriptions of comparisons with peers. This reluctance to disclose peer comparisons in focus groups may reflect adolescent desires to be viewed favourably by peers in the group and has been a feature of other focus groups conducted with adolescents on the topic of body image (Burnette et al., 2017). Indeed, adolescents exhibited strong desires to be assessed positively by peers and were concerned with how their online self-presentations measured up to peers. Girls were more concerned about comparison judgements made about them by other girls; however, it was unclear which comparison judgements exerted a greater influence on boys.

In order to be viewed favourably by peers, girls invested heavily in curating idealised personal social media profiles. Congruent with Bell's (2019) findings, girls spent a lot of time selecting and scrutinising photos and used a range of techniques to maximise their attractiveness in images, including posing in certain ways, using various camera angles, applying filters and editing their photos. Girls reported that this process of photo selection and editing negatively impacted their body image perceptions because it encouraged them to notice and fixate on their perceived flaws. This aligns with experimental research conducted with adult women, whereby the process of applying filters and editing one's appearance on social media negatively affected participants' body image because it highlighted their alleged body imperfections (Mills et al., 2018). Young adult women in Chapter 2 reported similar self-presentation strategies; however, adolescent girls appeared to be more invested in and influenced by these self-presentations. Like young adult men (Chapter 2), adolescent boys appeared to be far less invested in their self-presentations and reported that they did not scrutinise images shared when posting, nor did they use any photo editing techniques. Low investment in image sharing on social media has been associated with better outcomes for body image (Cohen et al., 2018), therefore, boys may be somewhat protected from self-scrutiny in peer comparisons. However, the fear of receiving negative commentary deterred some boys from posting images on social media – this indicates that boys are conscious of how their appearance is received by others, but that this apprehension may manifest in less overt ways than girls (Kenny et al., 2017b).

Adolescents used feedback indices such as likes and comments to evaluate themselves against their peers. These feedback indices served to amplify peer comparisons as they provided a quantifiable indicator of peer approval. Aligning with the literature (e.g. Bell, 2019; Chua & Chang, 2016), girls were particularly concerned with attaining a sufficient number of likes and comments, and failure to achieve such validation was associated with feelings of inadequacy, worthlessness, and dissatisfaction. In line with existing studies, girls went to extensive lengths to ensure they received the requisite number of likes by pressurising peers to “like” and “comment” on photos, posting photos at times that would elicit the most likes from peers, exposing more skin to gain more likes from boys and buying “bot” followers to inflate the likes they received on posts (Bell, 2019; Chua & Chang, 2016). As found by Chua and Chang (2016) girls reported taking down/removing posts if they failed to achieve a significant number of likes. Although girls acknowledged that the feedback received was mostly inauthentic and superficial, they ultimately valued the quantity rather than the quality of the feedback. This differed from young adults in Chapter 2 who reported that they valued the quality over quantity in terms of feedback. In contrast, boys were not greatly affected by the number of likes they received but were concerned about receiving negative commentary from peers on social media and cited this as a reason for not posting photos of themselves online. Similar findings were observed by Kenny and colleagues (2018) in their focus groups with Irish adolescent boys, whereby boys were concerned with comments on their appearance but not the number of likes.

It became apparent that there were distinct motives underpinning comparisons with idealised social media influencers/celebrities and peers and Theme 4 explored these. As observed by Bell (2019) adolescents compared to celebrities and social media influencers to gain information on the appearance ideals that were valued in society and how to emulate such ideals themselves. Adolescents were impressed by the popularity, status and resources attained by celebrities for their appearance or physique and sought to receive similar validation themselves. Boys and girls reported following the diet and exercise regimes, and fashion and beauty tips that were shared by celebrities, sports stars and influencers, in order to change their bodies and look more like these “ideals”. The motives driving these body change behaviours differed among boys and girls. Girls reported that their motives to engage in body change behaviours were mostly driven by guilt. Girls felt that they “should” be able to attain body ideals because of the proclivity of individuals with body ideals on social media and because of the ease with which they could access the diet and exercise regimes shared by celebrities and social influencers via daily posts and stories. Girls felt that they were personally responsible for attaining body ideals and reported guilt for not being disciplined or controlled enough to follow diet and exercise regimes to attain these ideals.

Boys on the other hand, stated that their motives to engage in body change behaviours were underpinned by desires to improve and better themselves. Boys reported following dietary or exercise-related advice from sports stars and influencers in order to improve their own athleticism

or sporting performance. This suggests that adolescent boys' comparisons are driven more by self-improvement motives, while adolescent girls' comparisons are driven by more critical and self-evaluative motives. This mirrors Franzio et al.'s (2012) findings that adult women tend to engage in more self-evaluative comparisons that have deleterious consequences for body image, while adult men tend to engage in more self-improvement comparisons that have protective effects for body image. It also reflects the finding that even when women engage in downward comparisons, these fail to have self-enhancing effects (van den Berg et al., 2007). In this study, adolescents mostly engaged in upward contrastive comparisons; however, when they did engage in downward comparisons, girls felt guilty for judging others negatively because this was precisely the type of judgment that they were afraid of receiving themselves. As the motives underpinning adolescent appearance comparisons have not been documented to date, this finding, that appearance comparison motives in adolescents and adults are similar, is novel. This may also partially explain why adolescent girls perceived their body image to be more negatively influenced by social media use than boys.

In contrast to comparisons with idealised celebrity/social influencer content, peer comparisons served to determine whether individuals conformed sufficiently with these ideals to receive validation from peers. Feedback indices such as "likes" and "comments" provided quantitative measures of this peer validation. Adolescents described an intense fear of judgement and rejection from peers for failing to conform with body-related expectations and narratives. In this way, peer comparisons served to police adolescents' appearance related self-presentations (McSharry, 2009). As found by Bell (2019), adolescents reported that they posted the images of themselves that they thought would garner the most likes and validation from peers rather than posting images reflecting their authentic selves. Although girls were critical of the beauty standards and norms set by peers and wished to express their "true" selves online, they valued remaining within the status quo and wanted to avoid being isolated as weird/different peers. Boys were far less influenced by these feedback indices, but still sought to adhere to peer norms regarding appearance. Boys felt that girls were strongly influenced by feedback indices because they reflected their popularity and social status within peer groups. Although adolescent girls did not mention using comparisons to evaluate social status, similar findings were observed Bell (2019), whereby adolescent girls viewed followers/likes as status symbols and were motivated to attain likes in order achieve a feeling of superiority over peers.

Social media appeared to influence female body image to a greater extent and in more negative ways than boys. Girls engaged and invested more in appearance-related behaviours, received more appearance-related attention and experienced more appearance-related pressures on social media than boys. However, the influence of social media on male body image may be understated by these findings because of stigma surrounding the disclosure of body image concerns in males which was evident in this study. Boys largely dismissed body image as an issue of

concern for them or one that was influenced by social media. Boys regarded body image as a “female” issue and felt that only girls took bodily presentation and feedback on social media seriously. Although boys denied body image as an issue of concern, it was evident throughout the discussions in these focus groups that boys did care about their body image and sought to keep themselves fit, healthy and wanted to avoid becoming fat. This aligns with the literature, which finds that adolescent boys are generally reticent to discuss body image concerns for fear of being viewed as effeminate or gay (McSharry, 2009). In order to determine the precise influence of social media on male body image, future research should explore male body image in settings where male stigma around body image might be reduced, such as through focus groups with strangers, or through individual interviews.

Relatedly, girls acknowledged that they experienced more appearance-related pressure from social media than boys, but they felt that they had more tools to cope with this pressure because they could share their concerns with friends and address body dissatisfaction openly. While boys did not experience the same degree of appearance-related pressure, girls felt that they did experience body dissatisfaction from social media use but were not able to address or deal with body image concerns because of the stigma surrounding male body image. Girls felt that both male and female body image was negatively impacted by social media use, but body dissatisfaction was experienced in different ways by each gender. This suggests the relationship between social media use and body dissatisfaction is not straightforward, and that both the nature of social media’s influence and the ways that adolescents respond to and cope with this influence should be considered when evaluating social media’s effects on body image. This twofold influence of social media was also noted by young adults in Chapter 2, who felt that adolescents were more susceptible to social media’s influence and that adolescents were less able to cope with this influence. Although adolescent body image appeared to be influenced far more than young adults by social media, contrary to young adult’s beliefs, adolescents did possess an awareness of this influence and a repertoire of strategies to self-protect body image on social media.

Theme 6 explored the ways that adolescents interpreted and processed social media content and the strategies they employed to cope and deal with body image issues on social media. Behavioural strategies such as avoiding, unfollowing or ignoring problematic body related content were the strategies most used by adolescents to protect their body image on social media. Adolescents also reported that they limited their social media use and tried to avoid comparing to others on social media. However, as found by Burnette and colleagues (2017), this strategy was considered limited in its effectiveness because it was difficult to avoid the ubiquity of body-related content on social media. Also, while adolescents did not explicitly mention algorithms, they were aware of targeted advertising and the fact that they were often pushed content that they didn’t necessarily want or chose to see. Girls felt that because of these features, they had limited control

over their social media use. Boys (and some girls) on the other hand, felt that they had control over their social media use, despite algorithms and targeted advertising.

Aligning with these control beliefs, girls tended to report more passive responses to social media such as “putting up” with problematic content. Some boys, on the other hand, reported that they actively sought out and selected positive content that inspired them to exercise or helped them improve in some way. Girls did not engage in such active selection strategies as they felt that any content related to body image exerted negative effects on them, including content designed to promote positive body image. While girls lauded the efforts of celebrities and social influencers to reveal or “call out” individuals who had photoshopped or edited their photos, girls felt that this knowledge of photo-editing did little to mitigate the negative effects of these comparisons. Additionally, girls felt that body positive and body acceptance pages were ineffective in improving their body image perceptions. Girls felt that there were mismatches in the messages of “self-acceptance” and “body positivity” that were shared and the images that accompanied them, which were often idealised and objectified. Furthermore, girls emphasised the difficulty in relating to body-acceptance messages which were delivered either by individuals who they deemed to have the “ideal” body and who they felt had a valid reason to accept their body, or by individuals with extreme bodies that did not reflect “normal” bodies like their own.

These views align with focus group findings in Chapter 2, where similar limitations of body positive/body acceptance content were identified by young adults. However, these critical evaluations of body positive content contrast with findings in the literature, where adults have been found to mostly endorse body positive content and perceive it as relatable, motivational and less damaging to their body image perceptions (Convertino et al., 2019; Rodgers et al., 2019). This content may be less effective in adolescents because they do not relate to bodies depicted and view them as extremes. Of note, adolescents felt that most body-related content on social media was pitched at adults, and that there were very little adolescent role models that they could relate to. It would be worthwhile to investigate whether diverse, age appropriate role models could help foster greater body appreciation and acceptance in adolescent girls.

In general, adolescents in this sample interpreted social media content with a critical lens and were largely aware that social media was designed for influence and profit. Girls demonstrated high levels of social media literacy and aligning with Burnette and colleagues’ (2017) findings, were aware of the artificial, contrived nature of social media and the tendency of social media posts to reflect a highlight reel of individuals’ experiences. Girls were also highly cognisant of the unrealistic, unattainable nature of body ideals on social media. However, despite conceding that these ideals were physically impossible for them to attain, they still strongly desired and strove to attain them. This contrasts with the findings of Burnette and colleagues’ (2017) qualitative focus groups, in which scepticism of body ideals provided a protective effect for adolescent girls’ body image perceptions. Contrastingly, girls in this sample continued to compare and internalise body

ideals despite their reservations about these ideals, suggesting that social media literacy and knowledge may not alone be enough to mitigate tendencies to engage in appearance comparison and body ideal internalisation behaviours.

Although boys were critical of hyper muscular bodies viewing them as unnatural and undesirable, they were less aware of photo-editing and manipulation of images of male bodies on social media. Mirroring the findings of the Edcoms and Credos (2016) national study of adolescent boys in the UK, boys in this sample viewed body ideals as attainable with sufficient hard work and effort. Girls felt that boys also considered female body ideals to be attainable and subsequently compared adolescent girls against these high standards. This belief and expectation surrounding the ability to achieve body ideals was reported to heighten pressures among girls to achieve body ideals, but not boys. It may be the case that boys perceived themselves to be close to their body ideals and this elicited assimilative, upward comparisons and their associated self-enhancing effects. Alternatively, as suggested by Gattario and Frisen (2019), boys may have deemed it acceptable to report that they believed body ideals were attainable in order to adhere to masculine gender roles of self-reliance and dominance. Alternatively, boys may be less aware of manipulation/editing strategies or less critical in perceptions of body ideal attainability and this might protect them from feelings of disempowerment and dissatisfaction when exposed to body-related content.

Psychological distancing was another cognitive processing strategy commonly used by adolescents to protect their body image. Some girls distanced themselves from body ideals by reminding themselves that body ideals were not attainable – a strategy also noted by Burnette and colleagues (2017). However, most girls reported that their knowledge of unrealistic body ideals did little to protect their body image perceptions and they continued to compare despite this awareness. Girls also achieved psychological distance from body ideals by reasoning that while they admired certain body features on others, they did not desire them themselves because these features would be incompatible with their own appearance. Boys in this sample reported deprioritising the importance of the muscular ideal and distancing themselves from comparison targets as a way of protecting body image perceptions. This low investment in body-related content was also identified by adolescent boys with positive body image as a feature that supported their positive body image (Holmqvist & Frisén, 2012).

Reframing or processing challenging content in a positive light was another strategy used by participants to promote positive body image. One boy reported that processing body-related content in ways that inspired and motivated him helped promote a positive relationship with body-related content on social media. One girl stressed the importance of appreciating positive aspects of one's body rather than focusing solely on discrepancies. She also noted that reframing perceived differences as a positive aspect of body image, rather than a negative could help promote positive body image. This same girl endorsed the belief that individuals should be compassionate with



themselves when they experience dissatisfaction on social media. She reasoned that body-related struggles on social media are experienced by everyone and this recognition could help reduce the extent to which individuals compare to others and are harsh/judgemental of themselves. Finally, stepping back from social media and considering the problematic content in terms of the “big picture” helped some adolescents put challenging content in perspective and enabled them to manage it.

It is important to note, that these reframing strategies were only mentioned by a few individuals in focus groups and did not typically reflect the whole groups’ responses to related to the management of body-related content on social media. However, positively reframing body-related content, having compassion and appreciation for one’s body and valuing body differences, are strategies characteristic of positive body image, and also have been reported by adolescents who had high positive body image (Holmqvist & Frisé, 2012). Overall, adolescents exhibited a repertoire of strategies to protect and promote body image. The use of these strategies by adolescents and their perceived effectiveness varied.

On a developmental note, despite differences in platform preferences, adolescents’ and young adults’ body-related social media use, appearance comparison and body ideal internalisation behaviours were similar. However, appearance-related pressures from social media appeared to be amplified among adolescents because body image was inherently entwined in their social relationships and status in a way that was not as evident among young adults. Social media intensified adolescent desires for validation and fears of peer judgement and rejection which was not as widely reported by young adults. Adolescents reported higher levels of self-criticism and self-blame than young adults when they perceived they fell short of standards of bodily “perfection” and unlike young adults, adolescent girls appeared limited in their abilities to accept/appreciate their bodies. The importance of peer validation in the adolescent stage may be a developmental factor that heightens self-criticism and body image concerns in this cohort versus young adults. With this in mind, future work could focus on encouraging adolescents to develop self and body-acceptance that is less contingent on the approval of peers.

#### **4.5.1 Implications**

These findings have several implications for the design and implementation of body image interventions for adolescents. Contrary to the expectation that body positive content would exert promotive effects on adolescent body image, girls in this study were highly sceptical of body-acceptance content and reported that it did little to change or improve their self/bodily perceptions. Girls mostly highlighted issues with the framing and delivery of these body-positive messages and thus future research could investigate if there are aspects of body-positive messages that are

beneficial and whether these could be delivered in a more effective way on social media to improve body image.

Ascertaining ways to foster positive body image in girls is especially warranted, because girls in this sample appeared to lack the capacity to internalise positive, compassionate messages towards themselves and their bodies. Adolescents in this sample did exhibit aspects of protective filtering (as observed by Burnette and colleagues (2017)), in that they were critical of the extreme natures of body ideals, attempted to psychologically distance from and reduce comparisons with these ideals, and expressed an appreciation of body diversity on social media. However, protective filtering involves both the rejection of negative body-related messages and the endorsement of positive messages (Andrew et al., 2015). Girls were largely intolerant and unaccepting of their own bodies, contrasting with boys who exhibited high levels of self-acceptance. Furthermore, girls' appearance-investment appeared to be driven by maladaptive self-evaluative motives, in which one's self-worth is valued in terms of external validation of appearance (Cash et al., 2004). Contrastingly, boys' appearance-investment was motivated by adaptive intrinsic drive for self-improvement which has been associated with positive body image (Cash et al., 2004). Boys appeared to process content in a more self-protective manner and exhibited more positive perceptions of social media's influence on body image. Identifying ways to encourage girls to filter body-related messages in positive ways is therefore an important focus for future research.

Furthermore, the findings of this study suggest that we might need to rethink social media literacy as an approach for improving body image. Contrary to the suggestion that increased social media literacy disrupts body ideal internalisation and appearance comparisons (Wilksch et al., 2015), girls in this sample were highly social media literate and possessed a strong critical awareness of body-related content; however, despite this knowledge they continued to be negatively affected by appearance comparisons. Additionally, awareness of the contrived, superficial nature of peer images and feedback on social media posts did not diminish the negative effects of peer comparison or body dissatisfaction experienced. Contrastingly, boys were less critical but appeared to be less negatively impacted by appearance comparisons with body ideals. Critical awareness of body ideals seemed to amplify self-criticism and body dissatisfaction among girls. Protective filtering goes beyond merely critiquing and rejecting body ideals and involves an active, conscious decision to process positive body related content in ways that are self-enhancing and protective for this individual. While literacy and critical awareness may serve a role in addressing body dissatisfaction, these findings suggest that alternative or additional strategies may also need to be explored to help foster healthy body image.

### **4.5.2 Limitations**

Although this study sought to capture a diversity of viewpoints by recruiting from heterogeneous schools that differed in terms of socioeconomic status (high and middle-low), school size (medium-large and small) and setting (urban versus rural), the sample size of this study was small which limits the generalisability of the findings. Furthermore, very few boys participated in the study, which further limits the conclusions that can be made about social media's influence on their body image perceptions. This difficulty in recruiting male participants may be indicative of male stigma around body image and reluctance among adolescents to discuss it as a topic. Future research needs to identify ways of circumventing this stigma and encouraging males to discuss body image and social media, because far less is known about adolescent males' experiences of social media and body image versus females, despite research indicating that body dissatisfaction is a prevalent and problematic issue for males and one that is influenced by social media use.

The focus group design may have influenced participant's responses such that they may have provided socially desirable answers that may not have reflected personal opinions, or their opinions may have been swayed by or suppressed because of dominant members of the group. This may be particularly true of boys, who are less likely to disclose body image concerns because of social norms which dictate that body image is not an issue for males (Hargreaves & Tiggemann, 2006; Yager et al., 2013). Furthermore, as the focus groups were conducted by female researchers only, boys may have been reluctant to discuss gender differences related to body image (Allen, 2005), while girls, may have been more expressive of their concerns because they tend to prefer same-sex female facilitators (Yager et al., 2013)

Finally, while efforts were made to conduct the analyses in an objective, impartial manner, these results reflect a subjective interpretation of the data which may have been influenced by potential biases or beliefs held by the researcher which should be considered when viewing the results.

### **4.5.3 Conclusion**

Adolescents, especially girls, were strongly and negatively affected by social media use, and they lacked active strategies to deal with and manage problematic social media content. Media literacy and body positivity approaches were limited in their abilities to address body dissatisfaction on social media. Alternative strategies which help adolescents resist the problematic body-related messages conveyed and deal with self-criticism are required to address body dissatisfaction.

Compassion focused approaches (e.g. Gilbert, 2009; Gilbert, 2014; Neff, 2003), which address self-criticism and shame, may represent a useful way of addressing body dissatisfaction and promoting positive body image on social media. Compassion focused approaches have been found to be effective in reducing body dissatisfaction and disordered eating, in addition to promoting body appreciation and positive body image in adults (Braun et al., 2016; Rahimi-Ardabili et al., 2018). Self-compassion may be especially beneficial for adolescents, who experience high levels of self-criticism and body dissatisfaction and low levels of self-compassion (Bluth & Blanton, 2015). Adolescents in this sample were highly self-conscious, were fixated on their perceived flaws and felt personally responsible for their failures and perceived inadequacies. Adolescents also reported that social media use amplified their critical and competitive tendencies. Therefore, compassion focused approaches may be particularly useful for improving body image on social media, as they can provide adolescents with the skills to reframe self-critical thoughts and enhance their resilience to negative body-related messages on social media. Self-compassion may also enable adolescents, especially girls, to internalise positive body-related messages and foster greater levels of body appreciation (Andrew et al., 2016). Chapter 5 further discusses the potential of self-compassion to improve adolescent body image.

## **Chapter 5: Self-Compassion Narrative Literature Review**

### **5.1 Chapter Aims**

Chapter 4 revealed that social media exerted a strong and mostly negative influence on body image perceptions of adolescents, especially girls. Adolescents were found to have less developed strategies to manage problematic appearance-focused content on social media and adolescent girls were highly critical and intolerant of their bodies. Existing social media literacy and body positivity approaches were considered limited in their ability to improve body image and it was suggested that alternative approaches need to be explored. Self-compassion is a construct, derived from Eastern Buddhist psychology, that has received research attention due to its associations with psychological health and wellbeing (Albertson, 2013; Barnard & Curry, 2011). Recent conceptual and empirical evidence suggests that self-compassion may be particularly well suited to addressing body dissatisfaction and disordered eating (Braun et al., 2016; Turk & Waller, 2020). This chapter will provide a narrative review of the literature on self-compassion and how it has been applied to address body dissatisfaction and will outline how a self-compassion intervention may be particularly useful for addressing adolescent body image concerns.

### **5.2 Narrative Literature Review**

#### **5.2.1 What is self-compassion?**

Self-compassion is defined as an awareness and sensitivity to one's own suffering and a desire to prevent and alleviate it (Gilbert, 2014). Neff (2003) adds that self-compassion involves being touched by and open to one's own suffering, not avoiding or disconnecting from it, and healing suffering with kindness and non-judgement. Self-compassion is viewed as both a dispositional trait and an adaptive psychological coping mechanism that can be learned, and enables individuals to self-soothe when experiencing self-critical or shame inducing thoughts (Barnard & Curry, 2011).

Self-compassion has been conceptualised in various ways. According to Neff (2003), self-compassion is composed of three interrelated components: self-kindness, mindfulness and common humanity. Self-kindness involves relating to oneself with empathy and kindness rather than criticism and judgement in times of suffering. Mindfulness involves viewing one's own suffering with a mindful, balanced perspective and not overidentifying with problems. Common humanity involves realising that suffering, failure and inadequacy are part of the human condition and that all individuals, including oneself, are deserving of compassion. Fostering these three components of self-compassion is proposed to improve wellbeing (Neff, 2003; Neff & Germer, 2013).

Complimenting this view, Gilbert (2014) views self-compassion as a prosocial motivation to act in a kind, caring and altruistic manner towards oneself. According to Gilbert (2010), self-

compassion encompasses a range of attributes including a sensitivity to one's needs, care for one's own wellbeing and an ability to relate to oneself with empathy and non-judgement. Gilbert (2010) proposes that these compassionate ways of relating to oneself are underpinned by a soothing, positive affect regulation system in the brain. Gilbert (2014) proposes that we possess both self-compassionate and self-critical affect regulation systems, and that the self-compassionate system can modulate the activity of the self-critical regulatory system. Gilbert proposes that self-compassion exerts its beneficial effects on psychological wellbeing by countering self-criticism and shame, two core features of psychopathology and poor wellbeing (Gilbert & Irons, 2005; Gilbert, 2000, 2009, 2010).

### **5.2.2 How is self-compassion useful for body image?**

Self-compassion is thought to be well-suited to address body dissatisfaction because it involves reappraising critical self-evaluations about one's body, which are at the root of body dissatisfaction (Albertson, 2013). Self-criticism and shame are strongly associated with the onset, maintenance and relapse factors of body dissatisfaction and disordered eating behaviours (Goss & Allan, 2009). Fostering a more compassionate mindset may help to address shame and self-criticism and therefore may be particularly important for body dissatisfaction and its associated problematic outcomes (Albertson, 2013; Goss et al., 2010).

Furthermore, self-compassion may help negate the competitive appearance comparisons associated with body dissatisfaction and encourage comparisons to be interpreted with a more balanced, understanding, empathetic perspective (Albertson, 2013). This is important, given that appearance comparisons are considered a key mediator of the relationship between exposure to sociocultural influences and the development of body dissatisfaction (Myers & Crowther, 2009; Thompson et al., 1999). Additionally, self-compassion may help foster resilience and a capacity to deal with challenging content that individuals may encounter on social media. Research indicates that highly self-compassionate individuals are more resilient to stressors (Dupasquier et al., 2020; Zessin et al., 2015), and therefore, fostering self-compassion could help individuals manage responses to social media comparisons and content more effectively.

The sense of common humanity may enable individuals to recognise that feelings of body inadequacy are universal, and this may help minimize body shame and dissatisfaction (Albertson, 2013). Additionally, possession of a mindful perspective may enable individuals to relate to painful thoughts and emotions in a balanced way, such that they don't overidentify or fixate on negative bodily thoughts (Albertson, 2013). Furthermore, self-compassion may also foster body appreciation and acceptance by providing individuals with an alternative way to value themselves rather than focusing on the attainment of societal body ideals (Berry, Kowalski, Ferguson, & McHugh, 2010).

### 5.2.3 Why do we need compassion?

As discussed in Chapter 1, research suggests that existing evidence-based interventions are limited in their ability to effectively counter body dissatisfaction (Yager et al., 2013). Meta-analyses of stand-alone body image interventions have revealed that their ability to produce changes in body image are poor, and when changes are produced, they are small and often unreliable (Alleva, Sheeran, Webb, Martijn, & Miles, 2015; Yager et al., 2013). Furthermore, little progress has been made in countering body dissatisfaction arising from social media use. Although cognitive dissonance, cognitive behavioural and self-esteem enhancing interventions have yielded mixed success in improving general body image (Yager & O’Dea, 2008), thus far, social media literacy programmes have been trialled as a way to address body dissatisfaction on social media with limited success (McLean et al., 2016b). Social media literacy programmes aim to foster abilities to critically evaluate bodily representations on social media, so that individuals will be less likely to internalise and compare to these ideals and will subsequently experience less body dissatisfaction (Engeln–Maddox & Engeln, 2005). While one study found a social media literacy programme to be effective in producing gains in body image outcomes in adolescent girls (McLean et al., 2016b), similar gains were not observed in adolescent boys (Tamplin et al., 2018). Although, these findings are preliminary, meta-analyses from traditional media literacy interventions indicate that although these programmes were effective in increasing knowledge about the media, they didn’t substantially change body image outcomes (McLean et al., 2016a). This suggests that increasing knowledge about body ideals is not alone sufficient to address body dissatisfaction. Engeln-Maddox and Engeln (2005) argue that individuals possess good critical reasoning skills without media literacy interventions and note that individuals continue to engage in extreme comparisons and experience body dissatisfaction despite being aware that these images are largely unrealistic and manipulated. Aligning with this, high levels of social media literacy were evinced by young adults and adolescents in focus groups described in previous chapters; however, knowledge about unrealistic body ideals did not appear to change tendencies to compare to these ideals or to experience dissatisfaction following comparisons.

Consequently, it may be important to consider alternative ways to promote how individuals relate to body-related content on social media. Self-compassion could help individuals process appearance comparisons with body-related content on social media in a more self-protective way and reduce self-critical, damaging ways of engaging with themselves and their bodies when using social media (Siegel et al., 2020).

## **5.2.4 What is the evidence for self-compassion?**

### **5.2.4.1 Correlational studies**

Self-compassion has been found to positively predict many aspects of psychological wellbeing (Macbeth & Gumley, 2012; Neff, Kirkpatrick, & Rude, 2007). A growing body of research has evinced self-compassion as a protective factor for body image that can mitigate against body dissatisfaction (Braun et al., 2016). Evidence for this has emerged from correlational studies which evince direct inverse links between self-compassion and body dissatisfaction and other problematic body image related outcomes including dietary restraint, body preoccupation, obligatory exercise and disordered eating (Kelly, Vimalakanthan, & Miller, 2014; Magnus, Kowalski, & McHugh, 2010; Wasyliw, MacKinnon, & Maclellan, 2012). Individuals with dispositionally greater self-compassion and lower appearance comparison tendencies exhibit lower levels of body dissatisfaction (Homan & Tylka, 2015). Individuals with clinical eating disorders have been observed to exhibit lower levels of self-compassion and greater fears of self-compassion than non-clinical samples (Ferreira, Pinto-Gouveia, & Duarte, 2013; Kelly, Vimalakanthan, & Carter, 2014). Low self-compassion and fears of compassion have been found to be the greatest predictor of disordered eating in eating disorder patients (Kelly, Vimalakanthan, & Carter, 2014).

Correlational research also reveals that self-compassion is negatively associated with the risk factors for body dissatisfaction outlined by the Tripartite model of body image (Thompson et al. 1999) including lower body-related pressures from media, peer and familial influences (Tylka et al., 2015), and lower levels of body ideal internalisation (Tylka et al., 2015) and appearance comparison behaviours (Duarte et al., 2015; Ferreira et al., 2013). Not only is self-compassion negatively associated with the risk factors for body image, is also positively associated with protective factors for body image including body image flexibility, body appreciation, intuitive eating (Homan & Tylka, 2015; Kelly, Vimalakanthan, & Miller, 2014; Schoenefeld & Webb, 2013). Schmidt and colleagues (2019) observed that self-compassion accounted for 39% of the variance in body appreciation in college women.

### **5.2.4.2 Longitudinal studies**

The bulk of this research is cross sectional in design, which limits the inferences that can be made about the directionality of these effects (Braun et al., 2016). However, prospective and experimental studies have supported inverse links between self-compassion and body image outcomes. In diary studies of self-compassion and disordered eating, participants reported less disordered eating patterns on days when appearance-related self-compassion was elevated, which indicates that self-compassion may directly protect against negative body-related behaviours (Breines, Toole, Tu, & Chen, 2014; Kelly, Waring, & Dupasquier, 2019). In a longitudinal study, eating disorder patients who were low in self-compassion were least responsive to treatment, while those who achieved the most gains in self-compassion experienced greatest reductions in eating disorder symptomology over a 12-week period (Kelly, Carter, & Borairi, 2014). These findings are



indicative of a causal link between self-compassion and improved outcomes for body image; however, more longitudinal studies are required to corroborate this.

#### **5.2.4.3 Experimental studies**

Experimental studies have investigated whether brief self-compassion inductions or compassionate writing exercises can produce short term changes in outcome measures related to body image. Adams and Leary (2007) found that restrictive eaters who received a self-compassion induction after consuming a doughnut preload, subsequently ate less in a taste test than those who did not receive the induction. The authors posited that the self-compassion induction may have helped individuals not to feel as much shame for the dietary transgression and may have subsequently prevented them from engaging in disinhibited eating following the initial dietary lapse.

Similarly, Vimalakanthan and colleagues (2018) experimentally induced participants to adopt either a caregiving, compassionate mindset or a competitive mindset, then exposed participants to images of body ideals. They sought to investigate the effects of these inductions on body image following comparisons with body ideals. Although no main effect of condition was obtained, social comparison orientation was observed to moderate effects. Individuals high in Social Comparison Orientation (i.e. exhibiting greater tendency to compare to others) were observed to experience reductions in body dissatisfaction, dietary restraint and eating pathology following the caregiving induction, although individuals low in social comparison orientation were not. These findings suggest that individuals with strong comparative tendencies may benefit from adopting an alternative mindset in which others are viewed with compassion and empathy as opposed to a source of social competition.

Another study investigated the effects of exposure to self-compassionate messages, fitspiration images, a combination of self-compassionate and fitspiration images, and neutral images on social media (Slater et al., 2017). Slater and colleagues (2017) found that exposure to self-compassionate quotes was associated with greater body satisfaction, body appreciation, self-compassion and mood versus those who viewed neutral images. Furthermore, individuals who viewed fitspiration images experienced lower self-compassion than neutral images, while individuals who viewed a combination of fitspiration and self-compassion images experienced more positive body image outcomes versus those who just looked at fitspiration images. These findings indicate that self-compassionate messages exert a protective effect for body image on social media.

Other experimental journaling studies have compared the effects of self-compassionate versus expressive and control writing conditions on body image. Moffitt and colleagues (2018) found that a brief three minute self-compassion writing exercise was superior to self-esteem boosting or distraction writing tasks for reducing weight and appearance dissatisfaction and

increasing self-improvement motivation, following exposure body dissatisfaction inducing images of body ideals. Similarly, Seekis and colleagues (2017) observed that a 20-minute self-compassion writing condition was superior to self-esteem and control groups for increasing body appreciation following exposure to a written negative body image scenario. Stern and Engeln (2018) also found that individuals in the self-compassion writing condition experienced greater improvements in body satisfaction and positive affect than control groups (but not in outcomes related to negative body image). These findings indicate that simple, short writing tasks are sufficient to elicit self-compassion and associated benefits for body-related outcomes. These tasks also indicate that self-compassion can be effective in mitigating the negative effects associated with exposure to images of body ideals or body dissatisfaction inducing scenarios, and thus may be well suited to address exposure to body ideals on social media.

#### ***5.2.4.4 Intervention studies***

Another source of evidence in support of self-compassion comes from compassion-focused clinical interventions which find that increasing levels of self-compassion produces beneficial outcomes for psychological wellbeing. Compassion focused approaches are third-wave behavioural interventions that aim to modulate the expression or experience of emotion by fostering mindfulness, acceptance, metacognition and psychological flexibility (Hayes et al., 2011; Linardon et al., 2018). Kirby (2017) identified six empirically supported compassion-focused approaches, all of which largely draw from the same Buddhist psychology perspectives, but differ in their conceptualisations of compassion and their therapeutic approach. The two main therapeutic approaches applied to address body dissatisfaction and eating-disorder pathology include Germer and Neff's (2013) Mindful Self-Compassion (MSC), and Gilbert's (2010, 2014) Compassion Focused Therapy (CFT) (Rahimi-Ardabili et al., 2018; Steindl, Buchanan, Goss, & Allan, 2017).

#### ***5.2.4.5 Evidence***

Research has revealed that self-compassion interventions can lead to improvements in body image and eating-disordered related outcomes (Braun et al., 2016; Rahimi-Ardabili et al., 2018; Turk & Waller, 2020). In a review of the literature, Braun and colleagues (2016) identified two self-compassion training interventions with eating disorder patients (one a retrospective audit and the other a RCT of self-compassion versus cognitive behavioural therapy (CBT) versus a control group), both of which were grounded in the principles of CFT and both of which successfully improved eating disorder symptomology and psychological wellbeing in clinical eating disorder samples (Gale et al., 2014; Kelly & Carter, 2015). Another qualitative review found that CFT yielded promising results in the treatment of eating disorders and other eating concerns (Steindl, Buchanan, Goss, & Allan, 2017). Although this review mentioned only a few studies, some of which were not yet published, the overall consensus was that these studies provided support for CFT and its proposed mechanisms of action to improve body image outcomes among clinical populations and serve as an effective adjunct to existing CBT therapies. The review also

provided preliminary support for the utility of CFT to address subclinical eating and weight concerns (Steindl & Buchanan, 2016); an 8-week group intervention called “Radiance” which blended aspects of CBT and CFT and was found to yield promising initial results for body-related outcomes in a subclinical sample. This study was conducted by the authors of the review and has not yet been subjected to peer review, so the findings are speculative. Nonetheless, the review points to the potential for compassion focused approaches not only to address clinical but also sub-clinical body-related concerns.

Rahimi-Ardabili and colleagues (2018) conducted a systematic review of six self-compassion interventions in non-clinical populations and found that even brief interventions requiring low levels of involvement produced improvements in body image and dietary behaviours. Specifically, self-compassion interventions were found to improve weight loss (Mantzios & Wilson, 2014, 2015b), and nutrition behavior (Braun, Park, & Conboy, 2012) and reduce dietary inhibition (Adams & Leary, 2007) and body dissatisfaction (Albertson et al., 2015). Albertson and colleagues’ (2015) brief three-week self-compassion meditation intervention successfully yielded reductions in body dissatisfaction, body shame, appearance-based self-worth and improvements in self-compassion and body appreciation in experimental versus waitlist control group, with these changes maintained at three-month follow up; this illustrates the potential utility of self-compassion in improving body image outcomes, at least among adult women. One study found that a self-compassion and mindfulness programme produced greater short-term weight-loss than a mindfulness programme on its own, indicating that self-compassion provided an additional component that facilitated change (Mantzios & Wilson, 2015b).

However, Rahimi-Ardabili and colleagues (2018) noted that the quality of the studies was poor and that most studies suffered from methodological limitations including inadequate control groups, lack of validated measures, high attrition rates in both intervention and follow up phases and lack of long term follow ups. Furthermore, studies employed different study designs, intervention components, target populations and durations, making it difficult to compare or generalise results. Additionally, three of the six interventions were conducted by the same research team, which again limits the generalisability of findings. Problematically most studies were not guided by any theoretical framework which limits the inferences that can be made about the mechanisms underpinning change. Additionally, most included studies failed to relate changes in self-compassion to changes in outcome measures, while other studies included additional components such as mindfulness, yoga and psychoeducational pieces which makes it difficult to isolate the effects of self-compassion on outcomes (Rahimi-Ardabili et al., 2018). Furthermore, included studies mostly focused on weight loss with only one addressing body dissatisfaction specifically (e.g. Albertson et al. 2015). Therefore, while this review points to potentially beneficial effects of compassion training for body-related outcomes in non-clinical samples, further research is required to investigate this.

More recently, Turk and Waller's (2020) systematic review and meta-analysis of 59 effect sizes found that higher levels of self-compassion were robustly associated with reduced eating pathology, lower body image concerns and more positive body image. The magnitude of these associations ranged from medium to large ( $r = -0.34$ ,  $r = -0.45$ ,  $r = 0.52$ , respectively); however, there was a large degree of heterogeneity in effect sizes. Self-compassion interventions were also effective in reducing eating pathology and body image concerns versus controls, with medium effect sizes ( $g = 0.58$ ,  $g = 0.39$ ). In analyses of self-compassion interventions for body image concerns, 13 studies were included, 7 of which had active controls, 6 of which had wait-list controls and the overall effect size was moderate  $g = 0.39$  (95% CI = 0.22 to 0.55); however, when missing studies were adjusted for the effect size reduced to 0.29 (95% CI = 0.12 to 0.46) indicating a small effect size for improving body image. These findings led Turk and Waller (2020) to assert that there is a robust, causal relationship between self-compassion and body image variables. Furthermore, Turk and Waller (2020) state that self-compassion interventions are useful for improving body image and addressing emotionally driven aspects of body-related behaviour, and are considered a robust approach because they are not influenced strongly by moderators or demographics. Similar limitations of the literature outlined by previous meta-analyses were also identified in this study including the poor quality in study design, lack of information on mechanisms of change, lack of studies on men, heterogeneous outcome measures – nonetheless these findings provide comprehensive support for the effectiveness of self-compassion interventions to address body image concerns.

### **5.3 Gaps in the literature and directions for future research.**

Although preliminary evidence suggests that high levels of self-compassion are associated with greater outcomes for body image, and that self-compassion training can lead to improvements in body-related outcomes, there are a number of gaps within the literature; notably the dearth of research with males and adolescents.

#### **5.3.1 Absence of studies on men**

Correlational studies investigating the effects of self-compassion on body-related outcomes in adults have almost exclusively been conducted with women (Braun et al., 2016; Rahimi-Ardabili et al., 2018). In the few studies that did contain men, the proportion of men was very small and no gender analyses were conducted on outcome measures (Braun et al., 2016). While self-compassion is associated with beneficial outcomes for general psychological wellbeing in men (Macbeth & Gumley, 2012), little is known about how self-compassion influences male body image (Braun et al., 2016). Mixed findings have been obtained in relation to gender differences in dispositional self-compassion (Barnard & Curry, 2011), with some studies indicating that women experience slightly lower levels of self-compassion than men (Neff & Vonk, 2009; Raes, 2010), while other studies find no differences in self-compassion between men and women (Neff et al., 2007; Neff,

Pisitsungkagarn, & Hsieh, 2008). Little is known about whether baseline body compassion scores differ between men and women and how this might impact the delivery of compassion-focused interventions for body image.

Similarly, little is known about how men respond to self-compassion training and what effect this may have on body dissatisfaction levels. Only one of the intervention studies mentioned above included men, and this study found that self-compassion training gave rise to greater short-term weight-loss than those who did not receive self-compassion training; however, these changes were not maintained over the long term (Mantzios & Wilson, 2015a). This study did not investigate body dissatisfaction or the mechanisms that potentially gave rise to this change. Like women it might be expected that self-compassion would have similarly beneficial effects on male body image and protect against internalisation of muscular ideals and negative comparisons with these ideals but further research is required to test this.

### **5.3.2 Self-compassion and adolescents**

There is also a dearth of research that has investigated associations between self-compassion and body image in adolescents. Cultivating self-compassion in adolescents may be particularly beneficial, given that body dissatisfaction and self-criticism have been observed to peak in adolescence, while self-compassion is at its lowest (Bluth & Blanton, 2015). Older adolescent girls have been found to experience lower levels of dispositional self-compassion than younger girls, and boys at all ages (Bluth et al., 2017) and this is purportedly explained by the greater tendencies of older adolescents, especially girls to evaluate and judge themselves in critical and negative manners (Bengtsson, Söderström, & Terjestam, 2016). These evaluative processes can lead adolescents to become fixated on their perceived bodily discrepancies which can result in body dissatisfaction (Bluth et al., 2017). As evinced by adolescents in Chapter 4, self-criticism and self-judgement were very high especially among girls, and social media was identified as a key driver of these negative thoughts/feelings. Adolescents could therefore benefit from self-compassion interventions that aim to counter the highly critical self-evaluative thoughts arising from social media use (Bluth et al., 2017).

Indeed, a recent meta-analysis of correlational studies with adolescents revealed a moderately positive association between self-compassion and psychological wellbeing ( $r=.55$ ) (Marsh et al., 2017). However, research that has investigated associations between self-compassion and body image in adolescents is scarce. Only two correlational studies have investigated associations between self-compassion and body-related outcomes in adolescents. Mosewitch and colleagues (2011) observed that self-compassion was negatively associated with body shame, social physique anxiety and objectified body consciousness in adolescent female athletes. Self-compassion was also found to be a protective factor for body image in adolescent boys and girls and was inversely related to appearance comparison and perceived overweight status, and positively associated with appearance esteem (Rodgers et al., 2017). Self-compassion was found to

exert direct protective effects for body image in girls but not boys, and was found to buffer against the effects of other risk factors in boys but not girls (Rodgers et al., 2017). This suggests that gender may play a role in the mechanisms that underpin self-compassion's influence on body image outcomes; however, further research is required as this was the only study that investigated self-compassion in adolescent male body image outcomes, and the proportion of boys in this sample was low.

Similarly, only one self-compassion intervention study has been conducted with adolescents in relation to body image outcomes. Donovan et al. (2016) and Rodgers et al. (2018) developed a multicomponent compassion-based mobile app Bodimojo to improve body image in adolescents. Bodimojo contained three active components: a.) the delivery of intervention messages twice daily, b.) mood tracking software and c.) gratitude journaling. Intervention messages were delivered via audio and text, and in the form of tips, affirmations, quizzes or meditation exercises. Bodimojo content was grounded in Neff's (2003) three elements of compassion (self-kindness, common humanity, mindfulness) and included breath awareness, body scan and loving kindness meditations. Bodimojo also contained psychoeducational content related to media literacy, health and lifestyle and appearance comparison/teasing. In the randomised control trial 276 adolescents and first year college students (74% female) engaged with the Bodimojo app on a twice daily basis for a 6-week period. Improvements in self-compassion and body esteem were obtained and retained at a three month follow up; however, no improvements were observed for body image flexibility, appearance comparisons or mood at post-test or follow up. However, ascertaining the effectiveness of the app was limited by inability to track users' engagement with the app and the failure to include measures of negative body image, such as body dissatisfaction. Furthermore, as the app included multiple non-compassion focused components such as media literacy, health education, gratitude and mood journaling, it was difficult to isolate active ingredients of the programme. Therefore, it is not possible to state with certainty that it was the self-compassion aspects of the programme that gave rise to changes in body-related outcomes.

#### **5.4 Rationale and aims of present study**

In sum, the effectiveness of existing body image interventions particularly those designed to ameliorate body dissatisfaction on social media is limited (Rahimi-Ardabili et al., 2018). There is a pressing need to identify alternative ways of mitigating body dissatisfaction on social media, given the harmful associations between social media use and body image especially among adolescents (Chua & Chang, 2016; Rousseau et al., 2017). A growing body of research suggests that improving levels of self-compassion can enhance body-related outcomes by addressing the hallmarks of body dissatisfaction; self-criticism and shame (Braun et al., 2016; Kelly & Carter, 2015). Fostering self-compassion in adolescents may be particularly beneficial given the heightened levels of body-consciousness, body dissatisfaction and self-criticism they experience versus adults (Bluth et al., 2017).

However, little is known about the effectiveness of compassion-focused approaches in improving body-related outcomes in adolescents, especially boys (Rodgers et al., 2017). Only one study has investigated self-compassion training as a method of countering negative body image in adolescents, and although this study found significant improvements in body related outcomes following the intervention, this study was methodologically limited and the inferences that can be drawn about the intervention's effectiveness are uncertain (Donovan et al., 2016). However, self-compassion interventions have been found to improve outcomes in other domains of adolescent psychological wellbeing (Bluth & Blanton, 2015). Furthermore, there is a growing body of research that supports self-compassion training, particularly CFT, as a way of improving body-related outcomes in adults (Braun et al., 2016), and it is likely that similar improvements could be observed among adolescents. Self-compassion has not been extensively researched in the context of social media and body image; however, given the literature above, self-compassion could help young people to develop a greater resilience to problematic appearance-related content online and reduce body dissatisfaction (Siegel et al., 2020). In line with a core thesis aim of investigating ways of addressing body dissatisfaction, we sought to develop and evaluate a novel self-compassion intervention to improve body image outcomes arising from social media use in adolescents. The development of this compassion focused intervention is described in Chapter 6.

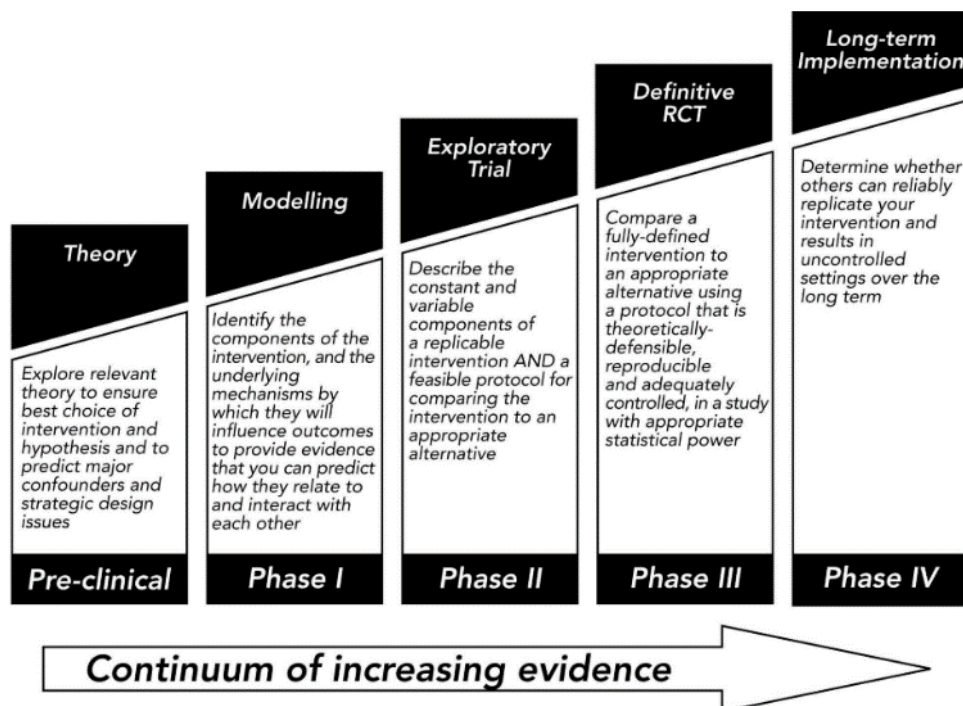
## Chapter 6. Development of a Compassionate Mind Training Intervention for Adolescent Body Image.

### 6.1. Chapter aims

This Chapter describes the systematic development of a novel Compassionate Mind Training (CMT) intervention for adolescents which was guided by the British Medical Council’s guidelines on the design and evaluation of complex interventions (see Figure 6.1 below) (Campbell et al., 2000). The previous Chapter (5), detailed “Pre-clinical phases” where relevant literature was explored to guide the development of the present intervention. This Chapter (6) describes the “Phase I/modelling phase” where the intervention components and active mechanisms are identified while the following Chapter 7 will describe “Phase II/exploratory trial” involving the evaluation of the intervention. This Chapter will describe the principles and practices underpinning CMT and how these were adapted to develop the current CMT intervention and will outline the intervention logic guiding this study.

**Figure 6. 1**

*British Medical Council’s (2000) Guidance on the Development and Evaluation of Complex Interventions.*



*Note.* This study followed these guidelines to Phase II



## 6.2 Compassionate Mind Training

The intervention was grounded in Gilbert's Compassion Focused Therapy (CFT). Compassion focused therapy (CFT) is an integrated multimodal therapy that draws on a range of psychological theories and therapeutic approaches to improve psychological wellbeing (Carona et al., 2017). The key therapeutic process underpinning CFT is called Compassionate Mind Training (CMT). CMT refers to the practice of modulating the three affect-regulation systems and activating the compassionate soothing system using mindfulness, breathing exercises and imagery. The distinction between CFT and CMT is that CFT involves the engagement of these processes in a psychotherapeutic context for a specific psychological condition with a psychotherapist, while CMT is a mind training approach designed to improve general affect regulation and psychological wellbeing in non-clinical populations. Given that the present study did not involve a clinical sample, a CMT approach was used to address adolescent body dissatisfaction on social media.

Although CMT with adolescents has not been systematically investigated (Carona et al., 2017), given the comprehensive theoretical assumptions of CMT and growing body of evidence indicating its effectiveness in improving body-related outcomes in adult samples, CMT was considered the most appropriate model to guide the development of a self-compassion intervention to counter body dissatisfaction in adolescents. CMT was chosen over MSC, because the therapeutic mechanisms are delineated clearly and embedded within broader theoretical frameworks in psychology. In contrast, the theoretical underpinnings of MSC (Germer & Neff, 2013) have not been clearly outlined in peer-reviewed literature (Kirby, 2017). CMT has also been investigated more extensively in the context of eating and body disturbance than MSC (Turk & Waller, 2020). Furthermore, CMT specifies that it attempts to counter self-criticism arising from appearance comparison behaviours in order to reduce body dissatisfaction (Goss et al., 2010). The mechanism through which CMT is proposed to work aligns well with the research questions and focus of the thesis and therefore is the most suitable approach.

CMT differs from other compassion-focused approaches, in that it draws on evolutionary and neuroscientific theories of brain structure and function to explain why people behave the way they do, with the idea that this understanding will increase self-compassion (Kirby, 2017). CMT aims to inform individuals that their emotions, motivations and behaviours are often the result of evolutionary adaptations that facilitated survival and that it is not their fault that they engage in maladaptive behaviours. This insight into functional brain processes and dissolution of self-blame is proposed to help foster compassion (Gilbert, 2013).

CMT also endeavours to enable individuals to modulate the activity of three affect-regulation systems in the brain; a threat system (which detects danger and helps us respond to it), a drive system (which enables the acquisition of resources necessary for survival) and a soothing system (which helps foster social relationships and a sense of personal contentment) (Gilbert,

2009). CMT maintains that threat and drive systems are often overactivated, while soothing systems are under-activated in humans by modern society. A goal of CMT is to enable individuals achieve balance between the three systems, by upregulating activity in the soothing system to downregulate activity in threat and drive systems (Gilbert, 2010). CMT uses a range of practices to activate the soothing system including soothing-rhythmic breathing, mindful attention, compassionate/safe place imagery, compassionate colour imagery.

CMT's ultimate goal is to encourage individuals to cultivate a compassionate mindset/compassionate self, whereby all thoughts, behaviours, actions are governed by a compassionate way of relating to oneself (Gilbert, 2014). To facilitate this, CMT aims to help individuals replace self-critical self-talk with self-compassionate self-talk, to model compassionate attributes and adapt these themselves, to imagine receiving and giving compassion and to behave compassionately towards oneself (Gilbert, 2010, 2014). CMT achieves these goals using a blend of psychoeducation, mindfulness and reflective practices.

CMT has been specifically adapted to address eating disorders in an approach called CFT-E (Goss et al., 2010). CFT-E proposes that eating disorder behaviours serve a functional role in modulating the activity of affect-regulation systems. Overactivation of the threat and drive systems is thought to encourage maladaptive eating responses to manage difficult, self-critical and self-shaming thoughts and feelings. CFT-E aims to mitigate self-criticism and shame by increasing activity of the compassionate soothing system. CFT-E also aims to increase self-compassion by highlighting the biological limitations of body-change. CFT-E describes the set-point theory (Bennett & Gurin, 1982), and how human bodies evolved for energy conservation and weight gain in an evolutionary environment where food was scarce. CFT-E emphasises that relationships with food are not the fault of the individual, but rather the result of this evolutionary programming and emphasises the importance of normalised eating to nourish and fuel the body appropriately.

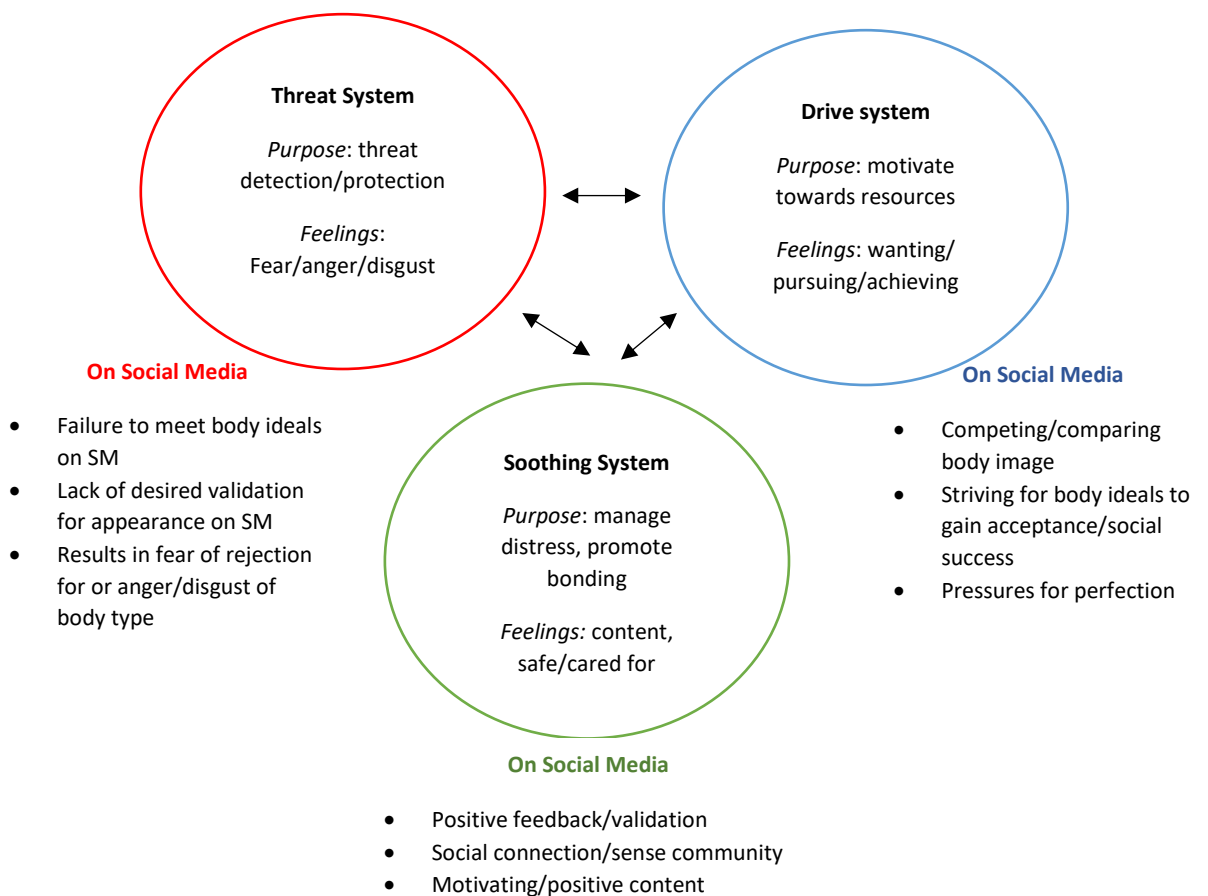
CMT has a clear therapeutic rationale that a.) identifies causes of psychological distress (as arising from imbalances in affect regulation systems) and b.) supplies ways of addressing the issue (through engaging in practices to restore balance to these systems). These two processes will now be discussed in more detail.

### 6.2.1 Therapeutic rationale: Psychoeducation providing insight into the causes of body dissatisfaction

A considerable focus of CMT is the delivery of psychoeducation to explain the evolutionary purpose and function of three affect-regulation systems, which influence how shame, self-criticism and by extension body dissatisfaction manifest. CMT emphasises that a person’s thoughts, feelings and behaviours are largely governed by these affect-regulation systems, whose evolutionary function was to facilitate survival. CMT acknowledges these responses may be less adaptive in modern society, but stresses that it is not one’s fault that they respond in this way because they are evolutionary wired to do so. Helping individuals to develop an understanding of these systems is proposed to promote affect regulation and psychological wellbeing. The three affect motivation systems include Threat, Drive and Soothing (see Figure 6.2)

**Figure 6. 2.**

*The Three System Affect-Regulation Model*



*Note.* Adapted from Gilbert, P. (2009) *The Compassionate Mind: A new approach to life’s challenges*, London, Constable & Robinson. Included are examples of how these systems may operate in the social media environment. SM= social media.

### **6.2.3.1 Threat**

The threat system functions to identify threats and motivate responses to protect against these threats. The threat system activates the sympathetic nervous system and releases serotonin and cortisol to facilitate autonomic fight/flight/freeze responses and the expression of rapidly activated emotions (including anxiety, disgust, and anger) and defensive behaviours (including fight/flight, avoidance and submissiveness) (Depue & Morrone-Strupinsky, 2005; LeDoux, 2003). The threat system is considered crucial for survival and has been observed to sensitise individuals to perceive non-existent threats rather than miss potential threats, which explains human tendencies to focus on negatives. In modern society, the threat system is typically activated by social threats to self, such as loss of reputation, exclusion or rejection by others.

In relation to body image on social media, threat responses may be elicited by beliefs that failure to prescribe to societal body ideals could result in the rejection of one's body by others, thereby inducing shame/body dissatisfaction (Knauss et al., 2008). Self-critical appearance comparisons with body ideals on social media may highlight perceived body flaws and elicit a threat response (Fardouly et al., 2015a). Additionally, failure to receive desired feedback on one's appearance may also constitute a threat on social media (Chua & Chang, 2016). Indeed, in Chapter 4, adolescents strove to attain ideals or avoid becoming "fat", because of fears being rejected by peers and embodying "less desirable" bodies. Adolescents also reported that the receipt of negative appearance-focused commentary or failure to receive "likes" on their posts made them feel inadequate, flawed, unpopular and rejected.

### **6.2.3.2 Drive**

The drive system is associated with activation of the dopamine reward circuitry and gives rise to emotions (such as pleasure, excitement, achievement and competition) and behaviours (such as approach and engagement). The evolutionary function of the drive system is to obtain survival resources (including food, shelter) and social resources (such as sexual partners, social status). In modern humans, the drive system is associated with success and achievement, but often in a "hedonic" sense. This is problematic as initial feelings of satisfaction are quickly replaced by desires for more satisfaction, making contentment difficult to achieve. Failure to achieve goals or ideals often results in self-criticism and shame.

The drive system may be activated by social media messages endorsing the attainment of body ideals. Individuals may strive to attain body ideals because of fundamental desires to gain acceptance and to be viewed favourably by others. Conforming with societal ideals and values is associated with increased social acceptance and "social attractiveness". In evolutionary terms, Gilbert (1997) posits that higher levels of social attractiveness are associated with greater social status and access to resources for survival and reproductive success, while damage to social status and reputation are associated with the loss of resources and feelings of distress and shame. As the

drive system is associated with acquiring resources, individuals may be motivated by the drive system to attain body ideals in order to gain social capital and the rewards associated with it.

This drive to obtain body ideals may be further fuelled by societal messages which endorse the belief that people can and should be able to control their bodies. This may encourage individuals to engage in maladaptive eating or exercise behaviours to achieve the goal of an ideal body (Laliberte et al., 2007). Failure to achieve this goal may lead individuals to be hyper-critical of their bodies and induce feelings body dissatisfaction, especially if they feel that they are personally responsible for the attainment of desired bodies (Laliberte et al., 2007). Indeed a “pressure for perfection” in relation to body image emerged as a strong theme in female adolescent focus groups. Adolescent boys also reported desires for success and achievement and to have bodies capable of performing well in sport. Overall, participants reported that social media compounded this pressure for perfection or drive for success/attainment in the domain of body image indicating that the drive system may be strongly activated in adolescents by social media.

### **6.2.3.3 Soothing**

The final system, the soothing system, is underpinned by the parasympathetic “rest and digest” nervous system and is associated with the release of endorphins and oxytocin. These systems and chemicals facilitate feelings of quiescence, contentment, safeness, wellbeing and behaviours, such as giving and receiving affection, care, nurturance, bonding and affiliation. It is within the soothing system that the capacity for self-compassion is contained. Feeling cared for, supported and nurtured can help activate this soothing system and facilitate self-compassion.

The soothing system may be activated on social media through receipt of validation, support and a sense of affiliation from online social interactions. Receiving positive feedback and gaining instructional, constructive advice/information on social media was reported to be a pleasant experience by adolescents.

CMT proposes that because of our pressurised, high pace modern society, most individuals’ threat and drive systems are hyperactive while their soothing systems are underactive. Aligning with this, adolescent girls largely indicated that social media was a source of distress and pressure that negated rather than promoted body image perceptions. However, the soothing system is thought to be able to dampen down activity in threat and drive system and achieve balance between the three systems. A core aim of CMT is to achieve balance between the three affect-regulation systems by upregulating the soothing system which downregulates threat and drive. Upregulation of the soothing system is the mechanism that allows shame, self-criticism and body dissatisfaction to be addressed and may also help reduce the body-related threats or pressures individuals may feel when using social media.

### **6.2.2 Therapeutic rationale: providing ways to address body dissatisfaction**

CMT aims to develop a range of core attributes and competencies that enable individuals to activate the soothing system and develop a compassionate self. These attributes and competencies are designed to help individuals become aware of and sensitive to their suffering/distress and alleviate/tolerate/address it. The six attributes CMT aims to foster include 1.) a motivation for self-care, 2.) a sensitivity to personal distress, 3.) sympathy and 4.) empathy, 5.) distress tolerance, and 6.) non-judgement. These are described in more detail in Table 6.1 below, as are the competencies that CMT endeavours to build which include 1.) compassionate attention, 2.) reasoning, 3.) behaviours, 4.) feeling, 5.) imagery and 6.) sensation. CMT provides individuals with skills and tools to activate these facets of self-compassion through a variety of meditative, breathing and thought exercises which are also detailed in Table 6.1 below.

CMT also recognises that there are often misconceptions about compassion or resistance to engaging in compassionate processes (Gilbert, 2014). For example, self-compassion is often viewed as a weak, soft or fluffy option or something that is self-indulgent, selfish and self-pitying. CMT aims to address these blocks to self-compassion by emphasising that strength and courage are required to deal with difficult thoughts and emotions. It also reminds individuals that we are all the products of tricky evolved brains and that we are all deserving of giving compassion to ourselves.

The compassionate self is proposed to be fostered through this combination of psychoeducation and mind-training exercises.

**Table 6. 1**

*Description of Compassionate Competencies and Attributes that CMT Aims to Build*

Goal of CMT: To build a compassionate self						
In addition to psychoeducation this is achieved by						
1. Building compassionate competencies				➔	2. Which Foster compassionate attributes	
Competency	What	How	Why	Attribute	What	
1. Compassionate sensation <sup>1</sup>	Awareness of sensory experiences in the body. Engaging sensory experiences in ways that activate the soothing system	During mind training exercises sit in an upright, comfortable position, with a warm, gentle facial expression and a soft, friendly vocal tone. <b>Soothing breathing rhythm exercises.</b>	These sensory and breathing characteristics activate soothing/parasympathetic system	1. Motivation for self-care <sup>2</sup>	Willingness to address suffering and promote growth	
2. Compassionate attention <sup>2</sup>	Being aware to one's thoughts/feelings/sensations	Mindfulness exercises including <b>body scan meditation</b> (which involves focusing attention on particular body parts), breathing (which involves focusing attention on the breath) and <b>compassionate-self meditation</b> (where attention is focused to one's own way of relating to oneself and the world).	Attention to the present moment without judgement. Allows calm, distanced observers perspective. Allows focus attention from self-critical to self-compassionate thoughts.	2. Sensitivity to personal distress <sup>2</sup>	Ability to recognise personal suffering	
3. Compassionate Behaviours <sup>3</sup>	Acting in a prosocial, compassionate way to oneself and others	<b>Modelling exercises</b> , whereby individuals imagine a compassionate individual and adopt their compassionate attributes or their compassionate responses to difficult situations.	Recognising the behaviours that help soothe oneself when faced with distress or difficulty and engaging in acts of kindness to oneself and others	3. Distress tolerance <sup>2</sup>	Ability to sit with difficult feelings, thoughts and not deny, dissociate from them	
4. Compassionate Feelings <sup>1</sup>	Realise the importance of all emotions, including ones considered "good" (e.g. happiness, joy) and "bad" (e.g. sadness, disappointment).	<b>"Flows of compassion" exercise</b> , in which an individual imagines giving compassion to and receiving compassion from others, and then using this experience to imagine directing compassion to oneself. <b>Loving-kindness meditations</b> which involve directing compassionate affirmations (e.g. may you be happy; may you be well) towards oneself.	Ability to use feelings of self-kindness and affiliation to turn self-critical states into more self-compassionate ones.	4. Empathy <sup>6 2</sup>	Ability to understand suffering	
5. Compassionate Imagery <sup>2</sup>	Visualise soothing thoughts/experiences is proposed to be another way to activate the soothing system	<b>Compassionate imagery meditation</b> (imagining a place where individuals feel content and at ease), and <b>compassionate qualities meditation</b> (the characteristics of strength, wisdom and commitment) and <b>compassionate-self meditation</b> (imagining oneself with the qualities and characteristics of compassion)	Utilise the capacity of imagery and visualisation to stimulate neural activity of the brain and activate brain regions associated with soothing.	5. Sympathy <sup>6 2</sup>	Ability to emotionally connect with suffering	
6. Compassionate Reasoning <sup>3</sup>	"Thinking about oneself, others and the world in ways that are helpful and supportive". <sup>3</sup> realising the that negative emotions and maladaptive coping responses are often underpinned by self-protective motives, but these can exert negative effects on wellbeing attempting to achieve these protective effects	Socratic questioning to explore their self-critics; what their self-critic says, would say the critical thing to a friend or loved one; the motive/goal of the self-critic; whether the self-critic is going about things in the best way <sup>4</sup>	To help realise the damaging nature of self-criticism and recognise the value of relating to oneself in more compassionate ways.	6. Non-judgement <sup>6 2</sup>	Accepting emotional experiences without critical evaluation	

*Note.* Defines the six competencies of compassion, describes how they are developed and why they are important for compassion. These compassionate competencies then foster compassionate attributes which are also outlined and defined and constitute components of a compassionate self. Table based on 1, (Gilbert, 2010), 2 (Gilbert, 2014), 3 (Carona et al., 2017), 4 (Welford, 2016), 5 (Gilbert, 2009b), 6 (Sommers-Spijkerman et al., 2020).

### **6.3 Adaptation of CMT to the current Digital SMART programme**

The therapeutic rationale described above is applicable for adolescents; however, at present, there is no standardised CMT programme available for adolescents. The current intervention drew from the Compassionate Mind Foundation’s guidelines for CMT use with adolescents (Welford, 2019) and was modelled loosely on the “YoungMindBeKind program”, an 8-week interactive web programme designed to provide CFT exercises for youths aged 16-25 years (C. Irons, In personal communication, 19<sup>th</sup> April 2019 )<sup>9</sup>.

Like the “YoungMindBeKind programme” the current intervention contained basic psychoeducation pertaining to the evolved brain and the three affect regulation systems and their role in influencing our thoughts, feelings and behaviours. It also incorporated mindfulness/breathing exercises and practices to help individuals develop these compassionate competencies and attributes and encouraged individuals to practice them. In keeping with CMF’s guidelines (Welford, 2019), content was tailored to meet the developmental level of adolescents by simplifying the language used and including more visual, humorous and relatable content. Content was delivered in a diversity of formats including didactic teaching, role-plays, discussions, via audio/video clips and quizzes/games. The current programme was also adapted to address the specific body-related concerns of social media using relevant literature and findings from focus groups in Chapter 4.

The current programme focused on explaining how body-related issues manifest across these three affect regulation systems and how social media influences the activation of these systems. In relation to threat, we included examples of how this system can be activated by negative appearance comparisons, failure to receive desired validation and/or receipt of negative commentary on one’s body on social media (as reported in focus groups and the literature). In explaining the drive system, it was considered pertinent to refer to the pressures, adolescents reported in focus groups, to attain “perfect” bodies and lives, and to acknowledge that societal messages on social media often compound this pressure. In relation to soothing, it was acknowledged that certain content on social media may activate the soothing system and this may be beneficial. Although, it was noted that it may be difficult to activate the soothing system using social media, the key aim of this programme was to enable adolescents activate the soothing system in order to help relieve challenges/difficulties instigated by threat and drive systems on social media. Participants were informed that the function of the programme was to help them build resilience and a capacity to respond effectively to difficulties encountered on social media. The programme was therefore named Digital SMART (Social Media Adolescent Resilience Training).

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<sup>9</sup> This programme was designed for adolescents with clinical psychological disorders but has not been empirically evaluated and there are no published findings.



Participants were informed that this resilience would be built through knowledge about brain functioning and through practices that activated the soothing system.

Given that this was a social media-focused intervention, it was considered useful to extend the Gilbert's (2010) evolutionary functional explanation to explain why we can be so compelled and influenced by social media. We thought it pertinent to explain how social media platforms are purposively designed by world experts to exploit our socially evolved brains and keep us on social media as long as possible (Harris, 2016). To do this, we drew on Veissière and Stendel's (2018) *Hypernatural Monitoring* account which suggests that social media provides hyper-efficient ways of activating our deep evolutionary needs for sociality and this is what drives and maintains addictive use of social media. For example, the drive to learn and be informed of culturally relevant events facilitated optimal performance and survival in evolutionary contexts; however, because of social media's constant, unending streams of culturally relevant content, individuals may experience an overwhelming pressure remain up-to-date and compulsively use social media to avoid the distressing state of FOMO (fear of missing out). Additionally, we discussed how constant social media streams and highlight reels amplify core human urges to compare and compete with others. We also described how feedback indices and notifications provide instant validation that activate "dopaminergic" centres in the brain that are associated with reward seeking and addiction, and encourage further social media engagement (Krach et al., 2010; Steers et al., 2014). We described how individuals learn to associate the buzz/bleep of a notification with the anticipation and receipt of a social reward, and this association becomes stronger with each occurrence thereby explaining why we are often drawn to habitually engage with social media (Krach et al., 2010). We also outlined the role of algorithms which propagate attention-grabbing content to keep the user online for as long as possible (Harris, 2016). It was hoped that providing adolescents with an understand of how social media is purposefully designed to take advantage of these vulnerabilities and help them to realise that it is not their fault that they might be affected by social media, may help reduce feelings of self-blame and self-criticism for social media use.

It was also considered useful to include psychoeducation from CFT-E, which seeks to remind individuals that societal messages fail to account for the reality that body shape and size are largely determined by genetics and that there are biological limits to sustained body change (Goss et al., 2010). A brief description the set-point theory and how human bodies evolved for energy conservation and weight gain in an evolutionary environment where food was scarce was included. This explanation normalises desires for high-energy foods and difficulties in inhibiting our consumption of them, and also highlights the biological limitations of body change (Goss et al., 2010). It was thought this biological explanation could help reduce self-blame in adolescents following perceived failure to attain body ideals.

The thesis supervisor, an expert in compassion-focused approaches reviewed the programme, provided suggestions for improvement and the programme was iteratively modified

until content validity was deemed sufficient. Similar to the durations of existing compassion-focused approaches with adolescents (e.g. Bluth and colleagues' (2016) 6 week "Making friends with yourself" programme for adolescent wellbeing), the Digital SMART programme comprised of five, 40-minute sessions. Each session involved;

- a.) A didactic **psychoeducation** lecture which introduced content related to one of the course themes
- b.) A **guided practice** (imagery/mindfulness/breathing meditation) to help activate the soothing system and build mental resilience
- c.) An **interactive activity** (writing/role-play/brainstorming exercise) to consolidate lesson concepts
- d.) A **reflection prompt** (in their reflective booklets) to invite students to reflect on the lesson content and deepen their skill acquisition

Each session lasted 40 minutes (a single class period) and introduced a different theme/topic related to mind training and resilience building (See Table 6.2 below for a brief outline of the psychoeducation topics and mind training practices covered over the five weeks). During each session students were invited to reflect on taught topics and relate them to their own experiences. Students were also introduced to specific mind training activities designed to help them regulate their brain functioning and deal with unwanted effects of social media. Outside of class, students were invited to practice mind-training skills and answer short prompts in reflective journals to consolidate principles and practices encountered in class. The sessions were led by the primary researcher who was certified in CMT and its use with adolescents. The Digital SMART intervention logic, outlining problems, intervention targets, active ingredients, mechanisms of change and outcomes are outlined in Table 6.3. The full class structure and content is described in Appendix D.7.

**Table 6. 2**

*List of Psychoeducation Topics and Guided Mindfulness Practices for Each Week of the Digital SMART Programme.*

Week	Psychoeducation topic	Guided mindfulness practice
1	How Social Media Hijacks the brain and what can we do about it?	Soothing breathing rhythm
2	How to manage my inner critic on social media and activate my “soothing system”.	Body scan meditation
3	Understanding how our tricky brains work.	Safe place imagery
4	What is self-compassion and how can I develop it?	Loving-kindness meditation
5	Cultivating a compassionate self. Course review.	Qualities of compassionate-self meditation

**Table 6. 3**

*The Logic Model for the Digital SMART Programme.*

1. Problem	2. Intervention Targets	3. Intervention Ingredients	4. Mechanisms to be evaluated in the process analysis		5. Outcomes
Body Dissatisfaction arising from Social Media use in Adolescents	Self-critical evaluations arising from appearance comparisons on social media	<p><b>Program content</b></p> <p>1. Psychoeducation to improve <i>compassionate reasoning</i></p> <ol style="list-style-type: none"> <li>Understanding evolutionary function of emotions/motivations/behaviours to increase self-compassion</li> <li>Quietenning the self-critic &amp; learning how to talk to oneself more compassionately</li> <li>Learning about the three systems (threat/drive/soothing), how to regulate/balance them to facilitate greater soothing/self-compassion</li> <li>Understanding biological limits of body change to foster greater body appreciation</li> <li>Understanding how social media is designed to hijack evolved brain functions to reduce self-blame and improve self-compassion</li> <li>Addressing barriers/misconceptions of self-compassion to help individuals access it</li> </ol> <p>2. Mindfulness/breathing techniques to increase <i>compassionate attention</i> and make adaptive changes to thoughts and feelings, activate the soothing system, achieve calm/soothing</p> <ol style="list-style-type: none"> <li>Soothing/breathing rhythm to activate the "soothing" parasympathetic system and <i>compassionate sensation</i></li> <li><i>Compassionate Imagery</i> to stimulate areas of the brain associated with soothing/self-compassion</li> </ol> <p>3. Reflection booklets (and Socratic thinking) to consolidate <i>compassionate reasoning</i> and enable content to be applied to personal lives</p> <p>4. Group and dyad discussions to facilitate engagement (and build sense of common humanity)</p> <p>5. Modelling and chair work exercises, to <i>build compassionate feeling, reasoning and behaviour</i></p> <p>6. Audio/video clips of famous people talking about compassion to make the topic more relatable/engaging</p>	<p><b>Engagement with the intervention</b></p> <ol style="list-style-type: none"> <li>Comprehension of course content</li> <li>Engagement with course materials and exercises</li> <li>Practice of mindfulness/breathing exercises</li> <li>Completion of reflection booklets</li> </ol>	<p><b>Behaviour change</b></p> <ol style="list-style-type: none"> <li>Self-compassionate rather than self-critical self-talk</li> <li>Increased awareness social media influence on body image</li> <li>Self-soothe using mindfulness techniques</li> </ol> <p><b>Compassionate attributes</b></p> <ol style="list-style-type: none"> <li>Motivation for self-care</li> <li>Sensitivity to personal distress</li> <li>Sympathy</li> <li>Empathy</li> <li>Non-judgement</li> <li>Distress tolerance</li> </ol>	<p><b>Primary Outcomes</b></p> <p>Body (dis)satisfaction Body appreciation Self-compassion Self-criticism</p> <p><b>Secondary Outcomes</b></p> <p>Appearance comparisons Body ideal internalisation</p>

*Note.* Column 1 identifies the problem the intervention seeks to address, Column 2 identifies intervention targets which are addressed to solve to problem, Column 3 identifies active intervention ingredients used, Column 4 identifies mechanisms of action to be assessed in the process evaluation and Column 5 identifies outcomes that the intervention aims to change.

The programme was delivered to adolescents aged 14-17 years because research suggests that levels of body dissatisfaction and self-criticism are at their highest (O Connell & Martin, 2012), while levels of self-compassion are at their lowest (especially in girls) in mid/late adolescence (Campo et al., 2017). This intervention was specifically targeted at adolescents in Transition Year, which is a non-academically structured year that occurs between the Junior and Senior Cycles in Irish Secondary schools. Transition Year is designed to facilitate adolescents

pursue alternative interests and self-discovery and was considered the most conducive year in the academic structure to introduce a self-compassion intervention.

Although the mechanisms through which self-compassion exerts its ameliorative effects have not been established (Turk & Waller, 2020), Braun and colleagues' (2016) literature review suggests that self-compassion may address body dissatisfaction in a number of ways including; directly reducing levels of appearance-related pressure from social media, disrupting mediational chains through which risk factors operate, and/or elevating protective factors for body image. Although we recognised that several mechanisms could operate to produce improvements in body image, we hypothesised that the intervention would increase self-compassion and reduce self-criticism, this in turn would reduce self-critical evaluations arising from appearance comparisons which would result in reduced body dissatisfaction and improved body appreciation. It was not anticipated that appearance comparison behaviours would change, but it was expected that the intervention would change how individuals responded to these comparisons which would subsequently improve body image perceptions.

The core objectives were to a.) develop a novel evidence based self-compassion intervention to foster resilience in male and female adolescent social media users, b.) evaluate the feasibility, acceptability and effectiveness of this self-compassion intervention on main outcomes of body dissatisfaction, self-criticism, self-compassion, social media appearance comparisons, body ideal internalisation and body appreciation and c.) ascertain whether any changes could be maintained at a three month follow up.

The research questions were

- 1.) Can a social media-focused self-compassion intervention reduce body dissatisfaction in adolescent boys and girls?
- 2.) How feasible and acceptable is the delivery of a self-compassion intervention for adolescents?
- 3.) Can potential reductions in body dissatisfaction be sustained at a 3 month follow up?

## **Chapter 7. Implementation and Evaluation of the Digital SMART Programme**

### **7.1 Chapter aims**

This chapter firstly describes the methods used to implement and evaluate the Digital SMART programme, then presents the results of the mixed method evaluation of this pilot study and finally discusses the findings of the study in relation to the literature reviewed in Chapter 5.

### **7.2 Methods**

#### **7.2.1 Design**

This study aimed to ascertain the effectiveness, feasibility and acceptability of a Digital SMART programme in improving main outcomes of; self-compassion, self-criticism, body dissatisfaction, body appreciation, body ideal internalisation and appearance comparisons on social media. This study applied a wait-list control design to ascertain the effectiveness of the programme. Although randomised control trials are the gold standard method of treatment evaluation, waitlist designs are considered more acceptable for evaluating schools-based interventions because of the difficulty in feasibly implementing a RCT in school settings and because withholding a potentially beneficial treatment from students is considered unethical (Jaycox et al., 2006). Class groups were allocated to either commence the course immediately, or to wait for 6 weeks to receive the course (waitlist control). Approximately half of the participants in each school were assigned to the immediate commencing class, while the other half were assigned to the waitlist control. Class groups were divided by gender to facilitate participant engagement with the programme. Research suggests that same-sex groups elicit greater participation in adolescents especially when discussing sensitive and personal issues, such as those contained within this programme (Vaughn et al., 1996).

All students (including both immediate commencers and waitlist controls) in each school completed the first pre-programme assessments at the same time (time point 1). After the 5 weeks all students completed the same questionnaires again (time point 2). This enabled us to compare scores of students who completed the course with students who had not yet completed the course (baseline). Students in the wait-list control then received the programme and after 5 weeks they completed the battery of questionnaires for a third time following completion of the programme (time point 3). All students were invited to complete the assessments 3 months after completing their programme (time point 4).

Two weeks following completion of the programme, a sample of the students in each group were invited to partake in a focus group to share their thoughts, opinions and experiences of the programme. Focus groups were conducted by an independent female researcher to facilitate an objective evaluation of the programme. As recommended by Heary and Hennessy (2002), focus groups with adolescents lasted between 30 and 45 minutes.

### 7.2.2 Participants

A G-power analysis using a small effect size Cohen's  $f = .20$  for a repeated measures ANOVA within-between interaction indicated that a total sample size of 76 was required. Although Bluth et al.'s (2016) self-compassion intervention for adolescent wellbeing yielded medium effect sizes ( $d = .49-.58$ ), a small effect size was selected because Yager et al.'s (2013) meta-analysis of schools-based interventions for body image outcomes observed small effect sizes ( $d = .22 - .48$ ). as did Rodgers et al.'s (2018) self-compassion intervention for adolescent body image outcomes ( $\eta^2 = .01-.04$ ). Allowing for a 35% attrition rate, (a slightly more conservative attrition rate than the average rate of 30% as indicated by Rahimi and colleagues' (2018) systematic review of compassion interventions for body-focused issues in non-clinical samples), this study aimed to recruit 100 participants, with approximately 50 participants assigned to the intervention and 50 to the waitlist group.

This study recruited from four mixed gender Irish Secondary Schools who agreed to host the study. Mixed gender schools were selected to try control for potential influences of gendered school culture on participant responses to the programme. Convenience sampling was used to recruit schools; the schools were selected because the primary researcher had contacts within schools who were enthusiastic about having a programme that enabled their students build resilience to challenging content on social media. One school was a small, private, fee-paying, urban school<sup>10</sup>; another was a small, Gaelscoil (Irish speaking), secondary school in an urban area; a third was a large, community, Deis school in an urban area and the fourth was a medium size, community school in a rural area.

Participant recruitment strategies differed across schools. In two schools, the opportunity to participate in the programme was offered to the whole year group, while in the two other schools participation was only offered to a proportion of students who were available to partake in classes.

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<sup>10</sup> The Irish education system offers several different types of schools to provide second-level education. Voluntary secondary schools are under the trusteeship of religious orders or boards of governors and offer an academically focused education. Community colleges are managed by a board of management and offer both academic and practical/vocational educational focuses. The state covers most (approx. 90%) of the cost of secondary and community schools. Private schools are fee paying schools that operate outside the state sector. Gaelscoils are Irish language speaking schools. Deis schools are schools that receive additional governmental supports because they contain high concentrations of students from socioeconomically disadvantaged backgrounds.

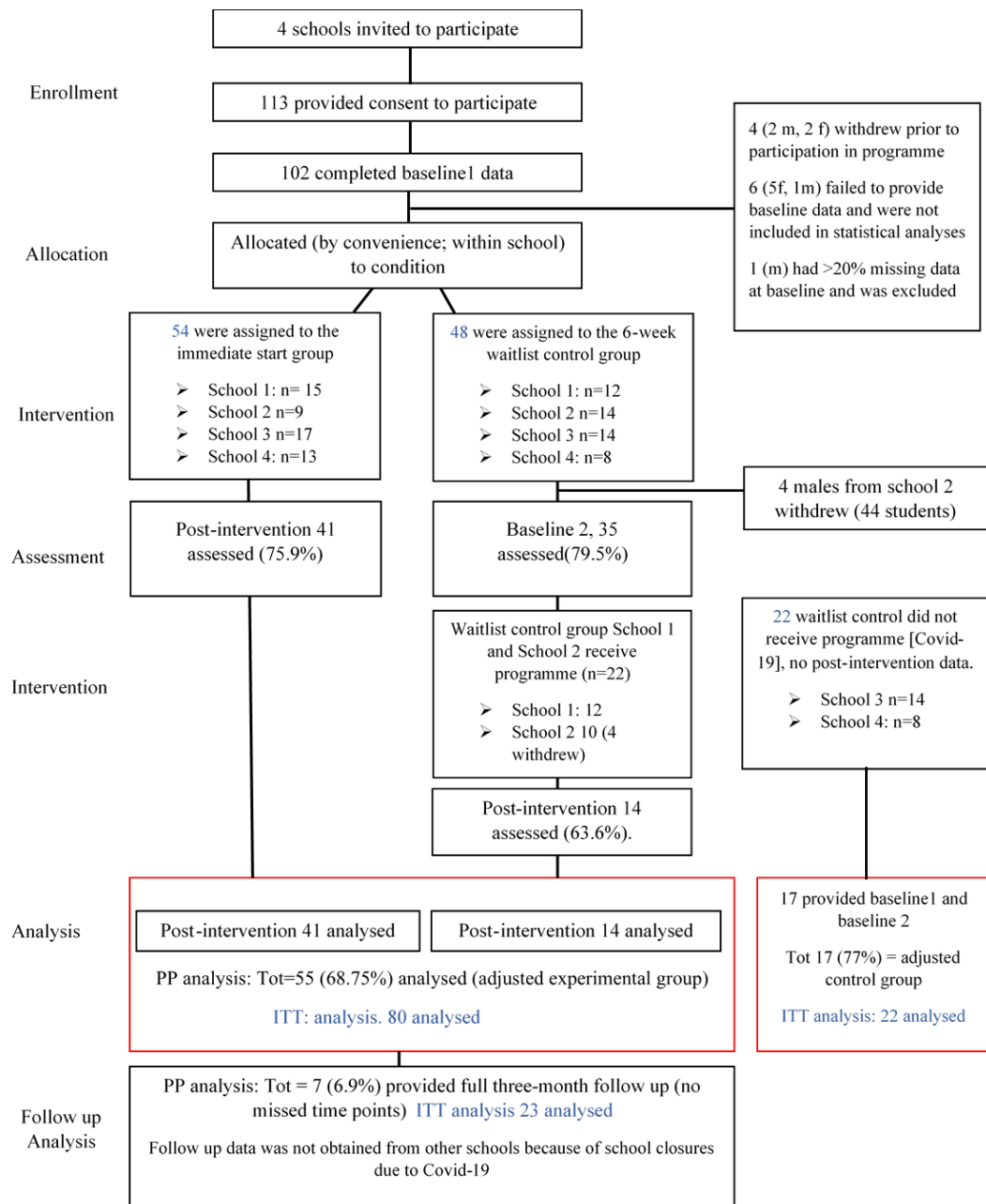
Some students were on work experience rotations (a core component of the TY programme) which precluded them from participation in the programme. In one school, the class timetable rotated such that one half of the year completed social physical health education classes (SPHE) in the first semester of school, while the other half did it in the second semester. As SPHE was the timeslot allocated for the Digital SMART programme – which was offered only for one semester - it was not possible to offer the programme to all students. Because of the differences in recruitment strategies and the proportions of students to which the programme was offered, it is difficult to ascertain precise recruitment rates.

The study involved 102 adolescents 54 girls (52.94%) and 48 boys (47.06%), aged 15-17 years ( $M=15.6$ ,  $SD=.46$ ), 97% of whom were White/Caucasian, 1% Black/African, 1% Asian and 1% Hispanic/Latino. The programme was delivered in full to six class groups, four containing girls only and two containing boys only (see Figure 7.1 for full outline) and six focus groups with a sample of participants from each of these groups were also conducted. A further two male groups completed baseline measures but did not receive the programme due to the closure of schools due to the outbreak of the Covid-19 pandemic.



**Figure 7. 1**

*Flowchart depicting participant recruitment, allocation, intervention, assessment and analysis for Digital SMART Programme*



*Note.* Highlighted in red are the adjusted experimental and control groups that were created because of data loss due to Covid-19. Flowchart depicts both Per Protocol analyses (PP) and Intention to Treat analyses (ITT) [highlighted in blue] which are described below in the data analysis section. Note m=male, f= female.

### 7.2.3 Materials

*Demographics*; Participants were asked to report their age, gender, ethnicity and school attended. They were also asked to indicate the social media platform they used the most, and the frequency with which they used social media on average (ranging from, 3+ hours, 2-3 hours, 1-2 hours, 1 hour or less, no time at all).

*Self-compassion scale – Short Form (SCS- SF)*(Raes et al., 2011) is a modified version of Self-Compassion Scale (SCS; Neff, 2003) that contains 12 items (instead of the original 26) and measures trait self-compassion using five-point scales ranging from 1 (almost never) to 5 (almost always). The SCS-SF assesses 6 components of self-compassion: Self-Kindness, Self-Judgment, Common Humanity, Isolation, Mindfulness, and Over-Identification and has been found to demonstrated adequate internal consistency (Cronbach's  $\alpha \geq 0.86$  in all samples) and a near-perfect correlation with the long form SCS ( $r \geq 0.97$  all samples). CFA on the SCS-SF supported the same six-factor structure as found in the long form, as well as a single higher-order factor of self-compassion (Raes et al., 2011). Almost all of the systematic reviews that have evaluated the ability of compassion-focused interventions to improve psychological wellbeing have highlighted the failure of studies, to evaluate whether improvements in outcome variables relate to improvements in self-compassion. It is, therefore, uncertain whether self-compassion is the factor that mediates between the intervention and changes in outcome variables. This study addressed this issue by administering the Self-Compassion Scale Short-Form, pre and post intervention to evaluate whether self-compassion relates to potential changes in body-related outcomes.

*The Appearance Evaluation subscale of the Multidimensional Body Self Relations Questionnaire (AE-MBSRQ)* was used to assess body dissatisfaction levels. The AE subscale contains seven items and has obtained Cronbach's alpha level of  $\alpha = .88$  for both males and females (Cash et al., 1985, 1986). Test-retest reliability has been found to range from  $r = 0.81$  to  $0.91$  for the appearance evaluation subscale (Cash et al., 1985, 1986). The expected convergent and discriminant validity of MBSRQ subscales with other body-related measures has received extensive support, as has construct validity of the MBSRQ with other scales and biopsychosocial variables (Cash, 2015). Two items (item 5, "My body is sexually appealing" and item 30 "I like the way I look without my clothes on") were omitted because they contained sexually explicit content in the items and were not considered appropriate for use with adolescents.

*Sociocultural Attitudes Towards Appearance Questionnaire 4 (SATAQ-4-R)* (Schaefer et al. 2017) is a 22-item scale that uses 5-point Likert scales to assess internalisation of appearance ideals relevant to women and men (i.e., thin and muscular ideals). This scale demonstrates excellent reliability with its 5 scales yielding Cronbach's alpha values ranging from ( $\alpha = .83$ - $.91$ ). The SATAQ-4 scale scores demonstrated excellent good convergent validity with measures of body image, eating disturbance, and self-esteem. Factorial validity, reliability, and convergent

validity of the SATAQ-4 was replicated in multiple international samples (Rodgers et al., 2016; Schaefer et al., 2012). To reduce participant response burden, only thin-ideal internalisation, muscular-ideal internalisation and pressures from the “media” subscales were administered. Also, the word “media” was substituted with the word “social media” to make it more relevant to the aims of the current study.

*The Body Appreciation Scale-2* (Tylka & Wood-Barcalow, 2015) is a 10-item scale designed to assess individuals’ acceptance of, favourable opinions toward, and respect for their bodies. Responses are scored on scales ranging from 1 (never) to 5 (always). This scale shows good internal consistency with Cronbach’s alpha ranging between .93 and .94 (Tylka & Wood-Barcalow, 2015). Scores also demonstrate good construct (convergent, incremental, and discriminant) validity. To reduce participant response burden, three items were selected from this scale and administered to participants (Alleva et al., 2016; Swami & Ng, 2015). These items (10. *I feel like I am beautiful even if I am different from media images of attractive people (e.g. models, actors/actresses)*, 7. *I appreciate the different and unique characteristics of my body* and 4. *I take a positive attitude towards my body*) were thought to most adequately reflect the outcomes this study sought to measure.

*The Appearance Comparisons on Social Media Scale (ACSMS)* (Mahon & Hevey, nd) is a 25-item scale that measures appearance comparison tendencies and motives for comparison on social media. This scale contains 4 factors; self-generated content comparisons, celebrity comparisons, social influencer comparisons, and peer comparisons. The ACSMS correlates positively with other measures of appearance comparisons (such as the Physical Appearance Comparison Scale 3 (Schaefer, 2017) and the Upward Appearance Comparison Scale (O’Brien et al., 2009)) demonstrating good concurrent validity. As expected, it also correlates negatively with measures of body (dis)satisfaction (the appearance-evaluation subscale of the MBSRQ) and correlates positively with body ideal internalisation (as measured by the SATAQ-4 (Schaefer, Harriger, Heinberg, Soderberg, & Thompson, 2017)). This scale also demonstrates good incremental validity in addition to strong internal consistency  $\alpha=.90$ , and two-week test-retest reliability  $r=.75$ . To reduce participant burden, it was decided to only include 12 items that recorded the most pertinent variables. These included, a.) frequency of comparisons and b.) feelings following comparisons to peer, celebrity and social influencer targets in addition to comparisons with self-generated content.

*The Forms of Self-criticising/attacking & Self-reassuring Scale Short-Form (FSCRS-SF)* (Sommers-Spijkerman et al., 2018) is a shortened version of the original 22 item scale that assesses the self-critical and self-reassuring relational styles people employ when things go wrong for them. In this 14-item scale, responses are scored on 5-point scales ranging from 0 (not at all like me) to 4 (extremely like me). Cronbach’s alpha for all three factors: inadequate self (5 items), reassured self

(5 items) and hated self (4 items) are above  $\alpha=.80$  (Sommers-Spijkerman et al., 2018). The FSCRS-SF demonstrated good fit according to CFA fit indices and adequate convergent validity with subscales observed to correlate with other relevant measures in expected ways; for example, the reassured-self subscale positively correlated with self-compassion, psychological and emotional wellbeing, while hated-self and inadequate-self subscales negatively correlated with these variables (Sommers-Spijkerman et al., 2018). Prior to responding to the items/statements, participants are prompted to think about their responses when things in life don't go well for them or when they feel they could have done better. It is suggested to participants that people can often have negative, self-critical thoughts and feelings in these situations, but that they can also be supportive of themselves in these difficult/challenging experiences. Participants are encouraged to think of how they themselves respond in these situations. As this study was concerned with evaluating how individuals respond to challenges/difficult experiences on social media, this prompt was modified to capture self-criticism and self-reassurance in response to social media content. This enabled a greater specificity in the outcome measures to be achieved. In this modified prompt, it was suggested to participants that social media can at times be a difficult space which can make them feel pressured to look a certain way or live a certain kind of lifestyle, when often this contrasts with how they truly feel. Participants were reminded that they can often experience negative or self-critical thoughts in response to challenging social media content, but that they can also try to support themselves in these situations. Participants were encouraged to think about their own responses to challenges experienced when using social media.

*Body-Satisfaction Visual Analogue Scales (VAS)* (Heinberg & Thompson, 1995), were used to assess state body satisfaction immediately before and after exposure to images of body-ideals on social media. Similar to McLean, Wertheim & Paxton (2016b), body ideal image stimuli consisted of three full length images depicting either female body ideals (one fit ideal, one curvy ideal and one thin ideal) or three images of male body ideals (three bodies with varying degrees of musculature and leanness). Female participants were exposed to female body ideals only, while males were exposed to male body ideals only. These images were selected from a pool of 20 images (10 female ideals; 10 male ideals) that were obtained by the primary researcher from open access images on the Instagram social media platform. The final 6 images (3 of female ideals; 3 of male ideals; see Appendix D.5) were selected on the basis of responses from a group of health psychology researchers ( $n=3$ ) who rated images for consistency with the sociocultural thin-female ideal, fit-female ideal, muscular-male ideal and lean/athletic-male ideal. Participants were asked to respond by indicating how much they compared to the body in the image on a 100-point slider line, where 0=not at all and 100= a lot. They were also asked to rate, right now, how satisfied they felt with their own bodies on a 100 point scale ranging from 0=not at all to 100=a lot (Richardson & Paxton, 2010). These VAS prompts have been found to yield satisfactory validity and reliability scores (Blond, 2008; Durkin & Paxton, 2002; Heinberg & Thompson, 1995). In their exposure

study McLean et al. (2016) obtained high internal consistency values (pre-exposure  $\alpha = .94$ ; post-exposure  $\alpha = .96$ ).

#### **7.2.4 Focus groups**

Given that experiential and reflective knowledge can be difficult to capture using self-report measures, we incorporated reflective focus groups to capture participants' thoughts, feelings and feedback regarding the programme (Almeida, 2017). Focus groups are useful in process evaluations of health promotion interventions because they enable participants' perceptions of the programme to be obtained and potential barriers and facilitators of programme implementation to be identified. They also allow complex behavioural and motivational responses to the programme, such as why one individual responds more favourably than another, to be explored (Mitchell & Branigan, 2000). Single gender focus groups containing five to eight participants of the same intervention group were conducted to facilitate participant's ease and comfort discussing their experiences of the programme (Heary & Hennessy, 2002; Krueger & Casey, 2014). Focus groups were conducted by an independent researcher to ensure that responses were not influenced by reporting bias or interviewer bias and that more accurate and honest reflections of the intervention were obtained (Cook, 2010). The core questions asked in these focus groups were developed in consultation with the independent researcher to ensure that the aims of the chapter were met; the questions evaluated the feasibility and acceptability of the programme by asking participants a series of questions such as: did they understand the content, did they find the programme helpful/informative, were they able to do the practices and were they able to apply these practices and principles to their daily lives? See Appendix D.8 for full questionnaire schedule. These focus groups followed the same procedural protocols outlined in Chapter 2.

#### **7.2.5 Evaluation of reflection booklets**

Leaviss and Uttley (2015) highlighted that no CFT studies included in their review included formal manipulation checks to ascertain whether compassion was understood or implemented as intended. Given that this was one of the first studies to convey CMT to adolescents, it was important to understand if adolescents could grasp the principles of CMT and engage in the practices adequately. This study assessed participants' understanding of and engagement with the content via a reflection booklet that they completed after each session (see Appendix D.6 for full reflection booklet). This booklet asked them to report the how useful they perceived each lesson to be on a scale ranging from (1= very helpful, to 5 =not at all helpful). It also asked them also to report how easy/difficult it was for them to understand the lesson (1= very easy, to 5=very difficult). It also asked them to report how they felt over the past week (1=very bad, 5= very good) and how many times they practiced the assigned self-compassion meditation over intervening week on a scale of (1=never, 5= five or more times). It also required them to

complete reflective exercises in order to consolidate learning points and exercises in class and relate them to their own experience. By qualitatively assessing the responses participants provided, it was possible to ascertain whether concepts of compassion were understood, and whether there were certain concepts of CMT that adolescents excelled or struggled to comprehend.

### **7.2.6 Field notes**

Field notes containing observational information on school characteristics and culture, class composition, class attendance, student engagement and interactions with TY coordinators were informally taken by the primary researcher to inform the process evaluation (Mulhall, 2003). Although not a primary aim or focus of the study, the importance of documenting the potential influence of contextual characteristics on programme engagement became apparent as the study progressed. Observations were not guided by a predetermined checklist and were written up in detail after the researcher had left the research site to ensure that the delivery of the programme was not influenced by them (Mulhall, 2003).

### **7.2.7 Procedure**

This study received ethical approval from the ethics committee at the School of Psychology, Trinity College Dublin (see Appendix A.4). School principals were contacted and provided with a detailed booklet which outlined programme structure, content, aims and lesson plans (See Appendix D.1). Once consent from the principal was obtained to host the study in the school, the researcher liaised with the TY coordinator to organise class schedules within the school timetable. Most schools incorporated the programme into the curriculum during the times allocated for personal and social education. Two schools provided students with the option to do a range of different classes within the time allotted for the Digital Smart programme, while two schools made other accommodations for students who did not wish to partake in the programme (e.g. they organised supervised classes for students to work on school projects).

Students in Transition Year were informed of the Digital Resilience Programme by their TY co-ordinator in school assemblies at the beginning of term and were invited to participate. Students were issued with information packs containing information sheets and consent forms and were required to return consent forms signed by their parents/guardians if they wished to partake (see Appendix D.2, D.4). In two schools, TY coordinators also contacted parents directly via school-based “teacher/parent” text messaging chains informing them about the study and inviting them to read the information sheets. A duration of two weeks was provided for parental consent forms to be distributed and returned.

Prior to study commencement, students with parental consent were informed of the programme and their participation rights in a written information sheet (see Appendix D.3) and verbally by the researcher and were invited to assent to participate prior to commencing the Digital SMART programme.

Information sheets (for principals, parents and students) outlined that students in Transition Year were invited to participate in a research-based digital resilience mind training programme (Digital SMART) - a five-session programme designed to equip students with the knowledge and psychological tools to navigate social media environments in self-protective ways. They were informed that a combination of psychoeducation, mindfulness practices and reflective exercises would be used to cultivate Digital resilience and that each session would last 40 minutes (a single class period) and would introduce a different theme/topic related to mind training and resilience building. During each session students would be invited to reflect on taught topics and relate them to their own experiences. Students would also be introduced to specific mind training activities that aimed to help them regulate their brain functioning and deal with unwanted effects of social media. Outside of class, students would be invited to practice mind-training skills and answer short prompts in reflective journals.

They were informed that as part of this research trial participants would be assigned to an intervention group or a waitlist control group, who wouldn't receive the intervention for 6 weeks. It was outlined that the study would involve the completion of questionnaires before, after and three months following the intervention and that a certificate of completion would be issued after all assessments were conducted. Participants could also opt in to partake in an optional focus group on completion of the programme to feed back their opinions/experiences of the programme. It was emphasised that participation in any activity was voluntary and students should only engage in activities to a level they felt comfortable with and that they had the right to withdraw at any point. Furthermore, the limits of confidentiality were made clear to all participants and it was outlined that if the researcher had concerns that an individual had been particularly affected by the group they would talk to the individual first and then if necessary their parent/guardian. If required, issues would then be referred to a designated contact point in the school (i.e. guidance counsellor). Other participation rights including, safe storage and use of personal data, data confidentiality and data access rights were outlined. The option to ask questions or clarify issues with the researcher was made available to parents and students. Participants were required to provide informed consent prior to participation (see Appendix D.4).

On the first day of the study, all participants (waitlist control group and immediate start group) completed a battery of questionnaires in an online format prior to commencing the programme. Participants were informed that the questionnaires would ask a series of questions relating to body image perceptions, attitudes to their body and social media use (see Appendix D.5

for full questionnaire packet). They were instructed to answer the questions truthfully and honestly and were informed that the questionnaire would take approximately 10-15 minutes to complete and that their answers were strictly anonymous and confidential.

Class groups were then allocated to either commence the course immediately, or to wait for 6 weeks to receive the course (waitlist control). As the programme was delivered separately to boys and girls, girl-only and boy-only groups were assigned to either immediate commencement or waitlist control groups. In the first two schools it was organised that the girls would commence the programme first and it was the intention that in the second two schools, the boys would be immediate commencers. However, it was not possible in the second two schools to facilitate boys as immediate commencers as girls were already enrolled in another established TY programme in the latter end of the school term and would only be able to complete the programme if they were immediate commencers. This violated our intended study design of having girls in immediate commencing groups in two schools and boys as the immediate commencers in two other schools. Resultingly, the intervention group was comprised of female participants only, while the control group contained boys only. To adjust for this modified design, gender and baseline scores were controlled for in statistical analysis (outlined in more detail in section 7.2.8). Students in the immediate start group commenced the first week of the programme in the next class period following completion of the questionnaire.

The programme was delivered by the primary researcher to TY secondary school students once a week for five weeks on the school premises during school hours. Boys and girls were taught separately. The programme was delivered as outlined in Chapter 6. In the first session, participants also received a reflective booklet with short weekly reflection exercises and meditations to practice. Participants were invited to respond to the prompts and practice the meditations in the booklet between each session in order to enhance the benefits of the programme for themselves. Participants were informed that this workbook would be retained by the researchers at the end of the programme, but that once data was collected, each participant's workbook would be labelled with a unique code such that the identity of the participants would not be apparent to observers other than the research team (see Appendix D.6).

On completion of the programme, students completed the online questionnaire again, returned their reflection booklets and were debriefed and thanked.

A subset of students from each class group were invited to share their experiences of the programme in a focus group that took place one to two weeks following the completion of the programme. Participants volunteered to take part in the focus group and if demand exceeded capacity, participants were chosen randomly to partake. Focus groups were consisted of 6-10 participants and lasted for a period of 40 minutes (the duration of a single class). An independent



female researcher conducted the focus groups and used a semi-structured interview to guide discussions. Sessions were audio recorded using an Olympus WS853 voice recorder.

To assess long term change/progress students were invited to complete the questionnaires again three months following study completion. On completion of the 3 months follow up questionnaires, participants (who completed assessments and attended 50% of lessons) were issued with a certificate of completion. On completion of the 3 month follow up questionnaires, participants were thanked and fully debriefed (see Appendix D.9).

The waitlist control group followed a similar procedure to the “immediate start” group. The only procedural difference between groups was that individuals in the wait-list control were asked to complete the questionnaires an additional time before commencing their own programme. Therefore, the waitlist control completed questionnaires at 4, instead of 3 time points (1. At whole study commencement, 2. At their programme commencement 3. Post programme completion and 4. Three month follow up).

## **7.2.8 Data Analysis Plan**

### **7.2.8.1. Reflective booklets**

Reflective booklets were analysed using content analysis as it provides a systematic and objective way to quantify and draw valid inferences about a topic from written data (Downe-Wamboldt, 1992). The content analysis aimed to characterise participants' understanding of, and engagement with the Digital SMART programme. The unit of analysis of this study was participants' written responses to both closed and open-ended questions in reflection booklets. This analysis was conducted in the context of the larger study looking at the feasibility, acceptability and effectiveness of the Digital SMART programme.

A total of 33 reflection booklets from 30 females and 3 males were analysed. Using 5-point scales, participants indicated responses to weekly question prompts which asked how they felt in the past week, how often they practiced mindfulness exercises, how easy/difficult they found the session, how helpful/unhelpful they found each session. Participants also completed open-ended responses to weekly prompts that asked them to reflect on or apply taught programme material to their own personal life/experiences.

Participant responses to reflective booklet scales and data on recruitment, retention and completion rates were analysed quantitatively to assess feasibility and acceptability of the programme. Feasibility was quantitatively determined by reviewing a.) recruitment and retention rates, b.) adherence (as assessed by % attendance and practice of meditation exercises), c.) completion rates (as assessed by % full completion of questionnaire responses and reflection booklets). Acceptability was determined by quantitatively accessing the mode Likert responses to questions of a.) helpfulness and b.) ease of understanding of programme.

Participant open-ended responses were analysed qualitatively. An inductive approach was used to analyse the manifest, or surface meaning of participant responses. Qualitative analysis was guided by the four stages of content analysis outlined by Bengtsson (2016), which include; decontextualisation, recontextualisation, categorisation and compilation. As recommended by Bengtsson (2016), these four stages were repeated several times in order to ensure credibility and trustworthiness of the analysis. In the decontextualisation process, the researcher familiarised themselves with the data by transcribing participant open-ended responses to a single document. The text was then divided into meaning units, which were condensed and assigned a code (see Table 7.1). In the recontextualization stage, codes were considered in terms of how well they reflected the original unit of analysis and aim of the study. Once satisfied that all aspects of the data were reflected by the codes, these codes were organised into to 3 categories (themes) and several subcategories (subthemes) (stage 3) which reflected the manifest meaning of the data (see Table 5,

Appendix E.4). The themes and subthemes were reviewed by a second researcher and were revised where necessary. The frequency of occurrence of these subthemes and themes were also quantified.

**Table 7. 1.**

*Example of a Division of Unit of Analysis (Full Text), into a Meaning Unit, Condensed Meaning Unit and Code*

Meaning unit	Condensed meaning unit	Code
[Instructor] explained everything very well and gave me a good understanding of how our brains work	Well explained, got a good understanding of how our brains work	Interesting/informative,

#### **7.2.8.2. Post-intervention Focus Groups**

Audio recordings of focus groups were transcribed verbatim by the independent researcher; however, the primary researcher conducted thematic analysis on data to ascertain acceptability, comprehension and impact of the programme. The same analytic procedure described in Chapter 2 was used to evaluate data and the independent researcher conducted inter-rater reliability following the same protocol outlined in Chapter 2.

**Table 7. 2.**

*Composition and Duration of Focus Groups with Adolescents in the Process Evaluation*

School	Cohort	Gender	Number of participants	Duration of focus group (mins)
1	1	Female	8	38
	2	Male	9	33
2	1	Female	10	38
	2	Male	8	35
3	1	Female	8	47
	2	Male	N/A	
4	1	Female	8	30
	2	Male	N/A	

*Note.* In school 2, 10 females indicated interest in participating in the focus groups; however, according to Krueger and Casey (2014) larger sized groups are appropriate for process evaluations. Although baseline data was only collected from 9 participants in school 2, a total of 11 girls participated in the programme. N/A =not applicable.

### **7.2.8.3 Field Notes**

Attendance sheets and the researcher's written notes and reflections were reviewed and organised under several codes which pertained to three broad themes; school culture, interactions with school liaisons, classroom dynamics. Guided by Bunce's (2014) recommendations for the creation and evaluation of field notes, brief descriptions of observations under these codes and themes were provided to provide a detailed but general sense of factors that potentially influenced responses to the programme across schools including; setting, culture, community norms, participant characteristics, relationships/hierarchies, compromises/workarounds.

## **7.2.9 Quantitative analyses data analysis plan**

### **7.2.9.1 Inclusion/exclusion**

Participants who failed to provide baseline (time 1 scores) (n=6), participants who withdrew from the study (n=4) and participants whose responses contained >20% missing data (n=1), were excluded from analyses.

### **7.2.9.2 Missing data**

Patterns of missing data were assessed and a non-significant Little's statistic indicated that data was missing completely at random (MCAR). Although listwise deletion is permissible if data is MCAR, the sample size was small and deleting missing values (which overall were small: less than 1% across participant scores) would reduce statistical power. Instead, missing values were treated with person missing substitution (proration), in which prorated scale scores were calculated by averaging the available items. Item means were relatively uniform and inter-item correlations were mostly between the ideal range of .15 and .50 indicating that the data was suitable for proration (Schafer & Graham, 2002). Responses with greater than 20% missing data were deleted listwise.

### **7.2.9.3 Intention to Treat and Per Protocol**

To evaluate treatment effects, intention to treat (ITT) was selected as the primary analysis while per protocol (PP) was conducted as a secondary "supportive" analysis (Gupta, 2011). In ITT, all participants who were randomly assigned to a condition were included in the analysis, regardless of whether they were noncompliant, deviated from the protocol or withdrew participation (Gupta, 2011). This differs from PP analysis where only a subset of participants who completed the protocol without violations were included in analyses. Exclusion of participants in PP analysis can lead to reduced sample size and biased evaluations because reasons of non-

compliance/non-adherence/dropout and their potential influence on treatment outcomes are not accounted for (Streiner & Geddes, 2001).

ITT is recommended for the evaluation of intervention trials (Moher et al., 2001), because it provides an unbiased estimate of the treatment effect, maintains sample size and statistical power, reduces type one error and more accurately reflects practical clinical situations where noncompliance and dropout are common (Heritier et al., 2003; Wertz, 1995). Although ITT is a more conservative estimate and more susceptible to Type 2 error (Hollis & Campbell, 1999), it avoids mistakenly stating that a treatment is effective when it is not (Type 1 error), making problematic overestimation of treatment effects and drawing erroneous inferences about treatment effects from a subset of participants (Wertz, 1995) – all of which are important considerations in an early stage effectiveness trial like this one. In conducting ITT analyses, missing data were imputed using the recommended “Last observation carried forward” (LOCF) technique, whereby missing data points were replaced with the last data point provided by the participant prior to withdrawal (Streiner & Geddes, 2001).

ITT has been critiqued for diluting the treatment differences because it makes both “treatment completers” and “non-completers” appear similar (D’Agostino et al., 2003). In removing “non-completers” PP can more accurately reflect treatment differences, and therefore PP analyses was considered useful to include as a secondary analysis to evaluate these potential treatment differences. Although there is debate as to what to include within PP analyses (e.g. whether all sessions were attended or whether participants engaged sufficiently with the programme or not) in the PP analyses, we analysed “complete responses,” which were participants who provided full responses at pre and post intervention (and for waitlist control baseline 1, baseline 2 and post-intervention) and separately analysed “completers” who provided full responses at pre-, post and three-month follow up. We deemed this the most reasonable approach as determining programme adherence (engagement and attendance) was difficult and subjective and could introduce a selection bias. All data analyses were evaluated with both ITT and PP protocols; however, given that ITT was the primary analysis, statistical outcomes presented in this chapter are mostly based on the ITT analysis, unless otherwise stated.

#### **7.9.2.4 Proposed versus Actual Data Analysis Plan**

Our initial study design and data analysis plan had to be adjusted in light of several contextual factors (which will be discussed below) that influenced how we conducted the study and the subsequent analyses we carried out. Both the initial and adjusted analyses plans are presented below.

We initially planned to analyse data in two phases. In the first phase we sought to evaluate changes in primary and secondary outcomes from baseline to post-intervention and post-intervention to three-month follow up in the immediate commencement group (Cohort 1). We sought to compare these results to changes in the waitlist control group (Cohort 2), which were

evaluated from baseline T1 (6 weeks prior to study commencement) to baseline T2 (scores pre-intervention commencement), from baseline (T2) to post-intervention, and post intervention to three month follow up. We sought to conduct a group (2) x time (2 or 3) mixed factorial ANOVA to analyse interactions and main effects and use Bonferroni and Tukey HSD post-hoc analyses to assess differences in groups across time points. We aimed to conduct hierarchical multiple regression to identify potential moderates (gender, school, baseline self-criticism, baseline self-compassion) in intervention effects. We also sought to conduct regression analyses to identify if mediators (self-compassion, self-criticism) predicted change in outcome variables across time. To ascertain the magnitude of difference between experimental and control groups (Cohen's *d*) we aimed to calculate the difference in pre- to post-measure means (and pre-, post and to follow-up) for each group and divide this by their pooled standard deviations.

In the second phase we sought to combine all participants who completed the intervention (Cohort 1, time 1 and 2; Cohort 2; time 2 and 3) and evaluate their responses to programme using repeated measures ANOVA. This crossed design would have the benefit of increasing sample size and statistical power and allowing changes over intervention periods to be examined. To calculate effect sizes (Cohen's *d*) we aimed to calculate the difference in pre- to post-measure means (or pre- to follow-up) and divide this by baseline standard deviation.

#### ***7.9.2.5 Adjusted data analysis plan***

However, because of premature study cessation due to the outbreak of Covid-19, we were unable to collect post-intervention scores from two waitlist-control groups, and we were unable to collect 3-month follow up data from three of the four schools. Because of this loss of data, our statistical power to detect intervention and maintenance effects was reduced. Additionally, due to timetabling constraints imposed by schools, we were not able to randomise immediate start and waitlist control groups appropriately; all immediate start groups contained girls only, while all waitlist control groups contained boys only. We recognise this is highly problematic for statistical analyses, because experimental groups (containing girls only) and waitlist control (containing boys only) are likely to be different at baseline and thus comparisons of change across these groups are not likely to be representative. Therefore, our intended analysis comparing experimental groups' baseline and post-intervention scores to control groups' baseline 1 and baseline 2 scores were not likely to yield interpretable results. We had to adjust our analysis accordingly to account for these unintended changes in study design. Given that this was an early, phase 2 exploratory, pragmatic clinical trial, such adjustments to study design are not entirely unprecedented and flexibility in data collection and analysis methods are often advised (Medical Research Council, 2000).

Our subsequent data analyses were guided by the desire to maximise statistical power and provide an accurate account of intervention effects. In the main trial, all participants who provided

baseline data were included in the ITT and missing values were imputed using the LOCF technique (for more detail on how this was conducted, see Table 7.3). However, for the three-month follow up analysis, as only one school completed the follow-up questionnaires it was not deemed reasonable to impute scores for three other schools (more than  $\frac{3}{4}$  of the data set) to ascertain long term effects. It was decided to only conduct ITT analyses on participants who provided baseline data in this one school. PP analyses were conducted on participants who provided full responses at pre- and post-intervention and separately on participants who provided full pre-, post and three-month follow up data.

We sought to maintain the two phased approach, which involved comparing treatment outcomes in the experimental versus control group on in phase one, and using a crossed design in phase two to analyse treatment response among all participants who received the intervention (including Cohort 1 and Cohort 2 (waitlist crossovers)). To facilitate a comparison between waitlist control and experimental group, we assigned participants who did not receive the intervention because of study cessation (n=22 ITT, n=17 PP) to the “new” control group. To maximise statistical power, we assigned all individuals who received treatment (i.e. completed the intervention and post-intervention measures) to an experimental group, regardless of whether they were initially assigned to experimental and waitlist control groups (n=80 ITT, n=55 PP). We compared the “new” control group’s baseline 1 and baseline 2 scores, to the baseline and post-intervention scores of this extended (maximised) experimental group (see Figure 7.2 and 7.3 below). We conducted a 2 (group: experimental, control) x 2 (time: pre-, post- intervention) mixed factorial ANOVA to determine main effects of group, time and interactions between group and time. A significant interaction of group and time ( $p < .05$ ) would indicate that participants’ scores differed from pre to post intervention (time), and these changes differed in experimental and control groups. We used Bonferroni and Tukey HSD post-hoc analyses to assess differences in groups across time points.

Grouped MANOVAs (for continuous variables) and Chi Square tests of Independence (for categorical variables) were also conducted to establish whether there were any significant differences across demographics or psychosocial variables between “completers” and “non-completers” at baseline.

In the second phase, we used the change score method to evaluate treatment effects in the experimental group only. Assessing difference in change scores is considered appropriate when individuals are not randomly assigned to a group and may differ in distributions at baseline because of naturally occurring differences (as is the case with this study) (Allison, 1990). Using the PROCESS plug-in in SPSS (Hayes, 2017) we entered condition as the independent variable, the change score (difference between post-intervention and pre-intervention) as the dependent variable and baseline score as the moderator. A significant interaction ( $p < .05$ ) would suggest that initial

scores at baseline moderated the effects of change scores at post-intervention (i.e. those who had lower scores/higher scores may benefit more or less from the intervention).

In order to account for potential differences in baseline scores between males and females that could interfere with change scores observed, we conducted several ANCOVAs that included baseline scores of outcome measures as covariates. We assessed whether there were overall statistically significant differences in post-intervention scores on outcome measures between boys and girls controlling for preintervention scores in the experimental group. Significant effects ( $p < .05$ ) would indicate that there were gender differences in the gain scores obtained by participants from the intervention (i.e. boys or girls gained more or less from the intervention). Planned contrasts were used to assess potential differences in change scores by gender.

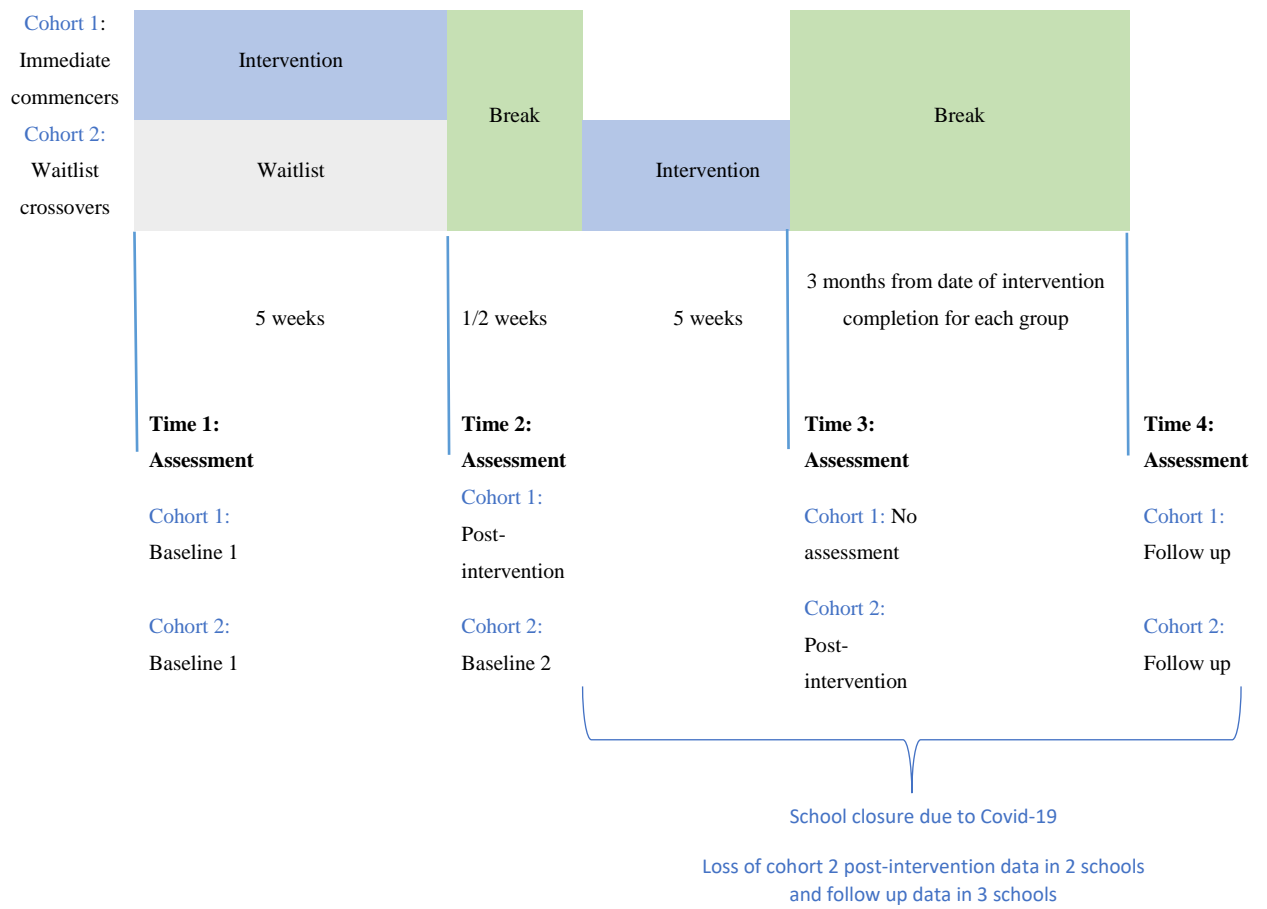
To establish long-term/maintenance effects of the programme, we conduct a repeated-measures ANOVA on participants ( $n=23$  ITT,  $n=7$  PP) who provided full pre-, post- and three-month follow up data. As three-month follow up data was only obtained from participants in one school, these were the only participants included in this analysis. Bonferroni and Tukey HSD post-hoc analyses were used to assess differences in groups across time points.

Partial eta squared ( $\eta^2p$ ) was reported as a measure of effect size for each independent variable in the mixed factorial and repeated measures ANOVAs and values of 0.01 were indicative of small, 0.06 medium and 0.14 large effect sizes in line with Cohen's (1988) recommendations. Effect size (Cohen's  $d$ ) for establishing the magnitude of pre-post change of outcome variables was calculated by subtracting the mean baseline scores from post- intervention scores and dividing them by the baseline standard deviation (Lipsey & Wilson, 2001). Morris (2007) recommends using baseline standard deviation to calculate effect size as it is not influenced by intervention effects. In addition to using Cohen's (1988) criteria of 0.2 small, 0.5 medium and 0.8 large effects, the magnitude of effect was also determined by comparing to effect sizes of similar or related studies (Durlak, 2009).



**Figure 7. 2**

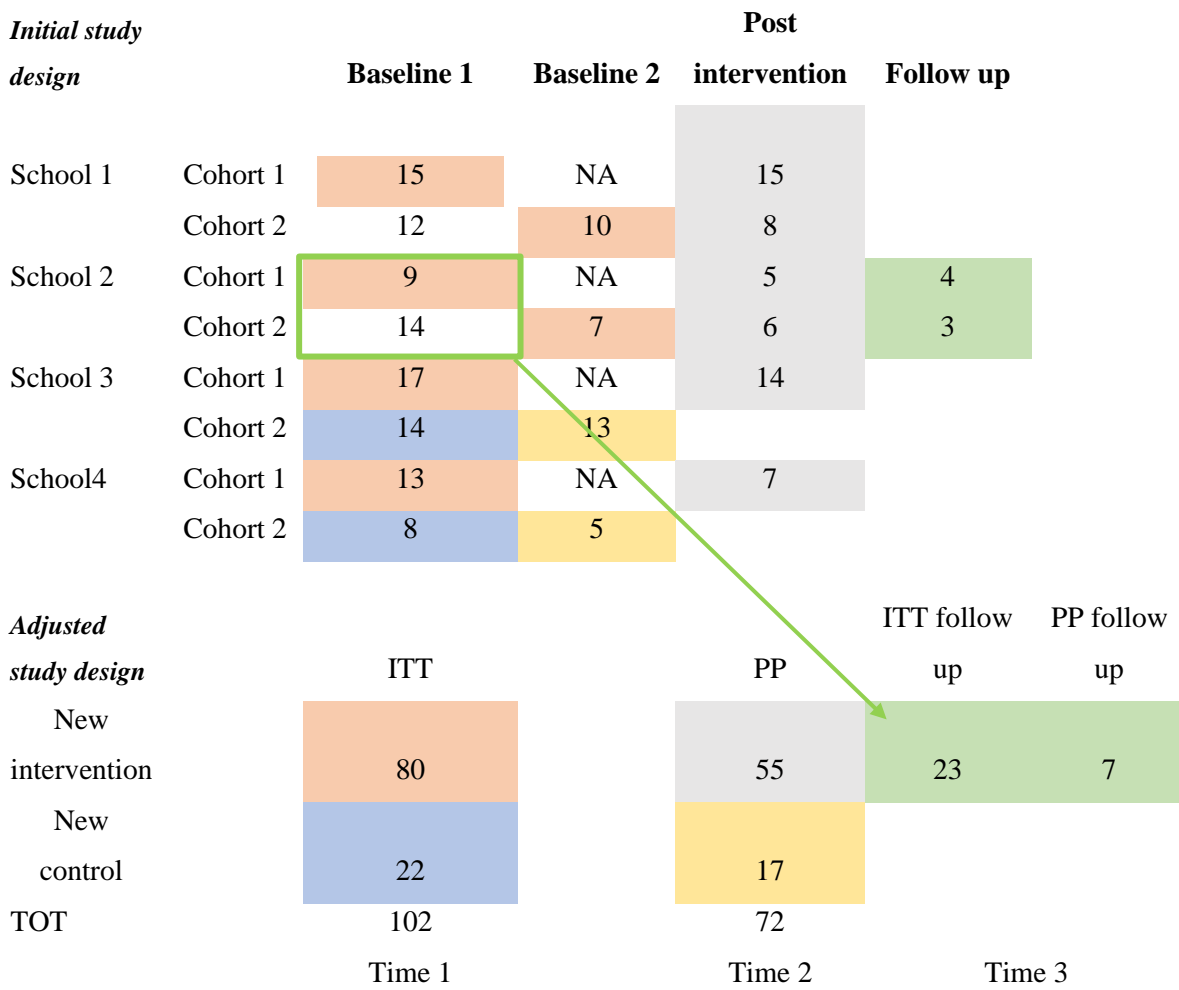
*Visual Depiction of Study Design and Timeline.*



*Note.* Study design and timeline were the same across schools; however, study commencement differed between schools, explaining the differential loss of participant data due to the premature cessation of the study due to Covid-19.

**Figure 7. 3**

*Graphical Depiction of Alterations to Study Design*



*Note:* Data is colour coded to signify where aspects of the initial study design, manifest in the adjusted study design. Exp C1 refers to experimental cohort 1.

**Table 7.3***Description of the Allocation of Participants for ITT and PP Analyses*

Adjusted analysis of the main trial				
	Description	Data used	ITT protocol	PP protocol
Experimental group	Containing all participants in cohort 1 and 2 who completed the intervention and provided baseline 1 (and/or baseline 2) and post-intervention data.	For Cohort 1, time 1 and 2 data are included. For cohort 2, time 2 and 3 data are included	In ITT, all participants who provide baseline1 data at time 1 are included. Missing responses subsequent to baseline data are substituted using last observation carried forward (LOCF). For Cohort 2, we use time 2 data as the baseline (where possible) but carry forward time 1 data if participants did not provide time 2 data.	Only participants who provide complete (full) responses at all relevant time points are included. For cohort 1, participants must provide full time 1 and time 2 data. For cohort 2, participants must provide full time 2 and time 3 data
Control group	Containing all participants in cohort 2 (waitlist controls) who completed baseline 1 and baseline 2 data, but did not receive the intervention or complete post-intervention data)	For Cohort 2, time 1 and 2 data are included	Missing responses at time 2 are substituted using LOCF.	Only participants who provide full responses at time 1 and time 2 are included
Adjusted analysis of three month follow up				
	Description	Data used	ITT protocol	PP protocol
Experimental group	Containing all participants in cohort 1 and 2 who provided baseline 1 (and/or baseline 2), post-intervention data and three month follow up	For Cohort 1, time 1, 2 and 4 data are included. For Cohort 2, time 2,3 and 4 are included.	All participants who provided baseline data in School 2 were included. School 2 was the only school to complete 3 month follow up. Missing data subsequent to baseline was replaced with LOCF. For Cohort 2, time 2 data was used as baseline where possible, but time 1 data was carried forward if	Only participants who provided full, complete responses were included. For Cohort 1, this included full responses at Times 1, 2, and 4. For Cohort 2, this included full responses at Times 2, 3 and 4.

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participants did not provide  
responses at time 2.

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*Note.* ITT = Intention to treat, PP = Per Protocol

Descriptive statistics were provided for both ITT and PP analyses and the assumptions of inferential statistics were assessed separately for both analyses. Normality was assessed by examining levels of skewness and kurtosis (both of which were expected to be within +/- 2 range), Shapiro-Wilk tests of Normality (which were expected to exceed  $p > .05$ ) and through visual examination of histograms (where an approximately normal distribution shape was expected), q-q plots (where data points were expected to fall approximately in a straight-line), and boxplots (to identify any outliers and distribution of the data). Extreme outliers (exceeding three times the interquartile range (IQR) were removed if they were observed to influence distribution of the data significantly, but otherwise outliers were retained to reflect variation in the data. According to the central limit theorem, it is still appropriate to proceed with parametric statistics even with non-normally distributed samples if the sample size is sufficiently large (greater than 40), because as sample size increases, the likelihood of drawing normally distributed samples increases. As our sample contained 102 participants it would be considered large enough to proceed with parametric analyses, despite some minor deviations from normality. Homogeneity of variance was assessed using Levene's statistic which was expected to be non-significant  $p > .05$  to indicate equal group variances.

To evaluate the reliability of psychometric measures used (and reliability of participant responses to measures used), Cronbach's alpha was calculated for participants responses to each outcome measure used at baseline. Cronbach alpha values of .6 indicate questionable (but minimally acceptable) levels of internal consistency, while values of  $\alpha = .07 - 0.8$  indicate acceptable levels, and values of 0.8 and above indicate good to excellent reliability. Cronbach's alpha was also calculated separately for girls and boys<sup>11</sup>.

Finally, a supplementary analysis was conducted to ascertain whether there were differences in participants' scores between body satisfaction ratings pre and post exposure to images of body ideals. We conducted a MANOVA with pre-exposure satisfaction scores as the

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<sup>11</sup>In focus groups conducted as part of the process evaluation for this intervention (which will be discussed below), a small number of boys reported that they randomly clicked responses to surveys when they felt bored/fed up of the survey. It was important to establish whether these "random responders" problematically influenced the veracity and reliability of responses obtained from male participants – hence the internal consistency calculations.

independent variable and three post-exposure scores to various body types as dependent variables. We conducted both combined and separate analyses for boys and girls on both pre-intervention and post-intervention scores.

### 7.3 Results

**Table 7. 4**

*Demographics Details of Participants for the Full Trial and Three Month Follow Up*

	Full trial				Three month follow up (Subset)	
	Per-protocol (N=72)		Intention to treat (n=102)		Per- protocol (n=7)	Intention to treat (n=23)
	Experiment	Control	Experiment	Control		
	al (n=55)	(n=17)	al (n=80)	(n=22)		
<u>Demographics</u>						
Gender						
Female	41 (74.5%)	/	54 (67.5%)	/	3	9 (39.1%)
		17		22		
Male	14 (25.5%)	(100%)	26 (32.5%)	(100%)	4	14 (60.9%)
Ethnicity						
		16		20		
White/Caucasian	54 (98.2%)	(94.1%)	79 (98.8%)	(90.9%)	7(100%)	23 (100%)
Black/African	1 (1.8%)	/	1 (1.3%)	/	/	/
Asian	/	1 (5.9%)	/	1 (4.5%)	/	/
Hispanic/Latino	/	/	/	1 (4.5%)	/	/
School						
School 1	23 (41.8%)	/	27 (33.8%)	/	7 (100%)	23 (100%)
School 2	11 (20%)	/	23 (28.8%)	/	/	/
		12		14		
School 3	14 (25.5%)	(70.6%)	17 (21.3%)	(63.6%)	/	/
School 4	7 (12.7%)	5 (29.4%)	13 (16.3%)	8 (36.4%)	/	/
Most used social media platform						
				12		
Snapchat	44 (80%)	5 (29.4%)	60 (75.0%)	(54.5%)	5 (71.4%)	11 (47.8%)
Instagram	8 (14.5%)	7 (41.2%)	16 (20%)	5 (22.7%)	2 (28.6%)	11 (47.8%)
Other	3 (5.5%)	5 (29.4%)	4 (5%)	5 (22.7%)	/	1 (4.3%)

Time on social media per day						
3 or more hours	30 (54.5%)	4 (23.5%)	41 (51.3%)	7 (31.8%)	/	2 (8.7%)
2-3 hours	16 (29.1%)	4 (23.5%)	21 (26.3%)	5 (22.7%)	4 (57%)	8 (34.8%)
1-2 hours	6 (10.9%)	5 (29.4%)	11 (13.8%)	6 (27.3%)	1 (14.1%)	8 (34.8%)
1 hour or less	3 (5.5%)	4 (23.5%)	6 (7.5%)	4 (18.2%)	2 (28.6%)	5 (21.7%)
No time at all	0	0	1 (1.3%)	0		
Age (Mean and SD)		15.82 (.53)		15.77 (.43)	15.57 (.53)	15.47 (.61)

### 7.3.1 Descriptive statistics

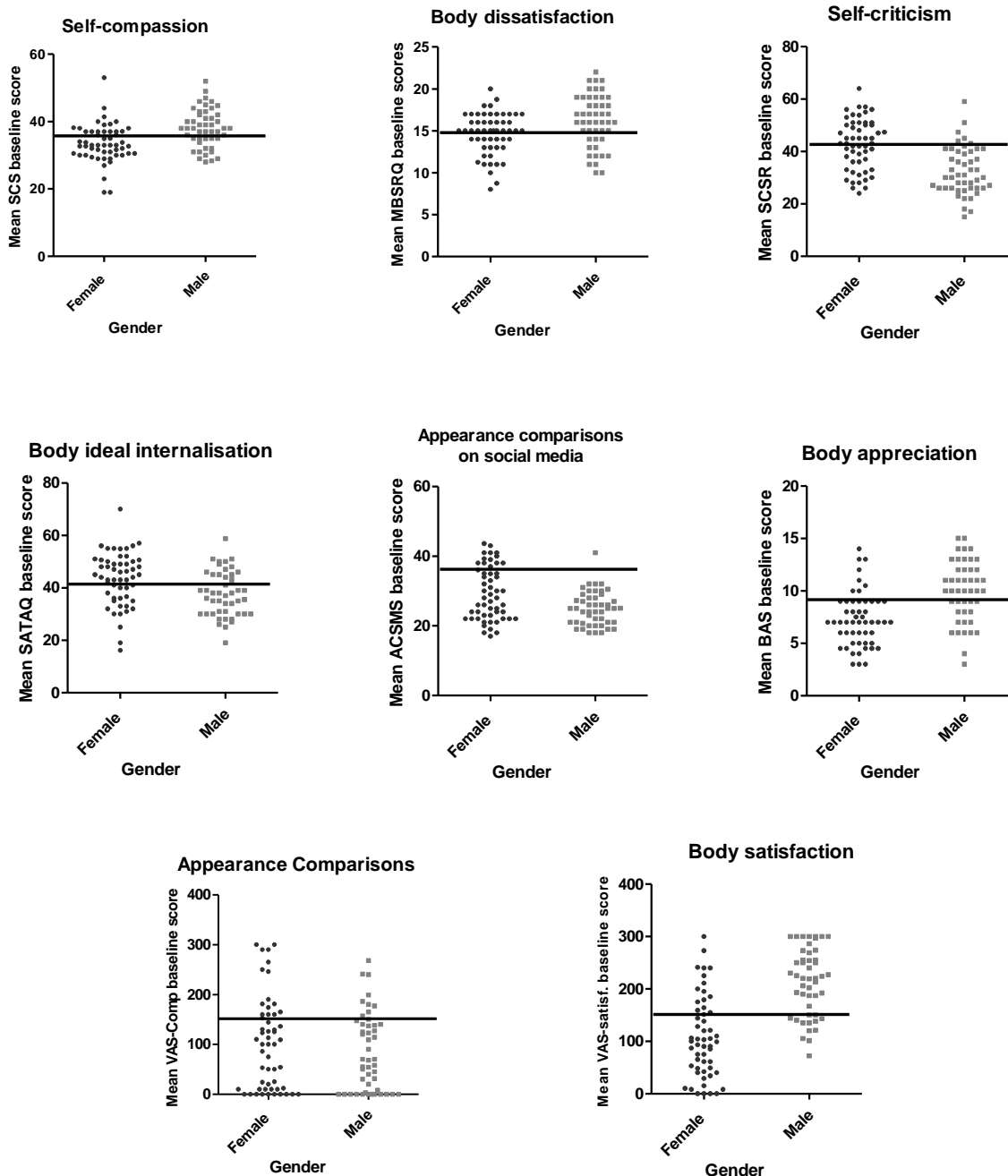
Descriptive statistics on boys' and girls' pre intervention scores for primary and secondary outcome measures are presented in Figure 7.4 below. As expected, boys scored higher than girls in self-compassion (SCS), body appreciation (BAS), body satisfaction (VAS satisfaction) and lower than females in body dissatisfaction (MBSRQ-AE), self-criticism (FSCSR), body ideal internalisation and social media appearance pressures (SATAQ-4) and appearance comparisons (ACSMS and VAS comparison) at pre and post. We can see that girls tended to exhibit larger ranges of scores across measures than boys, which suggests that there may be more variation in how girls respond to these constructs versus boys

Looking at baseline scores depicted in Figure 7.4, girls tended to score below the midpoint of scale scores on measures of body dissatisfaction, body appreciation, body satisfaction and self-compassion, indicating that they had poor body image and low self-compassion levels at baseline. Girls also mostly scored below the midpoint in both measures of appearance comparisons, which seems contradictory given the established relationship between appearance comparisons and body dissatisfaction. Girls tended to score above the midpoint in body ideal internalisation and social media pressures indicating that they endorsed body ideals at baseline.

Boys tended to score above the midpoint in measures of body dissatisfaction, body appreciation and body satisfaction indicating generally good body image. Boys also tended to score below the midpoint in self-criticism, body ideal internalisation, appearance comparisons indicating that they were less self-critical, and less invested in body image as indicated by lower levels of internalisation and appearance comparison. Boys and girls yielded almost contradictory results on body satisfaction, with boys' scores clustering around the maximum value of satisfaction and girls' scores trending towards the minimum value of satisfaction. These values suggest that girls had generally poor body image and low self-compassion at baseline and may have had room for greater improvement across these measures, while boys had good positive body and low self-criticism at baseline and may have had less room to improve across these measures.

**Figure 7. 4**

*Grouped Scatter plot of the distribution of Boys' and Girls' Baseline Scores (Irrespective of Condition)*



*Note.* Midpoint of scale score is depicted by the black line to indicate how males and females score in relation to the midpoint of the scale. Note: Higher scores on the MBSRQ- AE indicate better body satisfaction, lower scores indicate dissatisfaction.



### 7.3.2 Internal consistency

Boys exhibited lower Cronbach's alpha values than girls and their scores on self-compassion, body dissatisfaction and body appreciation were in the lower ranges of reliability; however, the remainder of their scores were in acceptable/good ranges. It did not appear that the responses provided by boys scores were uniformly unreliable and therefore this self-reported "random" responding did not appear to completely undermine results obtained.

**Table 7. 5** Internal Consistency (Cronbach's Alpha) and Mean Scores of Psychometric Scales used in Adolescent Boys and Girls at Baseline

Scale	Cronbach's alpha				Mean (SD)		
	Items	Overall	Girls	Boys	Overall	Girls	Boys
SCS	12	0.78	0.79	0.58	2.97 (.50)	2.79 (.47)	3.17 (.47)
MBSRQ-AE	5	0.75	0.74	0.65	3.07 (.58)	2.94 (.50)	3.24 (.62)
FSCSR	14	0.89	0.89	0.84	2.71 (.76)	3.05 (.69)	2.32 (.65)
SATAQ-4	14	0.82	0.86	0.80	2.91 (.69)	3.10 (.72)	2.70 (.60)
ACSMS	12	0.75	0.80	0.66	2.26 (.57)	2.44 (.64)	2.06 (.41)
BAS	3	0.78	0.82	0.68	2.85 (.98)	2.42 (.86)	3.33 (.95)
VAS					162.4		213.2
satisfaction	6	0.93	0.93	0.93	(86.11)	117.22 (76.11)	(66.50)
VAS					100.58		79.25
comparison	6	0.86	0.88	0.84	(82.7)	119.53 (98.68)	(72.46)

*Note.* SCS= Self-compassion Scale; MBSRQ-AE =Appearance Evaluation subscale of the Multidimensional Body Self Relations Questionnaire; FSCSR = Forms of Self-Criticism/Self-Reassurance Scale, SATAQ; Sociocultural Attitudes Towards Appearance Questionnaire-4; ACSMS = Appearance Comparisons on Social Media Scale; BAS= Body Appreciation Scale; VAS = Visual Analogue Scale; SD = Standard Deviation.

### 7.3.3 Completers versus Non-completers

MANOVA were conducted to investigate whether scores on related outcome variables were statistically significantly different from each other. With completer status as the IV and pairs of "self-compassion and self-criticism", "body dissatisfaction and body appreciation" "appearance comparisons and body ideal internalisation" and "visual analogue scales for satisfaction and comparison" as DVs. There were no statistically significant differences in completers and non-completers across scores of self-compassion and self-criticism  $F(2, 99)=.514, p=.60, \text{Wilks } \lambda=.99, \eta^2=.01$ , scores of body dissatisfaction and body appreciation  $F(2, 98)=1.56, p=.32, \text{Wilks } \lambda=.98, \eta^2=.02$ , visual analogue scores of satisfaction and comparison  $F(2, 99)=1.28, p=.28, \text{Wilks } \lambda=.98,$

$\eta^2=.03$ , and appearance comparison and body ideal internalisation  $F(2, 99)=.44, p=.65$ , Wilks  $\lambda=.99, \eta^2=.01$ .

There were no significant differences in completers and non-completers across ethnicity  $\chi^2(3, N=102)=3.23, p=.34$ , most used platform  $\chi^2(3, N=102)=2.22, p=.33$ , frequency of use  $\chi^2(3, N=102)=3.19, p=.53$ ,  $\chi^2(3, N=102)=3.19, p=.53$ , gender  $\chi^2(3, N=102)=1.58, p=.20$ . However, there was a significant difference in completers and non-completers across school  $\chi^2(3, N=102)=12.97, p=.005$ , such that School 1 (23 completers, 4 non completers (15%)), School 2 (11 completers, 12 non completers (52%)), School 3 (26 completers, 5 non completers (16%)) School 4 (12 completers, 9 non completers (43%)). Independent samples t-tests also revealed that there were no statistically significant differences in age  $t(100)=.42, p=.68$ .

### 7.3.4 Mixed factorial ANOVA: Intention to treat analysis

Normality tests revealed that most of the data was normally distributed across each level of the IV. However, significant values on Shapiro-Wilk tests indicated that some variables were not normally distributed across responses. Histograms and qq plots demonstrated that data was mostly normally distributed, but responses to the VAS comparison, VAS satisfaction and ACSMS were slightly positively skewed. Skewness and kurtosis values did not exceed 2 (except for the BAS in the experimental group, whose kurtosis was 2.5) indicating that the skew/kurtosis were mostly in acceptable ranges. Only one extreme outlier was identified and as this value did not substantially change the normality distribution it was retained in the analysis. Although Levene's test was significant ( $p<.05$ ) on the AE-MBSRQ, BAS and VAS satisfaction measures, all other Levene's tests were non-significant indicating homogeneity of variance. Despite some minor violations of normality ANOVA is considered a robust statistical test that can withstand such violations.

Mixed factorial ANOVAs were conducted with the intention to treat (ITT) group ( $N=102$ , control,  $n=22$ , experimental  $n=80$ ). However, there were significant main effects of condition for self-compassion  $F(1, 100)=5.496, p<.05, \eta^2p=.05$ , body dissatisfaction  $F(1, 100)=4.06, p<.05, \eta^2p=0.04$ , self-criticism  $F(1, 100)=8.01, p<.01, \eta^2p=.07$ , and body appreciation  $F(1, 100)=6.32, p<.01, \eta^2p=0.06$ . There was a significant main effect of time for body appreciation  $F(1, 100)=4.8, p<.05, \eta^2p=.05$ . There were no main significant effects of condition or time for other variables. Bonferroni corrected post hoc tests showed that, the control group scored higher than the experimental group across these measures irrespective of time. This is perhaps not surprising considering the gendered composition of the experimental group (largely containing girls) and the control group (containing boys) which are typically found to score differently on these measures.

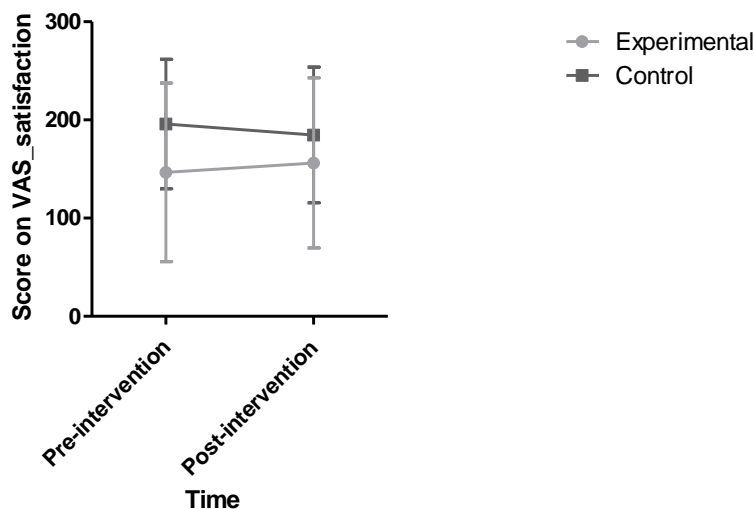
Although interactions between condition and time were mostly non-significant, the interaction between condition and time for body satisfaction verged on statistical significance  $F(1,$

100) = 3.46,  $p=.066$ ,  $\eta^2p = .03$ . Bonferroni corrected post hoc scores showed such that the mean of the control group decreased from pre-intervention ( $M=195.95$ ,  $SD=65.96$ ) to post-intervention ( $M=184.7$ ,  $SD=69.20$ ), while the means of the experimental group increased from pre-intervention ( $M=146.59$ ,  $SD = 91.06$ ) to post-intervention ( $M = 156.23$ ,  $SD=86.61$ ). Partial eta squared ( $\eta^2p$ ) values ranged from 0.0 to 0.03 on interaction terms, indicating that the effect sizes of these interactions were negligible.

These findings suggest that overall, the programme was not successful in producing significant change in outcome variables; however, the trends towards statistical significance in body satisfaction in the experimental group, suggest that the intervention may serve some benefit in improving body satisfaction.

**Figure 7. 5**

*Mean Participant Scores on Body Satisfaction in Experimental and Control Groups from Pre- to Post-Intervention in ITT Analysis.*



*Note:*  $p$  values indicate that this interaction verged on statistical significance  $p=.066$ .

### 7.3.5 Mixed factorial ANOVA Per Protocol

The data mostly met the assumptions of mixed factorial ANOVA: qq plots, histograms, skew and kurtosis values indicated that data was mostly normally distributed despite some significant Shapiro Wilk values which indicated otherwise. Overall, the data did not deviate substantially from normality and ANOVA is considered robust to withstand minor violations of

these assumptions. Although Levene's test was significant ( $p < .001$ ) on the SATAQ measure, all other Levene's tests were non-significant indicating homogeneity of variance.

Apart from body appreciation,  $F(1, 71) = 5.39, p < .05, \eta^2 p = .05$ , there were no significant main effects of time. Bonferroni corrected post-hoc tests showed that body appreciation scores increased from baseline ( $M = 8.7, SD = .44, 95\% CI = 7.8-9.6$ ) to post-intervention ( $M = 9.47, SD = .40, 95\% CI = 8.7-10.3$ ) irrespective of condition.

There were significant main effects of condition across body dissatisfaction  $F(1, 71) = 6.47, p < .05, \eta^2 p = .09$ , body appreciation  $F(1, 71) = 5.39, p < .05, \eta^2 p = .07$ , body satisfaction  $F(1, 71) = 4.25, p < .05, \eta^2 p = .06$ , self-compassion  $F(1, 71) = 8.24, p < .001, \eta^2 p = .11$  and self-criticism  $F(1, 71) = 9.56, p < .001, \eta^2 p = .12$ . Bonferroni corrected post hoc tests showed that, the control group scored higher than the experimental group across these measures irrespective of time. Main effects of condition were not significant for other variables.

There were no significant interactions between time and condition, indicating that there were no differences in outcome measures between experimental and control groups over time. This suggested that the intervention was not successful in producing changes in outcome measures in experimental groups. Partial eta squared ( $\eta^2 p$ ) values ranged from 0.0 to 0.04 on interaction terms, indicating that the effect sizes of these interactions were negligible

### 7.3.6 ANCOVA

ANCOVA was conducted to investigate whether these changes at baseline influenced participant outcome values. The data met the assumptions of ANCOVA; Levene's test was non-significant indicating homogeneity of variance. Scatterplots indicated that covariates were linearly related to the dependent variable at each level of the independent variable; indicators of normality suggested that the assumption of normality were not widely violated.

No significant interactions were observed between the covariate and independent variable indicating homogeneity of regression slopes. Post-intervention scores were entered as the dependent variable, gender was the independent variable and baseline scores were the covariate.

**Table 7. 6**

*Descriptive and Summary Statistics for Boys' and Girls' Post Intervention Responses in ANCOVA that Controlled for Baseline Scores*

	Effect of gender controlling for baseline			Boys' post intervention scores		Girls' post intervention scores		Mean diff (Male-Female)	95% Confidence Interval	
	F	Sig	$\eta^2p$	M	SD	M	SD		Lower bound	Upper Bound
<b>Body dissatisfaction</b>	<b>7.93</b>	<b>0.01</b>	<b>0.09</b>	<b>16.92</b>	<b>3.35</b>	<b>13.90</b>	<b>3.50</b>	<b>2.25</b>	<b>0.01</b>	<b>0.66</b>
Body appreciation	1.90	0.17	0.02	10.58	2.73	7.88	2.60	0.61	-0.27	1.49
<b>Body satisfaction*</b>	<b>155.53</b>	<b>0.00</b>	<b>0.67</b>	<b>237.27</b>	<b>54.55</b>	<b>117.22</b>	<b>76.12</b>	<b>25.89</b>	<b>1.47</b>	<b>50.32</b>
Self-compassion	3.52	0.06	0.04	38.30	7.18	32.56	6.63	2.13	-0.13	4.40
Self-criticism	1.49	0.23	0.02	33.82	9.12	40.84	11.20	1.97	-1.24	5.18
Body ideal internalisation	0.22	0.64	0.00	36.11	8.24	42.64	10.94	-0.71	-3.72	2.30
<b>Appearance comparisons on social media</b>	<b>0.00</b>	<b>0.95</b>	<b>0.00</b>	<b>25.00</b>	<b>6.60</b>	<b>28.78</b>	<b>7.65</b>	<b>0.08</b>	<b>-2.53</b>	<b>2.69</b>
Appearance comparisons	4.47	0.04	0.05	73.50	71.48	119.54	98.68	-35.028 <sup>*</sup>	-68.00	-2.05

*Note.* Significant effects are highlighted in bold. M= Mean; SD= Standard deviation

From Table 7.6, above we can see that there was a significant effect of gender on post-intervention scores when controlling for baseline scores for body dissatisfaction, body satisfaction and appearance comparisons on social media. Planned contrasts revealed that boys scored significantly higher on post-intervention measures of body satisfaction and body dissatisfaction (where higher scores indicate greater body satisfaction and lower scores indicate body dissatisfaction) and lower on measures of appearance comparisons versus girls. Although there was no significant effect of gender controlling for baseline scores across other variables, we can see that for self-compassion, these scores were moderately close to significance indicating that boys scored slightly higher than girls on measures of self-compassion.

### **7.3.7 Regression of Change scores Analysis using PROCESS**

Assumptions of regression were met: scatter plots indicated that there was a linear relationship between the independent and dependent variable; Variance Inflation Factors (VIF) were less than 10 indicating absence of multicollinearity; and scatterplots indicated that there was a relatively even distribution of standardised residuals versus predicted values across values of the independent variables. No significant interactions (or no interactions that approached significance) were observed across variables suggesting that initial scores at baseline did not moderate the effects of change scores at post-intervention. Regression of change scores are presented in Figure 6, Appendix F.1.

### 7.3.8 Cohen's D calculations

**Table 7.7**

*Cohen's D Effect Sizes and Accompanying 95% Confidence Intervals for Change Scores Between Pre- and Post-Intervention for the Experimental and Control Group.*

Variable	Experimental group					Control group					
	Mean (SD)	Mean (SD)	Cohen's D	Confidence Interval		Mean (SD)	Mean (SD)	Cohen's D	Confidence Interval		Diff. in effect size
	Pre-	Post-		LB	UB	Pre	Post		LB	UB	
Self-compassion	34.80 (5.85)	34.43 (7.29)	-0.10	-0.41	0.21	38.78 (5.83)	37.36 (6.56)	-0.36	-0.98	0.27	0.26
Body dissatisfaction	15.21 (2.81)	14.88 (3.71)	-0.11	-0.42	0.20	16.09 (3.15)	16.68 (2.64)	0.27	-0.32	0.87	-0.38
Body ideal internalisation	41.18 (10.16)	40.52 (10.55)	-0.11	-0.42	0.20	39.19 (7.95)	40.86 (8.83)	0.33	-0.26	0.93	-0.45
Self-criticism	39.49 (10.64)	38.56 (11.02)	-0.15	-0.46	0.16	32.18 (8.82)	32.22 (8.9)	0.01	-0.58	0.60	-0.16
Appearance comparisons on social media	27.59 (7.39)	27.55 (8.81)	-0.01	-0.32	0.30	25.56 (4.03)	26.72 (4.75)	0.39	-0.20	0.99	-0.40
Body appreciation	8.13 (3.08)	8.81 (2.9)	0.34	0.03	0.65	9.95 (2.35)	10.27 (2.02)	0.17	-0.42	0.76	0.17
Body satisfaction	146.59 (91.06)	156.24 (89.61)	0.23	-0.09	0.54	9.95 (2.35)	10.27 (2.02)	-0.19	-0.79	0.40	0.42
Appearance comparisons	96.68 (88.62)	104.56 (92.85)	0.11	-0.20	0.42	84.09 (73.72)	86.04 (74.69)	0.05	-0.55	0.64	0.06

*Note.* Pre= pre-intervention scores, Post= post intervention scores; SD =Standard deviation; LB = lower bound of confidence interval, UB= upper bound of confidence interval. Diff. = difference

As seen in Table 7.7 above, the intervention produced only very small effect sizes according to Cohen's (1988) criteria, in outcome variables from pre- to post-intervention in the experimental group. Similarly, small, but slightly larger effect sizes were observed in the control group from pre- to post- intervention, which would not be expected. Overall, this indicates that the intervention was not effective in producing large magnitudes of change from pre-to post intervention in the experimental group.

### 7.3.9 Effect of School on experimental group outcome scores

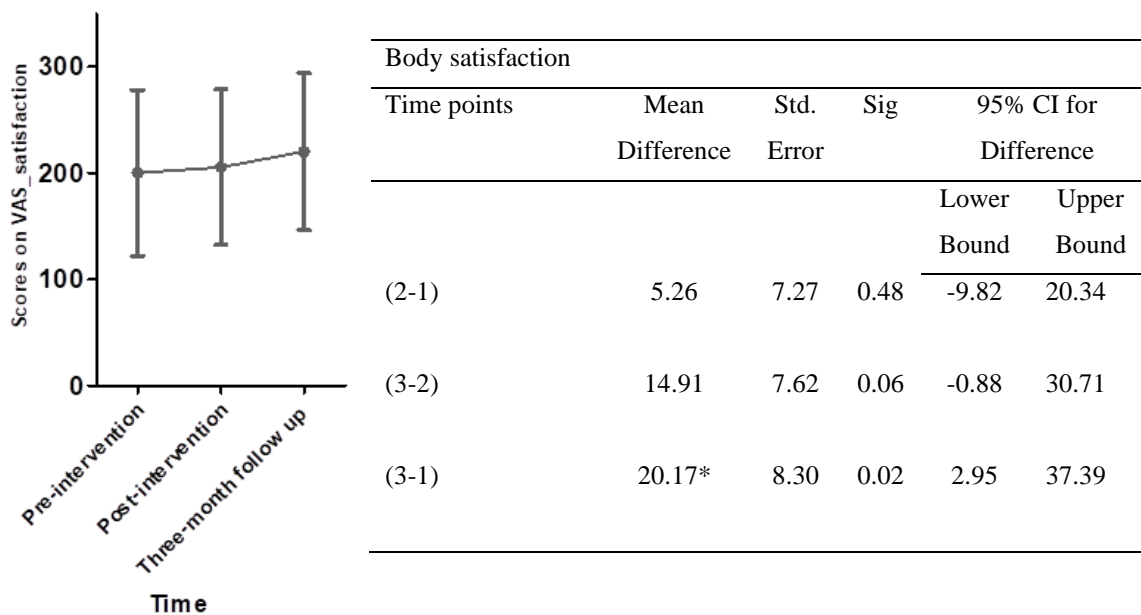
Although initial plans to conduct moderator analyses were curbed by the insufficient sample size, we sought to identify potential influence of school on outcome measures because of varied participant responses to the programme (as observed in field notes and focus groups discussed below). In Appendix F.6, mean and standard deviation scores of participants by school group and gender are graphically depicted. In Figure 9 (Appendix F.6), it appears that girls in school 2 scored the most favourably on all measures, showing generally higher levels of self-compassion, body appreciation and lower levels of self-criticism and body dissatisfaction. Girls in school 4 appeared to experience little changes from pre-post intervention and where there were changes, these were often in the opposite direction expected. Most girls demonstrated slight decreases in self-criticism and slight increases in body appreciation from pre-post intervention. In Figure 10 (Appendix F.6), boys in school 1 appeared to experience increases in self-compassion and body appreciation from pre-post intervention. Boys in school 2 scored similarly on pre and post intervention scores but did evince a small decrease in self-criticism post-intervention.

### 7.3.10 ITT Repeated measures ANOVA

Repeated measures ANOVAs were conducted with the intention to treat group (n=23: which were participants in school 2 who were the only school to have completed the three-month follow up analysis). The only significant effect across time was for body satisfaction  $F(3,20) = 3.65, p = .03, \eta^2 = .14$ .

**Figure 7. 6.**

*Mean and Standard Deviation Scores of Body Satisfaction where Significant Effects of Time were Observed across Pre -, Post- and Three Month Follow Up in ITT Analysis*



Note. VAS\_satisfaction = satisfaction visual analogue scale; Std Error = Standard Error; Sig = significance ( $p$ ) value; CI = Confidence Interval

These analyses suggest that body satisfaction increased from pre-to post intervention and that these gains continued at three-month follow up. Although body satisfaction showed an overall significant upward trend, it became significant from time 2 to time 3. As can be seen in (Figure 7 Appendix F.4) although not statistically significant, there were also trends towards increased self-compassion, body appreciation and reduced self-criticism ( $p = .08$ ), and body dissatisfaction ( $p = .078$ ) at three-month follow up. Girls appeared to experience greater changes in these variables than boys who did not exhibit change across time (see Figure 8 in Appendix F.5). Although these changes were not statistically significant, our findings do suggest that girls' scores were moving in the desired directions at follow up and perhaps boys' flatline results may have made it difficult to observe significant trends.

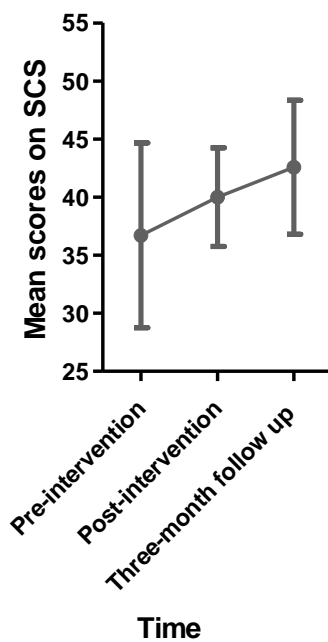


### 7.3.11 PP. Repeated measures ANOVA

Assumptions of repeated measures ANOVAs were met; Mauchly's test of Sphericity was non-significant indicating adequate sphericity for all but the FSCSR and the data were normally distributed as indicated by non-significant Shapiro-Wilk values. Repeated measures ANOVAs indicate that there were no significant effects of time across most variables; however, there was a significant effect of time for body appreciation  $F(3,4)=6.78, p=.01, \eta^2=.53$ , and a marginally significant effect of time for self-compassion  $F(3,4)=3.93, p=.05, \eta^2=.40$ . The mean difference score for both variables approached significance (or was significant) between time 1 and time 3 data.

**Figure 7. 7**

*Mean and Standard Deviation Scores of Self-Compassion where Significant Effects of Time were Observed across Pre -, Post- and Three Month Follow Up in PP Analysis*

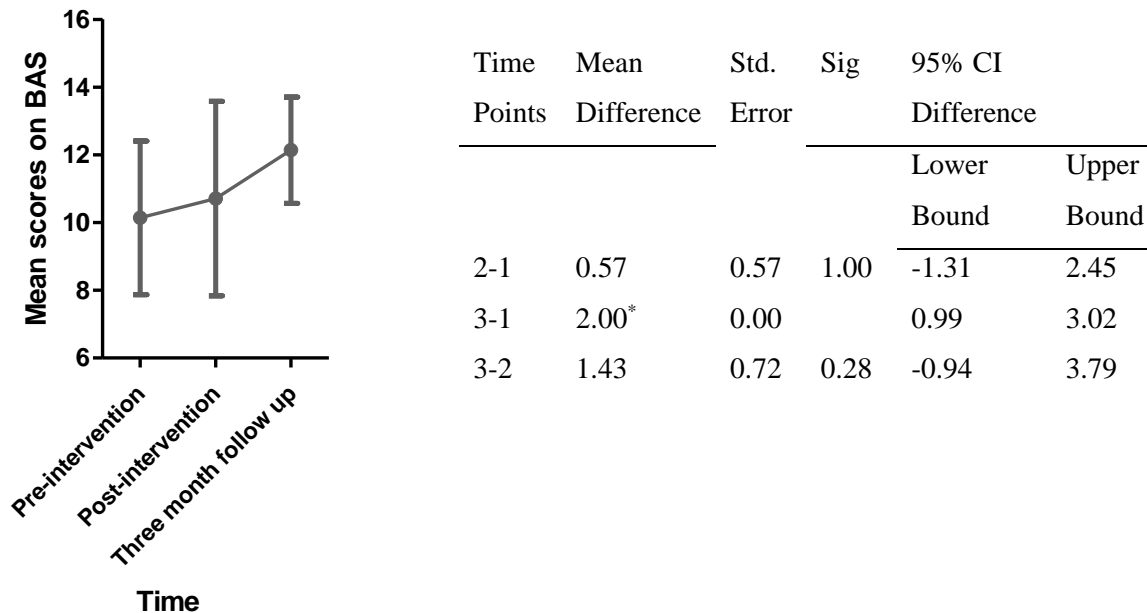


Time points	Mean Difference	Std. Error	Sig	95% CI Difference	
				Lower Bound	Upper Bound
2-1	3.29	1.71	0.31	-2.35	8.92
3-1	5.86	2.50	0.17	-2.37	14.08
3-2	2.57	1.99	0.73	-3.96	9.10

*Note.* SCS= Self-compassion scale; Std Error = Standard Error; Sig = significance ( $p$ ) value; CI = Confidence Interval

**Figure 7. 8**

Mean and Standard Deviation scores of Body Appreciation where Significant Effects of Time were Observed across Pre -, Post- and Three Month Follow Up in PP Analysis



Note. BAS= Body Appreciation Scale; Std Error = Standard Error; Sig = significance (*p*) value; CI = Confidence Interval

These findings suggest that for a subset of participants, gains were experienced on measures of self-compassion and body appreciation, such that participants demonstrated increased self-compassion and body appreciation from pre-to post intervention and these gains continued to increase at the three-month follow up.

### 7.3.12 MANOVA on Visual Analogue Satisfaction Scales

MANOVA revealed that there were statistically significant differences between initial satisfaction scores in girls and satisfaction scores post-exposure to body ideal content at baseline,  $F(3,90)=1.82, p=.005, Wilks \lambda = .02, \eta^2 = .79$ . Follow up univariate ANOVAs revealed that initial satisfaction scores differed from exposure to idealised image one,  $F(1, 42)=.6.42, p<.001, \eta^2 = .89$ , idealised image two,  $F(1, 42)=4.21, p<.001, \eta^2 = .85$  and image three,  $F(1,42)=2.14, p=.03, \eta^2=.74$ . Girls' body satisfaction levels appeared to decrease in a linear fashion from initial scores to post-exposure scores, while girls generally indicated that they did not compare very much to these ideals, although standard deviations were wide (see Tale 7.8 below).

A significant MANOVA also indicated that there were statistically significant differences between body satisfaction ratings pre and post exposure in boys at baseline  $F(3, 66)=7.34, p<.001, \lambda = .01, \eta^2=.719$ . Univariate ANOVAs indicated that there were differences between initial and post exposure for image one  $F(1,22)=7.34, p<.001, \eta^2=.72$ , image two  $F(1,22)=20.59, p<.001, \eta^2=.95$  and image three  $F(1,22)=6.8, p<.001, \eta^2=.86$ . Descriptive statistics indicated that male body satisfaction increased from pre-exposure to post-exposure on most images, except for image two, where there was a slight decrease in satisfaction. Boys generally reported that they didn't compare much to these ideals; however, they compared more to "image two" than other images, coinciding with their dropped satisfaction scores.

There were also statistically significant differences between body satisfaction ranges pre and post exposure in girls' post-intervention  $F(65,99)=1.95, p<.001, \text{Wilks } \lambda=.01, \eta^2 =.78$ . Univariate ANOVAs revealed differences for image one  $F(1, 33)=10.45, p<.001, \eta^2 = .95$ , image two  $F(1,33)= 5.23, p<.001, \eta^2=.90$ , image three  $F(1, 33)=4.41, p<.001, \eta^2=.88$ . Statistically significant differences between boys' body satisfaction ranges pre and post exposure were also observed post intervention  $F(15,54)=20.07, \text{Wilks } \lambda=.00, p<.001, \eta^2 =.99$  with univariate ANOVAs revealing difference for image one  $F(1,18)=54.18 p<.001, \eta^2=.86$ , image two  $F(1,18)=43.72, p<.001, \eta^2=.99$  and image three  $F(1,27)=10.75, p<.001, \eta^2=.97$ . Like pre-intervention, at post intervention, girls' scores reduced from pre-exposure to post-exposure while boys' scores increased from pre-exposure to post-exposure for images one and three but reduced for image two. Descriptive statistics show that boys' and girls' satisfaction scores appeared to improve from pre-to-post-intervention both before and after exposure to images, however paired samples t-tests indicated that none of these changes were statistically significant (see Appendix F.6).

**Table 7. 8.**

*Mean and Standard Deviation of Girls' & Boys' Visual Analogue Satisfaction and Comparison Scores at Pre- and Post- Intervention*

	Preintervention							
	Satisfaction				Comparison			
	Girls		Boys		Girls		Boys	
	M	SD	M	SD	M	SD	M	SD
Pre-exposure	43.35	25.6	66.29	23.89				
Image1	39.22	27.54	70.36	21.4	30.07	34.93	22.79	26.95
Image2	35.35	27.48	65.54	20.93	29.69	32.07	30.27	27.04
Image3	33.37	27.7	68.92	19.7	34.26	35.76	21.25	24.94
	Post intervention							
	Satisfaction				Comparison			
	Girls		Boys		Girls		Boys	
	M	SD	M	SD	M	SD	M	SD
Pre-exposure	44.87	24.96	77.53	24.01				
Image1	40.07	24.72	80.19	19.43	43.7	37.3	19	24.63
Image2	39.29	26.9	75.46	19.65	36.69	33.14	24.89	28.28
Image3	37.85	26.99	79.03	16.81	39.13	36.13	39.13	36.13

*Note.* M=Mean, SD=Standard deviation

### 7.3.13 Summary of Results

Overall, our results indicate that the intervention was not successful in producing statistically significant changes in primary or secondary outcomes in experimental group versus control. Slightly more promising changes were observed in the experimental groups who completed three-month follow up where data trended in expected directions and some significant changes were observed, suggesting at potential cumulative effects of the programme.

## **7.4 Feasibility**

### **7.4.1. Recruitment & Retention rates**

It was not possible to ascertain how many participants were recruited from the total number of possible participants because recruitment processes varied in schools at the discretion of the TY coordinator. Of 113 participants recruited, a total of 11 participants (9.7%) were excluded from analyses; four (3.5%) female participants withdrew participation prior to completing surveys, six participants (5.3%, 5 females) were excluded because they failed to provide baseline (Time 1) data and one male participant was excluded because their baseline contained more than 20% missing data. Once the programme commenced, there were no further withdrawals and so retention rates were high.

### **7.4.2 Adherence**

#### **7.4.2.1 Attendance rates**

Participants' average attendance rate was 75%, or approximately 3.7 of 5 sessions. All participants attended at least 2 sessions. Reasons for non-attendance were; absences due to illness, participation in work experience and other school activities. This suggests that adherence was relatively good.

#### **7.4.2.2 Meditation practice rates**

Participants reported that they practiced meditation practices an average of 1 time (from possible responses ranging from, 0 times – 5 or more times) between sessions; however, the mode response was 0 times, indicating low adherence with meditative practice outside of sessions.

#### **7.4.2.3 Completion rates**

##### ***a.) Questionnaire responses***

102 participants provided full baseline (time 1) data responses (90.5%). In the per protocol analysis, 72 participants (70.6%; 55 experimental group, 17 control group) provided full responses at time 1 and time 2. In the ITT analysis 102 participants (80 experimental, 22 control) provided partial responses at time 1 and time 2 analyses. Seven participants, (6.9%) provided full responses at preintervention, post-intervention and 3 month-follow up; while 23 (22.5%) participants provided partial responses to all data collection points. The completion rate of follow up data was so low because the study was brought to a premature cessation due to the outbreak of Covid-19 and it was not possible to obtain follow up data for these participants. Participants who completed these measures mostly provided full, complete responses and the percentage of missing data for values (cases x variables) was 1% or below across all time points. The relatively high completion rates of pre and post – intervention data, and the low rates of missing data across these responses, and the

average response time taken to complete surveys (1min50secs – 24 mins;  $M= 10$  ms,  $SD=3$ ms 20 scs) indicate that the questionnaire testing procedure was feasible.

***b.) Reflective Booklets***

Overall, 42.9% of reflective booklets were returned by participants in the experimental group but return rates for girls were far greater (55.6 % returned) than boys (13% returned).

***7.4.3. Acceptability***

In reflective booklets, participant's mode ratings of "ease" of sessions was 3 (alright), indicating that content was pitched to participants at an appropriate level that was not too hard (score of 5) or too easy (score of 1). The mode rating for helpfulness of each session ranged from 2 (helpful) to 3 (somewhat helpful). Overall, participants assigned the sessions a rating of 2 (helpful) indicating acceptability of the programme (at least among those who returned their booklets).

## 7.5 Qualitative Content analysis

A content analysis explored participants' responses to prompts in reflective booklets and aimed to understand the acceptability, comprehension and engagement with the programme. Three broad themes were identified using thematic analysis which included 1.) participants' perceptions of the course, 2.) participants' understanding of course content and their ability to relate it to personal experience, 3.) impact and application of the course. A full table of quotes to illustrate themes are presented in Table 4, Appendix E.4.

Codes and themes for the content analysis were reviewed by the independent researcher according to the procedure outlined in Chapter 2; a Kappa Value of  $K=.96$  was obtained indicating high degree of intercoder agreement between the primary and independent researcher.

### 7.5.1 Theme 1: Perceptions of the course

Overall, participants indicated high acceptability for the programme reporting that it was interesting and informative (5 mentions), enjoyable and relaxing (3 mentions), easy to understand (3 mentions) and helpful (4 mentions). They also liked the way the programme was structured (3 mentions) and how it was delivered (2 mentions). The breathing and meditative practices were particularly popular among many students who reported that they liked to practice these meditations and to use them to self-soothe when stressed. Some participants reported that they liked learning about how the brain works (2 mentions), about how social media works (1 mention) and about self-criticism and changing self-talk (2 mentions).

*Female8, School 3 "It was interesting, easy to understand, helpful"*

*Female1, S3 "Learned a lot more about having compassion and how to apply it to myself, my life and others"*

*Female4, S2 "I really like the meditation; I think I'm going to do it every day before going to bed"*

### 7.5.2 Theme 2. Course comprehension and ability to relate to personal experience

Participants demonstrated a good understanding of various topics covered throughout the course and were able to accurately reflect on topics and apply them to their personal lives/circumstances.

#### 7.5.2.1 Social media hijacks

Participants identified several ways that social media "hijacked" their brains. The ads, notifications and constant newsfeeds on social media were attention grabbing, distracting and addictive. The constant stream of images and content on social media encouraged participants to make unfavourable appearance comparisons and made them feel like they were missing out on

something if they were not constantly online. Some participants reported that they were not influenced by these hijacks, but others reported that these hijacks negatively impacted them.

Learning that social media is designed to hijack the brain and prolong social media use, changed the way many participants felt about their social media use. Some participants reported that they were more aware of their social media use and conscious of how they spent their time on social media. “*Knowing about social media*” was reported by (Female1, S1).to “*help [her] be aware and know what to expect*”. Some felt that they were better able to understand their behaviours and felt empowered to change how they engaged with social media. For example, (Female 8, S1) reported that “*[She] now [doesn't] spend as much time comparing [her]self to others*”. Some were reassured that others struggled with the same issues on social media as they did and were helped to “*realise, [they weren't] alone in the self-critique which made [them] feel much better*” (Female5, S3). However, many also reported that this awareness did little to change their feelings or behaviours on social media and that they continued to be influenced by social media in similar ways; “*I still seem to compare my life to others*”(Female6, S2).

#### **7.5.2.2 The three systems**

Participants accurately identified many ways that the three affect-regulation systems, threat, drive and soothing, were activated by social media use or general daily activity. Participants reported that the threat system was mostly activated by unfavourable comparisons with models and influencers, by viewing upsetting content or by hurtful comments. (Female5, S1) noted that “*Social comparison affect[ed] [her], by making [her] focus on others' "perfect" lives and made [her] feel bad about [her]self*”. The drive system was activated by competition for likes/comments on social media or by seeing inspiring videos of people exercising or participating in sport; “*When you see people in the gym or accomplishing things it makes you want to go out and do great things too*” (Female 5, S3). However, participants mostly felt that social media did not activate the drive system. Outside of social media, participants reported that participating in sports or competing in events activated the drive system. The soothing system was activated by “*Sending memes to my friends, seeing happy quotes*” (Female1, S3) and engaging with content that was funny/humorous, positive/inspiring, and relaxing/soothing. Chatting with friends, family and loved ones on social media also activated the soothing system. Participants listed several ways they could achieve greater balance in these systems, including; developing a greater awareness of time spent in each of the three systems, “*conscious[ly]*” bringing “*a balance between the three systems*” (Female 5, S2), by “*practic[ing] more soothing techniques to cancel out [sic; reduce] threat or drive feelings*” (Female8, S1). Avoiding threatening content, reducing the reaction to threats encountered on social media and focusing attention on personal growth and things that brought personal joy were also mentioned.



### 7.5.2.3 *Self-criticism and changing self-talk*

Participants were also able to identify self-critical loops that they got stuck in on social media, which mostly revolved around social comparisons; feeling dissatisfied that they did not measure up to idealised images, feeling guilty for not exercising or eating healthy or feeling that they were not good enough. Participants were also self-critical when they felt they had made a mistake or failed at something. Participants mostly reported that these self-critical loops happened multiple times over the week because social media constantly produced images of triggering content. Some participants described specific “one off” situations that induced self-criticism, while others were not able to identify self-critical loops, or felt that they weren’t very self-critical of themselves in the first place. For those who experienced these self-critical loops, several strategies helped break out of these loops including; “*monitor[ing] how much time [they] spend on social media and limiting it*” (Female5, S1), avoiding problematic social media content, reminding oneself that “*photographs online are photoshopped*” (Female6, S2), thinking positive or reassuring thoughts and calming oneself through breathing, “*meditation or talking to others*” (Female 8, S3).

### 7.5.2.4 *Compassion*

Participants also evinced the capacity to change their critical inner dialogue to a more compassionate one. Participants described that their compassionate voice would be “*Reassuring, saying that everybody can make a mistake, the most important thing is reaching!*” (Female4, S2). They also stated that it would remind them that others struggle with these issues and reassure them that it is normal to feel anxious, upset, lonely etc. from time to time. Self-compassion would also involve “*Accept[ing] that I've made a mistake, don't beat myself up, live and learn*” (Female1, S3). Participants also mentioned “*try[ing] to talk to [themselves] in the same way [they] would talk to [their] friends*” (Female4, S2) and “*Cutting down negative thoughts about self*” (Male1, S2). Participants also exhibited a detailed understanding of the concept of compassion and listed many attributes of compassion that they recognised in themselves and others including; care/empathy/kindness/warmth (34 mentions), strength/resilience/confidence (13 mentions), supportive/encouraging (17), understanding/wisdom (18 mentions), self-acceptance/self-love (7) and commitment (4).

Although some participants missed the point or misunderstood questions in a small few instances, for the most part participants were accurate and detailed in their responses to reflective prompts indicating that they understood course content (what compassion is, what self-criticism is, how the brain works, how social media works, how to develop self-compassion) and that they were able to theoretically apply key learnings to their own experience.

### 7.5.3 Theme 3: Impact/Benefit of programme

Although some reported that the programme did not influence or change them in any way, the programme did impact the way that some participants viewed their social media use, how they related to themselves and how they coped with challenging issues. The programme made participants more conscious of their inner dialogue and encouraged them to speak more compassionately to themselves, especially in times of difficulty/struggle. The programme also helped participants to develop greater self-awareness and empowered them to manage their thoughts and emotions and to become *"More accepting of [themselves]"* (Female3, S2).

Some participants were less negatively affected by social media because they were more aware of their use and able to reduce the extent to which they compared to others. The repertoire of strategies used to deal with challenging social media content appeared to have expanded for some participants; one participant initially just avoided difficult social media content; *"I usually just move on and not think about it, I don't exactly manage it"* (Female 5, S3), but later reported that they could also engage their compassionate voice to help them with manage difficult content on social media; *"I would take time out like even once a week to think of the good qualities I have"*. Participants also used meditation practices to regulate their emotions and self-soothe; *"It helped me understand how to calm down and relax myself"* (Female3, S4).

## 7.6 Thematic Analysis Focus Group Results

Thematic analysis of focus groups with participants revealed diverse opinions of the digital resilience programme, both within and between school groups. Some participants appeared to enjoy and benefit greatly from the programme, some found the programme uninteresting and unhelpful, and others recognised the merits of the programme, but felt changes could be made to the programme to make it more relevant and useful. The following section will cover participants' perceptions of the utility and impact of the programme (Theme 1), perceptions of the programme in terms of what worked and did not work (Theme 2), the barriers and facilitators that influenced programme engagement (Theme 3), and suggestions for modifications and improvements in terms of content and delivery (Theme 4). Theme 5 discusses group dynamics that may have influenced differential responses to the programme across school groups. The focus group coding scheme (Appendix E.3) was evaluated by an independent researcher, as per the protocol outlined in Chapter 2 and Kappa coefficient values of  $K=.95$  indicated strong inter-coder agreement, supporting the credibility of findings.

### 7.6.1 Theme 1: Perceptions of programme utility and impact

#### 1.1 Positive impact

Many participants found the programme beneficial and helpful; “helpful/useful” was one of the most common codes that appeared across participants' evaluations of the programme. Many participants reported that the programme changed the way they related or sought to relate to themselves. The programme motivated them to be less critical and more compassionate towards themselves. Participants had not considered the critical ways they talked to themselves before and it was revelatory for them to realise that they could relate to themselves in different ways.

*Female6, School 3 “I don't think about myself so negatively as I did”*

*Female6, School 1 “I think it made you realise how hard you actually are on yourself, like”*

This shift in self-talk was also aided by a greater appreciation of common humanity – the idea that it is normal for humans to fail and make mistakes – and this enabled participants to be less harsh and critical on themselves.

*Female2, S3 “Like not to always be criticising myself, and when I do something wrong, you know, getting annoyed, kind of just going, ‘no look, I'm human, I make mistakes.’ And kind of just backing away from it, and not like being so harsh on myself”*

Learning about and dispelling the misconceptions self-compassion also enabled participants to be more self-compassionate. For one boy, learning that self-compassion was not a “weak/fluffy/easy” option, made him feel more comfortable giving compassion to himself.

*Male3, S2 "I thought that was useful to like learn more about what it really was and not to feel bad about being compassionate to yourself"*

The programme also helped participants become more aware and mindful of their thoughts and feelings. Participants reported that they were able to notice their self-critical thoughts arise and could make a conscious shift reframe their thoughts in a more self-compassionate way.

*Female2, S3 "If something goes wrong with your day and you're saying you know 'oh you're such a terrible person' you're like 'Wait. You know, we talked about this. Stop it. And then we're gonna [sic] go back'*

This ability to pause and reflect on thoughts and feelings was reported to facilitate greater self-understanding and mental balance/calm.

*Female6, S2 "You start thinking of what you're thinking of yourself"*

*Female2, S3 "Mentally, it [the programme] kind of put me in a more stable place"*

*Female7, S3 "It's nice to like identify your thoughts and know how you're feeling and then if it's like stressing you can kind of then go further and be like why am I feeling like this and what's beneath it like"*

The programme also equipped participants to speak more compassionately to themselves. Prompts that encouraged participants to talk to themselves as they would a friend, or to think about how a compassionate person would respond in a situation, facilitated more self-compassionate dialogues.

*Female 6, S3 "Yeah there was an exercise that we did and it was like 'pretend that you're talking to someone else but apply it to yourself' and I really liked that, cos it's easier to comfort other people but comforting yourself when you've done something wrong is a lot harder. I just thought well what if one of my friends is going through this, what would I say to them? And then apply it to myself"*

Some participants were able to extend this compassionate voice to their bodies and reported developing greater body acceptance and appreciation from the programme. Body acceptance was facilitated by the recognition that uniqueness/difference is a good thing and an understanding that there are biological and genetic factors that limit body change.

*Female4, S3 "That's a big thing, you'd see a picture of a friend or something and you'd think wow she's pretty and I look like this.... but now you're like 'oh she looks nice there but I'm me, so. It kind of changed it"*

*Female4, S3 "Most people can't achieve that body genetically. So, you're you and you have to accept you"*

This body acceptance was also achieved through the application of compassionate self-talk towards one's body.

*Female1, S3 "Yeah, you'd kind of be looking at another picture thinking 'Oh I look nothing like that, I'm so ugly, but then I'd think would I say that to someone I cared about? And now I wouldn't"*

Many girls reported that the programme also changed their relationship with social media such that they were less negatively affected by body-related content they encountered online. Participants reported that learning about the unrealistic, artificial nature of female bodies on social media helped to reduce the extent to which they compared to these ideals and the extent to which they were critical of their own bodies following comparisons. Participants reported that this knowledge enabled them to swipe past content that previously would have sucked them into a negative self-critical loop. Others reported that they were able to look at problematic posts but were able to shift their thinking so that they were less affected by it.

*Female5, S3 "Like before I'd look at my pictures I'd have say on Instagram and I'd say 'No, that's disgusting, take it down' but now I just leave it and I'm like 'well that's me... that's it... deal with it' and other people if they have something to say 'deal with it'. I have to like me, it's the only person I have"*

*Female6, S3 "I used to see it and think oh why can't I look like that, what's wrong with me? I'm weird and all that. but now you just see it and go 'photoshopped, fake, definitely'"*

*Researcher "You're not even avoiding it; you're actually talking to yourself differently?"*

*Female3, S3 "yeah"*

The meditation practices were also repeatedly identified as one of the most beneficial aspects of the programme. Participants who liked the meditations found them relaxing and calming and enjoyed being guided through exercises by the instructor.

*Male5, S2 "I enjoyed the meditations, or the mindfulness exercises we did at the end of each session because they were nice and relaxing, and you could kind of use them at home by yourself if you wanted to"*

Some participants applied meditation practices in their daily lives, to reduce distress and anxiety and to help them fall asleep. Meditation practices enabled individuals to self-regulate and self-soothe in times of difficulty and distress.

*Female3, S3 "Say if you were stressed out or there were things going on at home you'd think about your happy place and you're just at ease"*

### **1.2. Small impact**

While some participants experienced noticeable benefits from the programme, other participants felt that “*It could have made a small difference that I didn’t notice but not life changing per se*” (Female4, S2). Some acknowledged that it may have slightly shifted their thinking, but in an “unconscious”, discrete way, and without their awareness that change had occurred. They only recognised a change when prompted to discuss the programme within the focus group.

*Female6, S1 “I think it makes a sort of unconscious difference, like you don’t know it’s making a difference but like when you’re sitting here talking about it you know it is”*

*Female5, S1 “Like I wasn’t sitting there thinking about it at home or anything, but it did go in”*

### **1.3 No Impact**

However, many others felt the programme had little or no impact and failed to change the ways they related to themselves, how they felt about their bodies or the ways that they engaged with social media. “Not helpful” was also a common code to emerge in the evaluations of the programme and it appeared that for many, the psychoeducation, the meditations, the reflections or class discussions, failed to impact them in any meaningful way. Boys appeared to benefit less from the programme than girls, especially in relation to body image and social media.

*Female 4, S2 “It didn’t influence me to say do some of the things again, to think about them again, it was just kind of something I did and then moved on from”*

*Female3, S2 “It didn’t like impact me as much as I thought it would, like I just still use Instagram the exact same way”*

Interest, comprehension, relatability and engagement were some of the factors that influenced the extent to which participants benefited from the programme.

## **7.6.2 Theme 2: Perceptions of the programme**

### **2.1 Enjoyment/Interest**

The extent to which participants enjoyed the programme varied. Some participants found the content interesting and informative and liked learning about how the brain works, reflecting on the three systems (threat drive and soothing) and understanding evolutionary explanations of the brain and behaviour.

*Female5, S3 “Yeah you’d be able to sit there for 2 classes listening”*

*Female6, S3 “Because you were learning loads”*

*Female2, S3 “Yeah it wasn’t boring at all”*

*Male2, S2 “It was useful to kind of understand why sometimes you might feel a certain way, like oh that’s just a part of my brain that does that kind of thing that was needed thousands of years ago and it’s still with us today”*

*Male2, S2 “I found it interesting learning about the different systems in the brain, like the threat, soothing and drive, and how we spend most of our time in threat, I found that an interesting thing to learn”*

This psychoeducation about the brain appeared to appeal more to boys, while girls seemed to respond more to learning about appearance comparisons and body ideals on social media. However, learning about how social media hijacks the brain and influences thoughts in unhelpful ways was also deemed interesting by boys.

*Male2, G2 “I liked learning about the way the brain works with social media, I thought that was interesting, about how it can kind of, sort of, I guess, hack into parts of our brain that are really old and instinctive, and they kind of trick you into feeling in ways that don’t help you in any way.*

However, other participants disliked the psychoeducation and found the programme boring because the content was not interesting or relatable, the delivery was slow or uninspiring, or they cared little for learning about the topics covered within the programme.

*Male 3, S1 “It was just a bit boring; I suppose I wouldn’t be that bothered about how it [the brain] works really”*

*Female1, S4 “Yeah it was very boring. I didn’t like it”*

*Female5, S4 “Her voice was just too, like put you to sleep”*

*Male2, S1 “Yeah, we were just waiting for the class to end”*

While some participants held strongly negative perceptions of the programme, others were ambivalent or neutral about the programme with (Male2, S2) noting “I wasn’t really looking forward to it, but I wasn’t dreading it either. It was just another class”.

Although divergent opinions were held about psychoeducation aspects, there were less polarised perceptions of the meditations and exercises within the programme. Some participants enjoyed and benefited from the meditations. The soothing-breathing practice and compassionate place imagery were popular among participants as they provided a sense of relief, peace and calm – although preferences for breathing versus visualisation meditations varied between participants.

*Male7, S1 “Because you were breathing like and slowing down your breath, so, it was relaxing”*

*Female3, S3 “I found it useful as well, it was just like a sense of relief, she’d [researcher] say ‘think about your happy place, and it would just relieve your stress like, it was just nice to think about”*

Others liked the meditations in so far as they provided a break from normal school activities and gave them space to relax; however, meditations were not something they were interested in doing outside of the class. Some acknowledged the merits of the meditation practices but felt that it didn’t work to soothe or relax them personally. Others struggled to do the meditation practices and felt that they didn’t benefit because of this. Few completely disliked and discouraged the meditation practices, although some would have preferred less of them within the programme.

*Female, S2 “Yeah like I mean don’t really like meditation or any of that stuff, but like I just think it was nice to like not have to do anything for a bit, that was just what I took from it”*

*Female3, S3 “I don’t mind the breathing but the other ones, like visualizing, they just don’t do anything for me ... they wouldn’t be something that I’d do to help me like calm down.”*

Participant interest levels were partially influenced by the extent to which participants could understand and apply content to themselves.

## **2.2 Comprehension**

Although most participants reported that the content was easy to understand, some struggled to comprehend it. Some participants felt that the explanations of threat, drive and soothing were unclear and that they had difficulty distinguishing between the different systems. Some participants felt that examples used to illustrate some points were difficult to follow and one participant found the language used to describe concepts difficult to comprehend.

*Female5, S1 “I don’t know I just didn’t understand how it worked. We had to draw like circles and stuff, but I didn’t like know what each of them were really”*

*Female4, S1 “I don’t really know what any of the words mean, but if you use different words, I probably would have got it like”*

*Male2, S1 “Ah, it was a bit confusing like, and... I just didn’t really care about it (laughs)”*

One participant felt that the pace was too quick and because new content was covered each week, it was difficult to catch up if a class was missed.

*Female7, S2 “I think just at times it was a bit of information overload because we were doing new stuff each week and if you missed a week you’d be like oh where are we this*



*now, like what stage are we at... So, you're building up the stages to like become more compassionate so if you missed one week you feel like you're completely behind then and your mind just wanders during the class and you can't really focus"*

One group found the pace too slow and felt the programme deliverer spent too long explaining points, by which time they had lost interest in what was being said. It didn't seem to be a case that the information was too easy for this group, as this group appeared to have the lowest overall comprehension of and engagement with the programme. It appeared that a different delivery approach may have benefited this group, as they reported that they would have preferred more active examples and active participation to facilitate their attainment and comprehension of the programme.

*Female6, S1 "I think she [the researcher] was just talking too much on one slide, [2 yeah] just and very slow like it was so annoying"*

*Female3, S1 "I think she [the researcher] should like do more, like, activity stuff, and not talk as much"*

### **2.3 Applicability to personal lives**

Other participants did not struggle with comprehension but did struggle to apply the concepts such as threat, drive and soothing to their own lives or to social media.

*Female5, S2 "I think like I understand the threat, but I just don't understand it in like my life"*

Participants also struggled to apply the breathing/meditative practices outside of the class, and felt it was unreasonable to employ breathing exercises when confronted with difficulties on social media or to change the way they related to themselves after encountering challenging content online.

*Female6, S4 "Cos like nobody is actually going to sit at home and like get like a bad comment or something and sit there breathing closing their eyes, nobody's going to do that"*

*Female3, S4 "Well like [I understand] how the brain works maybe but not the breathing, I don't understand how that helps with social media"*

Others reported that they could understand the programme and relate it to their personal life at an intellectual level, but it didn't change how they felt or behaved.

*Female4, S2 "Well I got it, and I was able to apply it to myself ... but I don't feel like it really did anything, like it didn't motivate me to change myself or anything"*

*Female4, S2 “I saw its purpose, but I couldn’t act on it really, or it’s not that I couldn’t, but I didn’t”*

### **2.3 Relevance/Relatability**

Some participants found the programme content interesting but not necessarily helpful as they found it difficult to relate to the topics/issues covered.

*Male5, S2 “Like I wouldn’t say I found it helpful, but it was definitely interesting, so I don’t regret doing it. But like for the fact it was interesting not because it helped me ... like I could sort of see the merit of it if you did have problems with social media or body image”*

Boys acknowledged the value of the programme but felt that content pertaining to body image and social media was not relevant for them, and this made it difficult for them to relate to or engage with the programme. Boys commonly reported that body image was not a concern for them and that they didn’t compare themselves with others on social media. Boys conceded that the programme would be helpful for those who did struggle with body image and social media, such as girls, but because they did not have these issues, they did not get as much from the programme as they could have.

*Male6, S1 “If it was a bit different, more relatable for all of us it could be good for lads, but I just feel like there’s more likely to be more girls that would be like self-aware and all that than there is lads like. I wouldn’t be that bothered by people on social media and all, but I’d say they spend more time looking at it and thinking ‘oh why can’t I be like them’ and so on”*

*Male3, S1 “The whole thing about body image if you were looking at thin people before and thinking how good their lives are and yours isn’t, I could see how it could stop that but like I wasn’t looking at stuff like that before. I can understand how that would have been something you’d have stopped after doing this”*

Boys felt that the programme would have been more helpful if it targeted broader wellbeing and mental health issues, or if it targeted issues that they identified as problematic, such as boredom online and fear of missing out. Boys perceived that the programme was targeted at specific cohorts who were influenced by these issues, which precluded them from engaging with the programme.

*Male3, S2 “I think I would slightly change like the goal of the whole programme, so like I’d still do most of the same stuff, and more how it’s useful to your life, and like how you can use the meditation in general less than about social media”*

*Male3, S1 "I'd probably broaden the target I'm going for. This seems like it's going straight for people who look at everything on social media and kind of feel down about it. I'd probably widen it to maybe some people who aren't self-aware and should they be and people who are and shouldn't they be rather than just one"*

*Male3, S1 "Maybe focus on boredom ... a lot of people suffer from boredom ...stuff that's tailored not just to a certain type of person, because then like the more relatable it is for all of us, the more we're likely to take it in"*

Additionally, many boys felt that they did not struggle with self-criticism prior to the study and therefore, failed to experience much change in this area. Again, although they felt that it didn't personally impact them much, boys acknowledged the value of learning about self-criticism for those who did struggle with it and for themselves to know how to help others for whom it was a concern.

*Male3, S2 "I wasn't too hard on myself in the first place to start off, you know, but it's definitely good for people who are, like it was good to kind of just know about it as well, for anyone who's, like to help anyone who is"*

Girls in one group also reported that they did not find the programme relatable because they did not use social media or compare themselves or their bodies to others. Some held the view that there were certain people who were affected by body image and social media and those who were not; and because their group were "not the kinds of people" that were influenced by these issues, the programme served little purpose for them.

*Female4, S2 "The content, I'm assuming applies to a lot of people our age, since this is being done, and studies are being carried out, but I don't know if people like me would be great examples because it doesn't affect me. I feel if there was another group of boys or girls or children, or teenagers our age, it could have been a lot more successful, with results, if that makes sense"*

These participants also felt that they were already aware of social media and didn't need additional support but felt that the programme could have benefited "others" in different schools who were less aware or who were impacted by these issues.

*Female10, S2 "So like maybe in a different school or a different class like it would have had more of an effect but we're just all like quite aware of it anyway so it didn't matter that much"*

Many participants felt that the programme problematically assumed that all teenagers struggled with the same issues, especially issues with social media. Participants felt that this programme reflected a common, misguided perception held by adults, that social media is an all-consuming,

dangerous and problematic issue for adolescents. Participants found it condescending that they were being lectured to about social media by people who they felt didn't grow up with social media like they had and therefore didn't fully understand their experience. They felt that because they had exposure at young ages, they were knowledgeable about social media and were seasoned at managing it.

*Male3, S2 "I felt the course was kind of designed, not really assuming, but kind of thinking that all teenagers had kind of a big problem with social media and with body image and everything, and in reality, we just don't as much, you know like, kind of adults have this perception that we're all obsessed with our phones and are always on social media"*

*Female10, S2 "I just feel that like because people over the age of like 20 or 30 haven't lived through the kind of age of social media ... I've like had social media for so long like I'm not stupid, I don't go onto Instagram and think all of this is real, all of these people are living the best life ever and I'm so sad, like I hate my life. You know like maybe some people but me personally I'm smart enough to know that everything you see all is real so there's no point in someone else who like hasn't necessarily experienced it saying 'oh you know don't feel bad, it's not real' cos we know that, like we're the ones who are living it."*

*Female7, S2 "I think that like people seem to think that our age group, that we're not aware of it and that we still need to learn about social media and being safe on it but like we kind of grew up with it and we kind of know how it works so it's just not very new to us"*

This group also felt that they programme reiterated what they knew regarding mental health already and that there was little additional information they could take on board and benefit from. These participants felt bombarded by conversations on mental health and by were jaded and fed up by the focus on mental health, which may have served as a barrier to their engagement with the programme.

*Female10, S2 "Because that's like most classes now and because obviously everyone's kind of talking about mental health and all that stuff now so like, especially at our age, when we have it in classes and everything like you hear it all so people saying the same thing over and over again it doesn't like deepen your understanding of it you know"*

*Female2, S2 "To be perfectly frank I mean people are starting to get a little bit sick of hearing "the talk" all the time, even on social media"*

Boys in this school also recognised that certain aspects of the course, such as the inner critic had been covered in previous classes, and while this content was helpful, it wasn't very new or thought provoking for them.

*Male5, S2 "I'd say for that part with the inner critic, it wasn't really any new information, we'd like, I know I would definitely have done stuff like that before in different classes, like yeah it's helpful but it's all stuff I would already have known about"*

However, other groups were less aware of aspects of social media and reported that it was new and valuable for them to learn about photoshopping and editing on social media.

*Female3, S3 "I might have been looking at like supermodels and going 'oh I look nothing like that' whereas now I'm kind of going 'oh well, sure the amount of editing that goes into that like' you know, and even on my Instagram I just don't really care now. If you're going to look at me, you're going to look at me for me, not someone else"*

Other groups reported that the programme content was new to them and that they hadn't covered similar topics in other classes. Participants in one group noted that this programme was beneficial because it addressed topics that were pertinent and pressing for them, such as self-criticism and body dissatisfaction, but that were not typically covered in school curricula. Learning about and discussing these topics helped normalise their issues and concerns and helped answer questions that had previously gone unaddressed.

*Female2, S3 "It was something we'd never really talked about at school before, something that gets kept under covers a lot. You never talk about your self-image or self-harm or anything like that [others no] ... it's just a very avoided topic, not spoke about at all"*

*Female4, S3 "Cos everyone's dealing with it, you're criticising yourself and all, but no one really talks about it"*

*Female3, S3 "Because it's an adult telling you ... like, you know, it is completely normal to feel like that, yourself like"*

These participants felt that the content was highly relevant and relatable, and recognising that their concerns were legitimate and that others struggled with them too provided participants with a sense of relief and comfort that they were not alone in their difficulties.

*Female6, S3 "Cos like it is relatable, you kind of do compare yourself and your body to pictures you see of people"*

*Female4, S3 "I felt that I was the only one doing that and that it's going on with everyone else I suppose it makes you feel that you're... Female5, S4 "yeah it makes you feel good.."*

### 7.6.3 Theme 3: Blocks/barriers to engagement

In addition to differences in interest in, comprehension of and relatability of programme content, there were several factors that served as barriers or facilitators to programme engagement.

#### 3.1 Attitudes towards the programme

Participant attitudes towards the programme appeared to play an influential role in participant engagement. Participants who held particularly pessimistic attitudes towards the programme seemed to resist engaging with the programme. One participant was particularly dismissive, stating that the programme would not benefit individuals who did not struggle with body image or social media issues, because they did not need help, nor would it help individuals who did struggle with these issues, because they were so adversely affected, they were beyond help. This attitude seemed to block this individual from participating in the programme.

*Female10, S2 “The people who do really need the help with it, they’re probably so far down that rabbit hole that there’s only so much you can do, because we’re either like not bothered by it at all or like they’re too far gone and you can’t just, like 40 minutes a week is not going to be able to change someone’s mind like that”*

Some girls felt that boys held negative pre-conceptions, about the programme and because of this they felt that boys would not take the programme seriously, would not open up about their concerns and would not engage with the programme in the same way that they did.

*Female2, S4 “Like we’d come out of it and the lads would be like what were yez [sic] doing? And we’d tell them ... and they’d be like ‘Oh why are we going to be doing that? That’s just stupid’”*

It is unclear if this was indeed the case; from focus group discussions, boys didn’t seem overly dismissive of self-compassion or general concepts underpinning the programme, but just felt that the programme was not relevant for them. However, boys were reluctant to discuss sensitive topics for fear of judgement by other boys, and these overt, negative attitudes may have served as a facade to protect themselves from judgement. However, it is also possible that dismissive attitudes towards the programme may have hindered their engagement with it.

#### 3.2 Attitudes towards compassion

Some participants held beliefs that served as blocks/barriers towards engaging in self-compassion. Some participants maintained the belief that developing a compassionate mindset would not help them and were reticent to give the concept a chance or try it out.

*Female3, S4 “I was aware of it, like I could have changed my mindset but like I’m still, like it wasn’t beneficial, it wouldn’t help, if that makes sense”*

One participant was sceptical of the ability of self-compassion to combat negative or critical thoughts pertaining to their body. Reassuring themselves that things were ok when they were not, was deemed over simplistic and unhelpful. Self-acceptance was viewed as a quality that a person either had or did not have, not as something that could be developed with self-compassion.

*Female10, S2 “Like if you were kind of looking in the mirror and thinking oh I look so bad today ... you can’t just tell yourself ‘oh never mind I look so pretty now, I do like my body now’, you know, it’s either there or it’s not”*

While this participant was aversive to the use of self-compassion to manage distress and difficulties, this in part, seemed to be due to personal difficulties in applying self-compassion to their own struggles and feeling guilty or frustrated for not being able to give compassion to themselves.

*Female10, S2 “Just because I’m aware that I should be compassionate to myself doesn’t mean that I can just shove it into every situation when it’s necessary to do it [Female3, G2 and then you feel bad if you can’t shove it in] Exactly, yeah. And then I think I should be able to do this, I should be able to not think like this. But it’s not always like that”*

Another limitation mentioned by some participants, was that the duration of the programme was too short to achieve any substantial changes in mindset or behaviours. These individuals held the view that long-established patterns of thinking were difficult to change and required a sustained, long term commitment to be effective. This belief seemed to have prohibited these participants from engaging with or benefitting from the programme. One participant conceded that while single sessions were not sufficient to produce large changes, differences could be attained with further self-directed effort.

*Female10, S2 “A lot of people, especially at this age, they will have that sort of inner critic within themselves and it is very hard to just, I don’t know if you can manage it, but it’s hard to actually make it go away. It’s going to be in us for the rest of our lives ... a single session it really, it didn’t change anything”*

*Female4, S2 “I don’t think it’s that simple to teach someone compassion, for others or for themselves. Like it’s a mindset really, it’s built up over the years”*

*Female5, S2 “I just feel it’s something I need to work on further but I don’t feel like that one session of that could make a big difference, does that make sense?”*

### **3.3 Confronting uncomfortable topics**

Some participants reported that the programme forced them to confront uncomfortable, challenging issues or concerns which made it difficult to engage with the programme. One participant noted

that the pre-intervention survey asked direct questions about issues that they personally struggled with but had pushed to the back of their mind. While the participant initially found this uncomfortable, they did not find it too distressing and felt that the discomfort with these issues eased throughout the course of the programme.

*Female2, S3 “It made me open up, I think what it was for me was it made me think about something that I’d kind of pushed to the back of my mind a lot so then that’s subconsciously there but I was made, with that questionnaire, I was made think about it, and it was very much at the front of my brain at this point, and I wasn’t used to that, and that was kind of where I felt it was a bit, you know, intrusive but other than that it was nothing major. It wasn’t I felt unsafe but just uncomfortable, I didn’t like, it was just a little step outside my comfort zone”*

Another participant noted that becoming aware of one’s thoughts (from the reflection on time spent in the three systems; threat, drive and soothing), and the fact that they spent a lot of time in unfavourable mental states was uncomfortable, but ostensibly, not overly distressing.

*Female3, S2 “It nearly could make you feel a little bit worse when you realise that you’re in this kind of, you know, state of mind most of the time, and I’m I don’t know, I’m not that worried about it, if I was passionate about it I would get worked up over the fact that I keep thinking one way and I should be thinking another way, stuff like that”*

Some participants found that the serious nature of the content and focus on self-criticism deflated their mood and felt that the programme could benefit from an injection of humour or light-heartedness.

*Male4, S1 “I think more people got down just listening to the class”*

*Female2, S4 “Have more laughs ...make things more funnier [sic] so that you get your actual crowd like wanting to listen more”*

### **3.4 Comfort speaking/engaging in discussions**

The extent to which individuals participated in classroom discussions also influenced the benefits experienced from the programme. Groups that felt comfortable diving into and discussing difficult topics appeared to gain a lot from the process; however, those who found it difficult to open up or share, failed to experience these gains.

Many participants remarked that the sessions were awkward because there were lots of silences and people were reluctant to speak or share thoughts in class discussions. Some participants reported providing responses that they didn’t necessarily agree with in order to break uncomfortable silences.



*Female2, S2 “Yeah, the class was really awkward [laughter from others]” Female 5 “It was” Female10 “And no one answered ever”*

*Female10, G2 “Yeah and I would just say an answer I didn’t even necessarily agree with just to say something to like break the silence you know”*

Many felt that the classroom environment was not conducive to sharing and discussing sensitive or personal issues. Some participants were unwilling to contribute because they recognised that others in the group were holding back, and this unwritten rule of silence was difficult to break, irrespective of the topic.

*Female4, S2 “There’s something about the setting, like I didn’t want to say anything because no one else was, and then no one else was saying anything and she was just looking around and it was like dead silence. There was just something about it made no one want to talk so it didn’t really matter what she asked us because no one was going to talk anyway.”*

Despite the small groups, and being surrounded by friends, many found it too exposing to divulge their true thoughts or feelings for fear of judgement from others. Participants felt that sharing their personal thoughts and feelings on sensitive issues placed them in a vulnerable situation, especially among peers who they did not get on well with.

*Female 4, S2 “Even though it is a smaller group of people and it is more intimate and you do feel a bit safer, it’s still with people who you can’t be best friends with all of them and even if you were and you’re good friends with everyone in the entire group, you still wouldn’t feel comfortable because there are so many people and it feels you’re revealing something about yourself that you could just keep to yourself”*

*Female10, S2 “Like I wouldn’t spill about my deepest darkest secrets to everyone in the middle of a group and to someone I barely know anyway”*

Participants were concerned about the judgements of others feared the repercussions of sharing anything intimate in the sessions. They felt that within a classroom environment, there was little/no confidentiality, and anything they shared would be spread by others, or used against them.

*Male5, S1 “Yeah, like literally no one wanted to talk about anything, literally”*

*Male4, S1 “I think people were afraid to talk because then it would get out of the room and people would be talking about you then”*

*Male3, S1 “Yeah there’s no such thing as confidentiality here”*

Many sought to keep their vulnerabilities or concerns from their peers, which was difficult to do in a classroom. When filling out the surveys, participants disliked when others looked over their

shoulders or asked to show what responses they provided. Participants reported responding in ways that didn't reflect their true feelings to the prompts when they felt scrutinised in this way by a peer. Some participants indicated a preference for doing the programme outside of a classroom environment where they felt there would be more privacy and less judgement.

*Female5, S3 "Because like even the lads were going 'oh what did you put in for that, and you'd just sit there awkwardly going"*

*Female6, S3 "Yeah or 'what does yours say?'"*

*Female5, S2 "Yeah and you're not really being truthful with yourself because you don't want people to see"*

While smaller group or pair-work helped some participants to engage more with tasks, others, especially boys, still struggled to engage in these one-to-one style exercises because they found it unnatural and awkward.

*Male5, S2 "I suppose the only bit that for me wasn't as good was talking in pairs"*

*Male1, S2 "It felt like you were talking about something that you wouldn't normally talk about in front of that person, so you couldn't relate, and it was hard to talk"*

While some participants found pair-work less awkward, at times they didn't engage earnestly with the task at hand, reverting to chit chat or joking around, and therefore may not have benefited as much from the programme as those who felt more comfortable discussing these topics or who took the programme more seriously.

*Female2, S4 "We all just kind of like took the piss out of it but like it was good, like it was funny"*

However, not all groups reported this sense of awkwardness or difficulty sharing thoughts. In two female groups, participants reported that there were no concerns about opening up or discussing sensitive topics in the sessions. These participants felt that they could trust the others in the group and didn't feel judged on their opinions. This openness facilitated in-depth conversations in these groups, and participants felt that they gained a lot from them. Participants felt that the small group size, the friendliness between classmates and the fact that even individuals outside their friend group admitted to similar concerns, facilitated this disclosure.

*Female5, S3 "By the time we'd get to the end of the class we'd have been talking about something else, like we were actually really able to get into the conversations, like there was no awkwardness like, at all. We were able to use the sessions we had and use them wisely I suppose"*

*Female2, S3 “Even people from different friend groups, everyone was agreeing and all, with things. We could relate to other people’s problems”*

Participants also felt that disclosure was aided by the non-pressurised, non-judgemental atmosphere set in the classroom. Participants liked that they were invited to volunteer opinions and not corralled into responding by the researcher. They also liked the researcher’s disclosure of examples of social media struggles from personal experience, as it provided them with the confidence to discuss issues of their own. Participants felt that hearing an adult speak about issues without being laughed at or judged, legitimised their feelings and made them feel more comfortable to disclose.

*Female5, S3 “She wouldn’t force us to give out our answer, we could if we wanted to but she let us keep it to ourselves from people, like some people they’ll ask you and if you don’t want to you’re sort of looked down on”*

*Female4, S3 “She’d like give her opinion first and then you’d feel more confident to kind of give yours as well, or like the examples on how it affected her, and you’d be like, oh well if she’s saying it then I can say it too”*

*Female2, S3 “Yeah well like when you have her standing there it gives a sense that, like when she said whatever and when the group didn’t laugh that you could be, you were comfortable enough to say whatever you were thinking, and you’d know you’re not going to be judged, at least out loud anyway”*

Girls liked pair-work because it helped them gain a greater understanding of the content, and they found it interesting to hear other people’s perspectives on topics and enjoyable to engage in conversations with friends.

*Female4, S1 “You’d just kind of understand it more if there was something you didn’t get then the other person could explain it to you”*

*Female7, S3 “It was just interesting to get people’s different perspectives on it”*

### **3.5 Barriers to engagement outside of classroom**

Some participants acknowledged that aspects of the programme could be beneficial if they committed to engaging with them; however, because they didn’t practice the activities or apply the concepts, they failed to benefit from them.

*Female3, S1 “I mean if I actually went and did them [meditations] that would be good but like I don’t have the effort”*

A common barrier to doing meditations was feeling distracted by others in the room, the inability to sit still and not fidget and to close one’s eyes.

*Female2, S3 “I didn’t really like the meditation, I wasn’t able, I found it, I think why it wasn’t helpful to me to be honest was because I felt, like it isn’t anything against anyone, but with everyone in the room I couldn’t really keep my eyes closed”*

Many found it difficult to practice the breathing exercises or do the reflections outside of class as there were too many distractions at home, competing activities and interests that consumed their time, or they felt weird doing the exercises outside the classroom context. Others forgot to do the exercises, found them too effortful or didn’t find them beneficial to practice. Participants felt that having guided instruction and dedicated time and space in class facilitated engagement with the exercises.

*Female5, S3 “Yeah and they like give you time to do it, like a specific time to just meditate whereas when you’re at home you’re like on your phone or doing whatever”*

*Female3, S2 “Because we had like loads of stuff going on, so we couldn’t practise the meditations at home because we had like homework and stuff like that, and then you have activities outside of school as well. It kind of got in the way of doing that sort of thing”*

Similarly, participants tended to forget to complete reflection booklets, were distracted by competing interests and activities at home, or disliked the concept of “homework” and were not interested in filling them in each week.

*Female5, S1 “I think it’s just we don’t get homework in TY so we can kind of forget about it. So, we go home, and we don’t do anything”*

Participants in two groups reported that they would have preferred additional time in class to fill out the reflection booklets while the content was still fresh in their heads. These participants also would have preferred longer duration classes as it would give them opportunities to learn more and delve further into topics without constraints of time pressure.

*Female4, S3 “Yeah like the last class we did was 2 classes long and I felt that we were like really able to fit a lot into it, like , it wasn’t a rushed session because we were kind of able to sit there and talk through things calmly, and we were able to voice our opinions , and there was just a lot more”*

#### **7.6.4 Theme 4: Suggestions for future improvement**

There were mixed opinions on almost all aspects of programme delivery; some found the analogies and stories useful and thought provoking, others found them difficult to understand and relate to; some wanted more meditation while others wanted less; some found the YouTube and audio clips entertaining, while others found them boring. However, a core theme that emerged was relatability of content; while many girls found that they could relate to the content, others, especially boys felt

that content was not relevant to them and felt that the programme should be tweaked or tailored to meet the needs of the group so that they would engage with and benefit more from the group.

*Male3, S1 “It probably would have helped refine it a bit more and more by finding out what we think rather than just seeing whether we agree with them or not, because you’re not going to get much information out of that”*

However, some participants did acknowledge the paradox in wanting content tailored to their needs, but not divulging or discussing what their needs actually were to facilitate this adjustment to be made.

*Female10, S2 “When you say like were you not being asked enough, to say that I don’t think it would be fair because I think she was trying to ask us things and get our opinion but like no one was saying anything. [others – yeah laughing] so even though she was making an effort like it didn’t make a difference because none of us was going to say anything anyway”*

While this difficulty in identifying and addressing specific groups’ issues was noted, some suggested that asking participants’ understandings of topics prior to explaining them could help reduce repetition and feelings of being patronised.

*Female3, S2 “Maybe find out what the people that you’re working with, how exactly they’re thinking about things when it comes to social media so you’re not teaching them things that they already know”*

The issue of relatability also emerged in the communication of concepts and ideas within the programme. Participants felt that it would have been helpful to include more real-life examples that they could relate to.

*Female4, S1 “Like I guess it’s trying to make it more relatable to who you’re giving it to as such, because like some of the stuff you wouldn’t relate to”*

Participants also commonly reported that they would have preferred more active participation, more pair work, and more time to explore concepts in class.

*Female3, S4 “I think she should like do more, like, activity stuff, and not talk as much, if you get me, actually make us write something down, like if she gives us stuff like to take out, or something like that”*

### **7.6.5 Theme 5: Group Dynamics**

There were stark differences between groups in terms of their perceptions of and response to the programme. Boys in both schools responded similarly to the programme, in that they recognised

the merits of the programme for others but felt that it was not very relevant for them. The unrelatable nature of the programme, negatively affected boys' perceptions and limited their engagement with the programme.

Girls' responses to the programme varied across schools. A lot of the negative commentary of the programme emerged from girls in school 2, who did not deem themselves in need of help with social media, body image or psychological struggles. These students felt that they were knowledgeable about their mental health, felt unaffected by these issues and found the programme condescending. It is worth noting that the focus group with these participants was dominated by two speakers who held definitive and pessimistic views of the programme's utility and this may have affected other participants' responses within this group. It is also noteworthy that participants in this group struggled to engage meaningfully in any discussions or divulge any concerns or issues that they had in class and did not extensively practice exercises or meditations outside of class.

Negative perceptions of the programme were also held by school 4, who also had notably low levels of engagement with the programme. Poor attendance, difficulties maintaining attention and low engagement with exercises were features of this group. When participants did engage with exercises, they reported not taking them seriously and just "having a laugh". Moreover, this group's comprehension of the programme appeared low, and they found the delivery slow and boring. Poor responses to the programme may also have been a function of the disintegration of the researcher-student relationship over the course of the programme, where the researcher was perceived to have lost energy and interest in delivery and issued stricter management of the classroom.

*Female3, G4: I'm just saying in the first class I went to everyone was discussing it together and it was like, better, and then the last class was just like completely different, it might have been because the teacher wasn't there or else she just got sick of us but, it was just different*

*Female5, G4: I think she just got annoyed that people were talking in class,*

It may also have been a function of the general school/classroom atmosphere within the which was largely disengaged. Tones of hostility and impatience were also evident in the ways students' related to each other and also to the interviewer throughout the focus group. During the focus group, one participant remarked, Female4, G4 *"I shouldn't have come to this thing it's pissing me off"*

Another participant retorted defensively to a peer's assumption they all knew about photoshopping.

*Female4, S4 "Yeah, obviously everywhere"*

*Female6, S4 "Well don't be so like "everyone knows that""*

This atmosphere may have closed participants off from engaging in the programme.

In stark contrast, the two female groups that responded positively to the programme, found the programme interesting, relatable and actively engaged with the practices and exercises. The most positive evaluation of the programme was held by participants in school 3, who felt comfortable opening up and discussing sensitive topics with each other. This group also evinced high levels of engagement in completing exercises, practicing meditations and applying the programme to their daily life outside of class. This suggests that given the right conditions and ample engagement with the programme, participants can benefit from the programme if they perceive it as being relatable to them.

### **7.7 Field notes Results**

Field notes (presented in Appendix G) suggested that programme engagement may have been influenced by school culture, investment in the programme by TY coordinators and classroom dynamics. Attendance and engagement rates varied across schools; some schools had higher absentee rates because of systemic issues with poor attendance while others organised numerous extra-curricular activities for students which led them to be absent from class. The number of workarounds and compromises to facilitate the programme delivery were also influenced by the level of extra-curricular activities organised by the school. Additionally, the TY coordinator's enthusiasm and organisation levels influenced the extent to which students returned parental consent forms, the smoothness and consistency of programme delivery and the prioritisation of the programme over other activities. Finally, classroom dynamics, including rapport with the researcher, friendship dynamics, student attitudes towards the programme appeared to influence programme engagement.

## 7.8 Discussion

This study evaluated the effectiveness, feasibility and acceptability of a novel five-week Digital SMART Programme to improve main outcomes of self-compassion, self-criticism, body dissatisfaction and body appreciation, and secondary outcomes of body ideal internalisation and appearance comparisons in Irish adolescent boys and girls.

### 7.8.1 Effectiveness

There were no significant interactions in the Intention to Treat (ITT) analysis across primary or secondary outcome measures. This contrasts with expectations that the Digital SMART would produce changes across outcome measures over time in the experimental group. However, there was an increase in body satisfaction scores in the experimental group versus the control across pre- to post-intervention that trended towards statistical significance ( $p=.066$ ). However, the effect size of this interaction was small, indicating that the magnitude of change was not substantial. Also, the control group's scores on body satisfaction decreased from pre- to post-intervention which would not be expected. This decrease may reflect variation/error in the control group's responses and may have misleadingly made differences between control and experimental groups appear more pronounced than they actually were.

In the ITT three month follow up analyses, significant improvements were observed in body satisfaction, which increased in a linear fashion from pre to post-intervention and continued at follow up. Although no other statistically improvements were obtained, there were changes in body dissatisfaction and self-criticism that trended towards significance in desired directions. These findings suggest that the programme may have facilitated sustained and continued improvements in body satisfaction and may also have had the potential to produce delayed post-test gains in other outcomes. However, maintenance effects should be interpreted cautiously because apart from body satisfaction, changes at follow up were not statistically significant and the sample size was small.

The Per Protocol (PP) analysis, which was included as a secondary analysis to evaluate potential treatment differences between “completers” and “non-completers” found no statistically significant interactions in the evaluation of intervention effects. It is surprising that significant improvements in body satisfaction were observed in the ITT at post intervention but not PP, given that ITT is a more stringent analysis and it is generally more difficult to obtain statistically significant results in ITT than PP analyses (Brittain & Lin, 2005). This finding may be attributable to the larger sample size involved in ITT analyses, which may have increased the power to detect significant effects that may otherwise not have been detected in the smaller samples used in PP analyses (Wertz, 1995). In light of the more optimistic findings observed in ITT analyses versus PP regarding treatment effectiveness, it may be the case that the intervention had the potential to produce significant improvements in body image, but the ability to detect significant effects was limited by the relatively small sample size. It is worth noting that sample size and subsequent



statistical power of this study was reduced because of the premature cessation of the study due to the outbreak of Covid-19 which prevented us from attaining post-intervention data from two groups and follow up data from three of four schools. In addition to reduced sample size, this premature study cessation resulted in a gender imbalance in responses, such that the post-intervention scores obtained were disproportionately female and we were less able to determine boys' responses to the intervention.

In PP follow up analyses, significant improvements in body appreciation and marginally significant increases ( $p=.05$ ) in self-compassion were observed. Girls experienced small linear increases in self-compassion, and both boys and girls experienced increases in body appreciation from pre-to post- intervention and these continued at a three month follow up. Descriptive statistics demonstrated trends in desired directions for these variables in the ITT analysis, suggesting that ITT is a more stringent analyses and significant findings are more difficult to observe. However, it also plausible that a selection bias influenced the discrepant findings between PP and ITT analyses, as we only conducted these analyses with a subset of participants who provided full responses at all time points and these participants' responses may have differed from those who provided partial responses (Henderson & Page, 2007). Follow up PP analyses, were conducted with a very small sample ( $n=7$ ), within a single school, which strongly limits the inferences that can be made about these findings and the generalisability of these findings to larger groups. Additionally, there was no control group against which long term treatment responses of the experimental group could be compared, thereby further limiting the inferences that can be drawn about long-term effects of the programme.

In addition to between group analyses (control versus experimental groups) we conducted analyses on the experimental group only. Change score analyses of the experimental group, indicated that there were no significant differences in participants scores between pre and post intervention when baseline scores were accounted for. This suggests that baseline scores did not influence participants' response to the programme; participants with lower scores on measures at baseline did not benefit more from the intervention than participants with higher scores at baseline.

Change scores were influenced by gender; boys scored significantly higher than girls on post-intervention scores of body appreciation, self-compassion and appearance comparisons when baseline scores were controlled for. Boys also scored lower than girls on body dissatisfaction and self-criticism at post-intervention, and while these differences were not statistically significant, they bordered on the threshold of significance. This suggests that the programme exerted differential effects on boys and girls, such that boys experienced better outcomes across these variables than girls at post-intervention. It may be the case that boys benefitted more from the programme than girls - very few studies have investigated the use of self-compassion interventions to improve body image in adolescent boys and it plausible that boys responded better to the

programme than girls (Braun et al., 2016; Rahimi-Ardabili et al., 2018). However, it is more likely that these findings reflect distinct patterns of responding to body and self-related measures among boys and girls. Boys generally scored in desirable ranges across all measures exhibited relatively high baseline scores. Their higher scores at post-intervention, therefore, may reflect gendered patterns of responding rather than gender differences in response to the programme. Additionally, qualitative findings, which will be discussed below, also lead us to think that boys did not necessarily benefit more from the programme than girls.

As expected, girls' body satisfaction scores declined in a linear fashion following exposure to body ideals; however, the opposite trend appeared to occur in boys, where body satisfaction scores unexpectedly increased following exposure to body ideals. Although some exposure studies have been conducted with adult men where body satisfaction scores typically declined post-exposure (Barlett et al., 2008), no studies have been conducted with adolescent boys in relation to social media and therefore it is unclear why boys' scores may have increased in this way. It may be the case that boys perceived themselves to be close to their body ideals and this elicited assimilative, upward comparisons and their associated self-enhancing effects. Alternatively, they didn't evaluate themselves heavily in terms of appearance, and this protected their body image perceptions. It is also likely that this may reflect a reactivity response to the prompt (Lavrakas, 2008) – if this is the case, this suggests that outcomes of exposure studies need to be interpreted cautiously with adolescent boys and further research is warranted. Although descriptive statistics showed that body satisfaction scores were higher both before and after exposure to body ideal images in both boys and girls (in the intervention group) at post-intervention, these improvements were not statistically significant. This indicates that the programme was limited in its ability to improve participant affective responses to idealised body images on social media.

Overall, the findings suggest that the intervention was not effective in improving outcomes for body image, that long-term effects were modest and that Cohen's *d* effect sizes for change scores in the intervention group were small to negligible. This contrasts with our expectation that the self-compassion intervention would increase self-compassion and reduce body dissatisfaction adolescents and that these changes would be sustained at follow up. Previous research has found self-compassion interventions, including those that have adopted a CMT framework, to be effective in reducing body dissatisfaction in adults, with a recent meta-analysis reporting medium effect sizes of  $g=.39$ , (Braun et al., 2016; Kelly & Carter, 2015; Steindl et al., 2017; Turk & Waller, 2020).<sup>12</sup> Although fewer intervention studies have been conducted with adolescents, especially in relation to body image, Bluth and colleagues' (2016) six-week self-compassion intervention to improve adolescents' general psychological wellbeing yielded significant improvements in self-

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<sup>12</sup> Although, when missing studies were accounted for in this meta-analysis, these effects dropped to small effect of  $g=.29$ , (95% CI = 0.12 to 0.46) (Turk & Waller, 2020).

compassion, depression and anxiety-related symptoms with medium effect sizes ranging from ( $d=0.49 - 0.58$ ). Moreover, experimental studies have found that self-compassionate prompts positively impacted body image and attenuated the negative influence of exposure to body ideals on social media (Slater et al., 2017). However, the present study did not observe such protective effects of self-compassion on body image when participants were exposed to images of body ideals, nor did it observe the small-medium effect sizes for improved body image outcomes reported elsewhere in the self-compassion literature.

It is unclear why there are such discrepancies between our modest findings and small/negligible effect sizes compared to the medium effect sizes yielded by Bluth and colleagues (2016) in their 6-week mindful self-compassion programme for adolescents – a study which closely reflects the Digital SMART programme in terms of intervention structure and study design. It may be the case that, contrasting with our study, Bluth and colleagues' (2016) mindful self-compassion programme (Neff & Germer, 2013) was delivered outside of a school environment, with a smaller sample ( $n=34$ ) who were paid for participation, which may have influenced participants' responses to the programme. Furthermore, different outcome measures were used (although measure of self-compassion was the same) and the analytic strategy involved multiple paired t-tests, which may have inflated the likelihood of Type 1 error even though Bonferroni corrections were used to control for error. This still fails to explain the larger effect sizes observed by Bluth and colleagues (2016) and by other studies investigating self-compassion interventions in adults (Rahimi-Ardabili et al., 2018; Turk & Waller, 2020). It may be the case that a positive outcome bias operated in the literature, such that effect sizes may appear to be initially large in novel research areas and subsequently reduce over time, as more studies are conducted with larger, more varied samples and in more controlled manners (Fanelli, 2012; Ioannidis, 2018).

Our small effect size may also be explained by the fact that this study was a schools-based intervention where significant changes are notoriously difficult to attain and effect sizes are mostly small especially among middle-adolescents (Yeager et al., 2018). In a review of school-based interventions for body image, Yeager and colleagues (2013) found that seven out of 16 programmes produced significant improvements in at least one outcome measure, but effect sizes were mostly small, ( $d = -0.22 - 0.48$ ) and effective programmes were conducted with younger adolescents aged 12-13 years. Therefore, it may be the case that the inability to identify significant and substantial effects may be attributable to the setting (school based) and age cohort (mid-adolescents) that the study was conducted with. The wide confidence intervals of effect sizes indicate that there was a large degree of variability in our sample which may have obscured abilities to detect larger effect sizes.

However, our findings do somewhat concur with those of Rodgers and colleagues' (2018) - the only other self-compassion intervention to address body image in adolescents. Rodgers and

colleagues' (2018) self-compassion app, was found to produce significant improvements in body-esteem ( $\eta^2 = .018$ ) and self-compassion ( $\eta^2 = .036$ ) in experimental groups from pre- to post-intervention; however, both control and experimental groups experienced significant changes in other outcomes of appearance comparisons, mood and body image flexibility (as indicated by main effects of time). On further reflection, the finding that significant improvement was observed in only one body-related outcome in the experimental group post-intervention, and that significant changes were observed in control group scores on other outcomes measures, suggests perhaps that the overall effectiveness of the app was relatively modest. In this respect, the Digital SMART programme's limited ability to producing statistically significant changes in body-related outcome measures and small effect sizes somewhat mirror the findings of Rodgers and colleagues' (2018) study. Given the modest improvements in body-satisfaction from pre-to-post-intervention and follow up in the experimental group, like Rodgers and colleagues (2018), we can suggest that our findings may provide modest but preliminary support for self-compassion as a potentially useful approach to promote positive body image.

However, given the non-significant changes in self-compassion in the present study the mechanisms by which improvements in body satisfaction were observed were unclear. The non-significant changes in self-compassion may also explain why the intervention failed to improve outcomes for body image. We had hypothesised that the programme would encourage individuals to be more self-compassionate, and that self-compassion would positively impact their body image. Several potential mechanisms through which this change could occur were considered; however, the primary expectation was that self-compassion would reduce critical self-evaluations following appearance comparisons, and this would give rise to reduced body dissatisfaction (Albertson, 2013; Goss et al., 2010). Although we did not expect self-compassion to reduce the quantity/frequency of appearance comparisons made, we expected that the negative evaluations associated with appearance comparisons would decrease and body dissatisfaction would be reduced. However, we also considered the possibility that increases in self-compassion would give rise to improvements in body appreciation, and this would buffer against body dissatisfaction. Additionally, we also considered that self-compassion could directly influence body image or could indirectly mediate intervention effects (Braun et al., 2016).

As no significant changes were observed in the main analysis, it is not possible to comment with any certainty on the possible mechanisms of change. Future research with sufficiently large sample sizes are required to conduct mediational analyses and identify potential mechanisms of action. Future research is also required to assess whether CMT interventions can successfully bring about changes self-compassion and body image in adolescents. This was one of the first studies to adapt a CMT intervention to address body image concerns on social media in adolescents. Although no statistically significant changes in self-compassion or body related outcomes were observed in this study, the utility of self-compassion approaches for improving these outcomes

should not be dismissed. Qualitative data from focus groups and reflective booklets suggest that the programme was successful in changing how some participants related to themselves and their bodies, how they engaged with social media and how they coped with challenging issues.

Participants reported that the programme heightened their awareness of thoughts, emotions and inner dialogues and encouraged them to relate to themselves in more self-compassionate ways, especially in times of distress/difficulty. The programme fostered a greater appreciation of common humanity – the idea that it is normal for humans to make mistakes - which decreased participants' sense of isolation with personal struggles and encouraged them to be less critical on themselves. The programme also taught breathing and mindfulness meditations that participants used in their daily lives to regulate their emotions and self-soothe in challenging times. Similar findings were observed by Bluth and colleagues' (2016) who explored adolescents' responses to a self-compassion intervention designed to improve general psychological wellbeing. Adolescents reported that the self-compassion intervention enabled them to use compassionate self-talk to reframe challenging situations and to use breathing and mindfulness practices to self-soothe when stressed or anxious. Furthermore, in Bratt and colleagues' (2020) qualitative exploration of adolescent girls' experiences of CFT for general mental health issues, participants reported that relating to others in the group and recognising that they too struggled with similar issues, helped them feel less alone and more compassionate towards themselves.

Some girls reported that the Digital SMART programme enabled them to extend self-compassion to their bodies. Aligning with expectations in the literature, self-compassion enabled girls to reappraise critical and competitive self-evaluations of their bodies and view them in a more balanced, empathetic light (Albertson, 2013). As proposed by Goss and Allan (2009), learning about the biological limits of body change and recognising the universal nature of body dissatisfaction also helped girls foster more compassion towards their bodies. Recognising that difference and imperfection were normal parts of human experience, also enabled girls to develop a greater appreciation of their bodies. Such changes in body image were not reported by boys, and potential reasons for this will be discussed below.

Furthermore, some participants reported that the programme had changed their relationship with social media such that they were less negatively affected by problematic appearance-related content. Girls reported that learning about the artificial nature of body ideals on social media decreased their tendencies to compare with these ideals. This finding would support media literacy work, which suggests that increasing knowledge and critical processing of body related content, reduces the extent to which individuals endorse and compare to body ideals, and experience body dissatisfaction (McLean et al., 2017). However, this self-compassion intervention may add additional layer of information to media literacy approaches, that may augment adolescents' ability to manage problematic body-related content on social media.

Specifically, this self-compassion programme outlines how social media is purposively designed to prolong social media use, explains *why* our brains respond to social media in the way that it does and emphasises that it is *not the individual's fault* that they can sometimes be influenced by social media in particular ways. It also encourages individuals to reflect on their own social media use, identify patterns of use that are problematic for them and develop strategies to get out of problematic loops. Because of this, the programme not only provides information about social media, as is done in media literacy approaches, but reduces self-blame for patterns of “problematic” social media use, encourages a deeper level of self-understanding and self-reflection, and aims to empower adolescents to identify strategies that they themselves might find effective for managing personal social media use. Future research is required to comparatively evaluate these two approaches, to ascertain whether this self-compassion programme yields superior gains to social media literacy interventions on body image outcomes.

From our qualitative findings, it appears that self-compassion succeeded in facilitating some of these aims. Many girls and boys reported that this programme helped them to understand and become more aware of their own behaviours and social media use. Within reflective booklets, many participants were also able to articulate self-critical loops that they encountered on social media and identify ways of getting out of these loops. Responses in reflective booklets also indicated that some participants developed a greater repertoire of strategies to help them manage challenging content online over the course of the programme. One participant for example, initially avoided problematic content, but later reported using mindfulness exercises and compassionate self-talk to manage challenging content.

Although few statistically significant differences were observed, these qualitative findings suggest that some participants experienced meaningful positive gains from the programme. These positive findings indicate the value of delivering self-compassion interventions to improve adolescent body image and psychological wellbeing. It is worth noting that these positive gains, especially in relation to body image, were mostly observed in two female focus groups and in reflective booklets returned by participants. Participant responses to the programme varied both within and between groups. Further exploration of participants' perceptions of the programme may provide insight into reasons why the programme yielded these benefits for some participants and not others.

### **7.8.2 Acceptability**

Participants held diverse opinions of the acceptability of the programme. Those who held positive evaluations found the content relatable and felt that the programme addressed pertinent issues, such as self-criticism and body dissatisfaction that were avoided or not discussed in their school curricula. These participants also found the content interesting and informative and reported

that information, in addition to the meditation practices, helped them in their daily lives to regulate stress, anxiety, social media use and body image issues.

Other participants held more negative evaluations and found the programme uninspiring and uninteresting, were not interested in the topics, did not find the activities or meditations enjoyable or didn't feel that the programme helped them in any way. A few participants struggled to understand the content, or to apply content to their own lives, or to do the meditation/breathing exercises. Other participants, especially boys, appreciated the merits of the programme but felt that they didn't benefit as much as they could have from the programme because the content was not very relatable. Boys reported that they didn't struggle with body image, social media or self-criticism issues prior to participation and didn't need help in these areas but appreciated how the programme would be helpful for individuals who did struggle with these issues. Boys appeared to view self-compassion favourably but felt that the programme would be better if it addressed general psychological wellbeing rather than specifically body image and social media issues.

Quantitative findings do suggest that boys held generally favourable scores on measures of body image, social media use and self-criticism, indicating that they didn't struggle as much with these issues as girls. Therefore, boys may not have benefitted from a self-compassion intervention that targeted these issues. However, boys' assertions that they were completely unaffected by these issues appears to somewhat contradict the literature, which indicates that boys are increasingly affected by body image issues on social media (Saiphoo & Vahedi, 2019). It may be the case that boys were reluctant to disclose body image issues given the stigma surrounding male body image (Hargreaves & Tiggemann, 2004; McSharry & Honor Fagan, 2006). This is plausible, given their remarks in the focus groups, in which they indicated reticence in discussing personal issues in class for fear of being judged and teased by their peers. To provide a more individual perspective, this study also evaluated reflective journals to gauge personal responses to the programme in the absence of peer judgment. However, only 13% of boys returned their reflective journals and it is difficult to draw conclusions about male body image or social media struggles from such a small sample. If disclosure was the issue, future research needs to identify ways to foster an environment where boys feel comfortable discussing these issues. One solution may be to provide participants more opportunities to privately reflect on topics during sessions in reflective booklets that would be retained by the researcher at the end of each session.

The perceived lack of relatability felt by boys may also reflect a failure to adequately understand and communicate male body image concerns on social media within the programme. When designing the programme, we drew from the very sparse literature on male body image and from the findings of focus groups that explored social media's influence on body image in a very small number of boys. Although these sources outlined male body image issues, they did not provide detailed insight into how these issues are expressed, or how to communicate about body

related concerns with boys. Given this dearth of information on male body image, particularly in relation to social media, there is a pressing need to further explore this issue and develop a better grasp of how male body image issues manifest and how to facilitate open conversations about these topics in ways that are relatable for boys (Hargreaves & Tiggemann, 2006).

Girls in one school group also reported that the programme was not very relevant to them because they were unaffected by social media and body image and did not need help in this area. These girls felt the programme was pitched at a “type” of individual who was influenced by body image and social media, and the programme was not relevant for them because they did not correspond with this “type” of person. Although these girls appeared to score slightly more favourably on body image outcomes than girls in other schools, their scores indicated that they had relatively high levels of body dissatisfaction, self-criticism and appearance related social media use. Responses in reflective booklets also indicated that they were affected by these issues, despite denial in focus group discussions. Although girls in this group dismissed the relevance of the programme, this may have been more to protect their reputation in a group which condoned individuals who struggled with body image and social media issues, rather than an issue with content being completely irrelevant to them.

The dismissal of body image and social media concerns by this group may also reflect participants’ frustration with the perceived omnipresent discussions around adolescents’ social media use and mental health. Girls, and some boys in this same school reported that they were very aware of their social media use and mental health and were jaded of these topics because they had extensively covered them in previous classes.<sup>13</sup> Participants found it condescending that the programme assumed all adolescents had the same all-consuming problem with social media and needed help managing it. These participants felt that because they had grown up with social media, they were used to it and aware of how to manage it themselves without the direction of adults who had not experienced social media in the same way as them. They felt this programme added little to their current knowledge and underestimated their ability to manage social media and body image issues themselves.

Although these views did not reflect the experience of participants in other schools, where the content was perceived as new, relevant and helpful, this apathy towards psychosocial interventions has been extensively documented, and has been identified as a primary reason why such interventions fail to produce desired improvements among adolescents (Yeager, 2017; Yeager, Dahl, & Dweck, 2018). Yeager and colleagues (2018) propose that adolescents (especially

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<sup>13</sup> The Transition Year structure is not fixed by the Department of Education and each school designs their own programme and decides the initiatives that their students take part in. Although a key aim of Transition Year is to facilitate personal and social development, some schools may place more of an emphasis on this than others, which may explain varied attitudes to the Digital SMART programme (Department of Education, 1993).



middle adolescents aged 13-17 years) are especially sensitive to being treated with respect and status, and that traditional schools-based interventions which impart skills/information to help adolescents “tackle” their issues, often work against this sensitivity. According to Yeager and colleagues (2018), adolescents often perceive even benign efforts by adults to shape their behaviours as an indication that they are being belittled or divested of full adult status. Additionally, Yeager and colleagues (2018) argue that many adolescents are knowledgeable about the behaviours that are problematic for them and perceive it to be infantilizing when information, they already feel they know, is repeated to them.

The issues described by Yeager and colleagues (2018) mirror the opinions shared by adolescents within this school group and therefore future iterations of the programme should endeavour to provide adolescents with more autonomy and status and emphasise their competence/expertise regarding these issues. While this programme sought to elicit the views and opinions of adolescents and draw on their knowledge and experiences to guide the intervention, engaging participants in open, student-led discussions was a significant challenge within the programme.

The reluctance to openly discuss concerns and issues was a common theme in focus group discussions. Participants recognised that they needed to share their views to enable the programme to be tailored to their specific needs, but also noted that when asked about their issues, they were not willing to articulate their true concerns for fear of judgement from others in the group. Although class sizes were small and were composed of friends, many participants felt that the classroom setting was not conducive to discussing sensitive issues because it was too exposing. Participants felt uncomfortable to divulge anything that would put them in a vulnerable position where they could be judged by others. Subsequently they kept their opinions to themselves and as a result, many found the sessions awkward because nobody was willing to speak.

However, this discomfort was not evident in all groups; some participants reported that they felt comfortable opening up about their concerns and did not find sessions awkward. Some reported that they enjoyed delving deep into topics and learning from each other. These participants reported that the non-judgemental, non-pressurised atmosphere fostered in the class by the facilitator and the feelings of trust they had in their classmates because of their openness facilitated these open discussions. This openness in class discussions, seemed to positively influence participants experiences of the programme (as reflected in their positive evaluations of the programme in focus groups and reflective booklets), and therefore it is important to identify ways to encourage this to ensure participants benefit from the programme.

Bratt and colleagues (2020) offer some suggestions as to how to foster greater openness and disclosure in CFT groups. They similarly found that adolescent girls initially found it difficult to share concerns because they feared judgement from others and/or that their problems would be

shared outside of group. However, participants reported that over time (8, 2-hour sessions) they felt more comfortable disclosing their issues and this disclosure enabled them to feel less alone in their thoughts/feelings. Extending programme duration may give participants more time to feel comfortable with the discussion format and to open up about their concerns. According to Bratt and colleagues (2020) disclosure was also aided by the normalisation of issues/concerns by the therapist and the cultivation of a “safe space” to share. Participants reported that writing compassionate letters to themselves and to others within the group enabled them to feel less judged by others. Such practices could be incorporated in future iterations of the programme to reduce feelings of judgement in groups.

It could also be beneficial in future iterations of the programme to begin with a focus group style session, in which participants are asked about their general opinions on body image and social media. Focus groups conducted with adolescents in Chapter 4 appeared to yield quite open and insightful responses from participants and therefore, discussing topics at a more general level might facilitate more open conversations and the opinions provided could guide programme delivery and make examples more relatable to concerns mentioned by the group. Jaycox and colleagues (2006) identify the need to incorporate a degree of flexibility within school-based interventions to ensure the groups’ needs are attended to, while maintaining overall integrity of the programme - this represents one way to facilitate a more fine-tuned approach while maintaining programme fidelity.

Developing a safe space for individuals to share thoughts/feelings may be more of a challenge within a school context, given that participants encounter their classmates on a continuous basis, not on a weekly basis as is the case for group therapy sessions described by Bratt et al. (2020). Although, the importance of confidentiality and respect for others’ opinions was stressed by the facilitator in the programme, as evinced by the focus groups, in practice this was difficult to enforce. Future research could investigate the delivery of this programme outside a school classroom context, as a few participants had mentioned that they would feel more comfortable discussing these topics in a different setting away from peer judgment at school. Additionally, because the programme was delivered by a researcher external to the school, participants may have felt less comfortable discussing sensitive topics with an outsider, or it may have taken time for the facilitator to build rapport with the participants before they could engage with the programme. Future work could explore whether the intervention would be more effective if the programme was delivered by a teacher who was familiar with the students and had good rapport with them.

In addition to identifying ways to foster greater openness and discussion among adolescents, research is also required to address other barriers to participation that were observed. Levels of participant engagement with the programme varied and several factors were noted to influence this. Participant attitudes appeared to play a role in programme participation; although

participants voluntarily opted to partake in the study, the motivations to partake may have been guided by desires to conform to peer or school expectations rather than to achieve personal goals, which may explain low interest in the programme in some participants. Additionally, some were sceptical of the programme's aims to alter social media use, or cynical of self-compassion's ability to change self and body perceptions. Some participants reported that because of this, they went through the motions of doing activities but didn't engage with them in earnest and therefore may not have benefited from them. Again, perhaps conducting this programme outside a classroom setting to involve individuals who were genuinely interested in the programme, might resolve issues of resistance to the programme.

Others found it difficult to engage with the programme because the classroom environment was considered distracting, especially when doing meditations. Most participants also struggled to practice meditations or complete reflective booklets between sessions because they were diverted by competing activities/interests at home, they were not motivated to do them on their own, or they simply forgot to do them. Bluth and colleagues (2016) similarly found that adolescents failed to practice formal meditation practices outside of class because it was difficult to do or was not considered a priority for participants. However, Bluth and colleagues (2016) found that participants experienced gains in self-compassion and psychological wellbeing despite this lack of home practice. However, future research could consider adjusting the programme to allow for more time to do activities in sessions, rather than relying on participant's self-directed initiative outside of class. Some participants felt that if they had more time to do guided meditations, and complete reflective booklets in class, they would have benefited more from the programme.

Finally, some participants' engagement was hampered by the manner in which the programme was delivered; some found the lecture-style aspects disagreeable and felt that engagement in class sessions could be improved by including more activities, real-life examples/stories and by lightening the tone of the class with humour.

### **7.8.3 Feasibility**

High retention rates (90.5%) (or 86.7% when accounting for four male participants who dropped out following completion of surveys), moderate class attendance rates (75%) and moderate-good completion rates of survey data (70.6% pre and post time points) indicate that the programme and data collection methods were feasible. These are comparative to the attendance (78-89%) and retention (86%) rates obtained by Bluth and colleagues' (2016) in their six week self-compassion intervention with adolescents (whose were compensated financially for participating in the programme and completing surveys). Although, completion of the reflective booklets, reported practice of meditations between sessions and participant engagement in some

schools was low, simple adjustments to programme that allow participants more time to complete reflective booklets and meditations in class could increase the feasibility of the programme.

Some challenges were encountered in the implementation of the programme including; participant recruitment, co-ordination with TY co-ordinators and last minute scheduling to accommodate school activities, all of which are recognised as common issues in the implementation and evaluation of complex interventions in school settings (Jaycox et al., 2006). As observed by Jaycox (2006), the school liaison's (in this case, the TY co-ordinator's) enthusiasm for the project appeared to influence the extent to which they encouraged and reminded participants to return parental consent forms and prioritised the programme over other school activities. Field notes from the process evaluation also indicated that school culture and ethos may have influenced attendance and engagement, such that schools whose students partook in multiple activities often had high absentee rates because students were engaging in other activities such as sports games or musicals. Attendance and engagement may also have been hampered in other schools by more systemic issues with low school attendance, tendencies to have low return rates for parental consent forms and low or classroom engagement. These factors highlight the complexity of intervention delivery and implementation within varied school contexts; however, despite these challenges programme delivery was considered feasible. These challenges outlined by Jaycox and colleagues (2006) only came to attention after the intervention had been completed, and therefore it would be useful for researchers evaluating future interventions in school settings to be made aware of the school processes and cultures outlined by Jaycox and colleagues (2006) and the flexible approach required to deliver programmes in these challenging contexts prior to study commencement.

#### **7.8.4 Limitations**

Although no statistically significant differences in outcome measures were observed, these findings should be interpreted cautiously because the sample size was small and statistical power to detect statistical significance was low. While the study was initially sufficiently powered, a loss in sample size due to premature cessation of the study due to the outbreak of the Covid-19 pandemic and closure of Irish secondary schools, resulted in a loss of power and may have reduced the ability to detect significant results. Similarly follow up data was only obtained from one school, and therefore it is tenuous to draw conclusions about the sustained effectiveness of the programme from such a small sample. Therefore, it may be the case that the intervention had the potential to produce significant changes, but this study was not sufficiently powered to detect them. Future research should endeavour to evaluate self-compassion interventions using large, gender balanced samples over a sustained time period.

Sufficiently powered studies are also required to enable moderation and other group-level analyses to be conducted. Recent intervention evaluation frameworks have begun to focus on “treatment heterogeneity” which involves identifying the “differential effectiveness of

interventions across individuals or contexts” (Weiss, Bloom, & Brock, 2014; Yeager et al., 2018, p. 115). This focus has been guided by the widespread difficulty in obtaining significant results in school-based intervention studies and the recognition of the heterogeneity and complexity of responses to school-based interventions (Yeager et al., 2018). In this study, descriptive statistics indicated that there appeared to be slight differences in participant scores across school groups, while focus group and observational data also suggested that there may have been differences in how participants in school groups responded to the programme. However, the study was not sufficiently powered to assess if school moderated participants’ responses. It was also not possible to investigate if hours spent using social media or if programme engagement (as indicated by the proxy of having completed reflection booklets) moderated participant responses. Therefore, this study may have failed to identify potential factors that could have modulated participants’ responses to the programme.

Furthermore, because of school timetabling constraints it was not possible to appropriately randomise groups and all waitlist control groups contained boys only. While this was not the intended study design and we recognise it as problematic in terms of intervention evaluation and analysis, this was an early phase, pragmatic pilot study and we elected to follow Medical Research Council guidelines (Craig et al., 2019), and adopt a flexible approach and work within the constraints imposed by the context. Jaycox and colleagues (2006) also maintain that trade-offs between real-world applicability and neat research design are typical in effectiveness trials, particularly within dynamic, school-based environments. Jaycox and colleagues (2016) assert that the key to successful intervention implementation is flexibility and that each study makes trade-offs in different ways. In this study, we elected to trade off randomisation and proper group allocation, to increase sample size and statistical power and to facilitate its delivery in schools. We adjusted our analyses and attempted to account for potential roles of gender in the analysis; however, this limitation of having no girls in the control group, is an important consideration when interpreting results.

The general lack of significant changes in outcome measures between pre and post intervention may be attributable to the characteristics of the sample - who were a general sample of adolescents that were not screened for body related issues prior to study participation. It is widely acknowledged that attaining significant changes in classroom-based interventions with adolescents, especially middle adolescents (aged 13-17) is exceedingly difficult, with some considering it the exception rather than the rule (Steinberg, 2015; Yeager et al., 2018). It is also known that the severity of target problem is often a moderator of intervention effects, such that interventions containing individuals with more severe target problems tend to yield greater effect sizes than those with less severe target problems (Weisz et al., 1995). Affirming this, Turk and Waller’s (2020) systematic review of self-compassion interventions found that effect sizes changing body-related outcomes in adults were larger in eating disorder groups ( $r=.49$ ) versus non-clinical groups ( $r=.31$ ).

As this study did not target only those with significant body image concerns, the effects of the intervention may have been diluted by participants who had generally good body image, healthy levels of self-compassion and positive psychological wellbeing and who may not have experienced large changes between pre- and post-intervention scores.

Descriptive statistics revealed that many participants in this sample, especially boys, scored well above or below the midpoint on outcome measures indicating high levels of positive wellbeing and lack of body image concerns at baseline and little room for improvement. Within the literature, most self-compassion interventions that have been evaluated with adolescents have involved clinical populations or samples with high levels of psychological distress (Braun et al., 2016; Rahimi-Ardabili et al., 2018). Similarly, most body focused self-compassion interventions, including CMT found to be effective in improving body image, have been mostly conducted with clinical samples or non-clinical samples with significant body-related concerns (Braun et al., 2016; Leaviss & Uttley, 2015). Although this study sought to provide all students with the opportunity to learn self-compassion and to avoid isolating or categorising individuals' based on "target problem severity", future research could investigate whether targeting self-compassion interventions at adolescents with high levels of body dissatisfaction could yield significant improvements in body image versus a general sample.

The limited effectiveness of the programme may also be due to the relatively short five-week duration of the programme. Although significant improvements in body image outcomes have been obtained in short self-compassion interventions lasting from one hour to one week, Craig, Hiskey and Spector's (2020) systematic review, published after the commencement of this Digital Smart Programme, suggests that a minimum of 12 hours of CFT is required to produce sustained improvements in self-compassion and psychological wellbeing. Although psychological interventions are typically shortened and simplified for children and adolescents (and existing class-room based self-compassion interventions for adolescents are typically six weeks in duration (e.g. Bluth et al., 2016)), the period of 40-minute classes once a week for 5 weeks may not have been sufficient to produce changes in self-compassion and body related outcomes. Some participants in the focus groups indicated preferences for longer sessions each week. Future research could investigate whether extending the duration of the programme could enhance the programme's ability to produce statistically significant changes in outcome measures.

However Turk and Waller's (2020) meta-analysis and systematic review of self-compassion interventions for eating pathology and body image concerns found that duration of intervention exerted no moderating effect on outcomes; however, the quality of the study moderated effects such that higher quality studies yielded larger effects: therefore, the non-randomised control design, absence of blinding procedures, presence of other potential confounders and self-report data collection methods may have hampered study effectiveness. Future studies

could investigate self-compassion interventions with adolescents using more tightly controlled designs.

As this programme was delivered by single researcher to all groups, fidelity is likely to be high. However, the fact that a female researcher delivered the intervention to the boy groups, may be a limitation of the study. Although research has found that within classroom settings, academic motivation and engagement of adolescent boys is not influenced by the gender of their teacher (Martin & Marsh, 2005), adolescent boys still may have been reluctant to discuss more sensitive issues or may have found it difficult to convey their concerns to a woman facilitator. Relatedly, focus groups were also conducted by a female researcher, and this gender difference may have limited adolescent boys' participation in focus group discussions. Future studies could evaluate whether boys responded better to the programme and/or focus groups if they were delivered by a male facilitator.

While focus groups were conducted by an independent researcher who was likely to yield more honest and open responses from participants, the limits of focus group design must be acknowledged. It is possible that participants provided socially desirable answers that may not have reflected personal opinions, or their opinions may have been swayed by or suppressed because of dominant members of the group. Although, we attempted to verify the credibility of responses by triangulating them with responses provided to questionnaires and reflective booklets, it is plausible that we missed trends or misreported on them. It is also possible that, although the researcher adopted a reflexive approach, interpretations of participants responses could have been biased by pre-existing assumptions and beliefs (these are discussed in more depth in Chapter 2).

Finally, measurement issues should also be considered; this study relied on self-reported data to evaluate intervention outcomes and therefore it is not possible to determine the extent to which participants over or under report behaviours, especially for behaviours perceived as being socially undesirable (Jaycox et al., 2006). Additionally, although valid and reliable scales were used to evaluate outcomes, changes were made to some scales to reduce response burden and to increase their relevance/appropriateness, which may have influenced the reliability and validity of responses or limited our ability to capture nuances/changes in these constructs (Kruyen et al., 2013). However, the measures in this study showed good reliability and validity, indicating that the quality of the data was acceptable. Caution should be also expressed over the veracity of responses provided by a small few male participants, who in the focus groups, reported that they got bored or impatient while filling out the surveys and randomly clicked buttons to get to the end of the survey quicker rather than responding accurately to prompts. We assessed internal consistency of male responses to items and found that their scores mostly fell within acceptable ranges indicating that this purported random responding didn't substantially impact results obtained. However, this limitation should still be considered when viewing results. Furthermore, the return and completion

rate of the reflective booklets, especially by boys was low which limits insights into their more private perceptions and understandings of the programme. Finally, participation in the programme required active parental consent which may have given rise to sampling bias within the study.

### **7.8.5 Strengths/Future Directions**

The study had several strengths; it included a wide range of schools that varied in size (small, medium, large), location (urban/rural) and status (private/community/secondary) and provided an insight into how the same programme is received across diverse settings. It is increasingly acknowledged that ecological factors, such as interpersonal factors and sociocultural environments play a role in influencing participants response to an intervention and determining whether or not the programme is successful (Jaycox et al., 2006). This study demonstrated that participants responded more favourably to the programme in some groups more than others, and this helps us identify the individuals and contexts who may derive most benefit from the intervention (i.e. adolescent girls who admitted to struggling with body image/social media concerns and who were open to/comfortable with discussing them in sessions).

The mixed method approach used a variety of approaches to evaluate outcomes and provided rich insight into potential mechanisms, barriers and facilitators of the programme. The findings from this process evaluation of the pilot study, could be used to modify and improve the existing programme. Frameworks for the adaptation and development of interventions suggest that modifications to content and delivery are appropriate as long as they maintain fidelity of the programme (Escoffery et al., 2019). Common changes which could be applied to this programme include; increasing the duration of the programme, changing the delivery of content to more interactive rather than lecture-based and altering the content to include more real-life examples and relatable videos (Escoffery et al., 2019). Given the more extensive changes to content and delivery that appear to be required for boys, it is unclear whether such changes fall under a modification of the programme to make it more relevant or whether it would involve a broader, reconceptualisation of how such programmes are designed and delivered for boys. (These considerations will be further discussed in Chapter 8).

### **7.8.6 Conclusion**

This was one of the first studies to investigate the effectiveness of a self-compassion intervention to improve body image on social media in adolescents. Although there were issues with the acceptability of the programme, it appeared to be a feasible and mostly acceptable intervention that produced some improvements, albeit not statistically significant ones in body satisfaction. Qualitative data indicated that some participants benefited from the programme in that they were mindful and self-aware of thoughts and feelings, more self-compassionate, more



appreciative of their bodies and less negatively affected by social media; however, others did not report such benefits. Although the outcomes of this study are not overwhelmingly positive, qualitative data highlights the merits of this self-compassion intervention and indicates that further research is required to make content more relatable and engaging for participants and to identify ways of breaking down structural, communication and attitudinal barriers to participation.

## **Chapter 8. Conclusion**

### **8.1 Chapter overview**

The following section will outline the main findings of the thesis and situate these findings within literatures of social media, body image and self-compassion research. It will also discuss theoretical and practical implications of these findings and outline the distinct contributions of this research. Finally, it will mention strengths and limitations of these studies and provide recommendations for future research.

### **8.2 Theoretical contributions/implications**

Research on social media's influence on body image rapidly evolved over the course of the PhD, and many of the gaps that existed in the literature at the beginning of the PhD journey have been filled over the interim of thesis completion. However, this thesis offers several novel contributions to the literature in addition to supporting existing research findings. It also offers insights into social media related body image concerns of Irish youths.

#### **8.2.1 The influence of social media on body image**

The findings support the classification of social media as a unique sociocultural influence on body image perceptions in young adults and adolescents (Perloff, 2014b). As suggested by Fardouly and Vartanian (2016), social media contains distinct content and affordances that amplify opportunities to engage in body ideal internalisation and appearance comparison behaviours and enable it to exert a stronger influence on body image perceptions than traditional media (Fardouly et al., 2015). The findings also indicate that the Tripartite Model of Body Image (Thompson et al., 1999) can be suitably extended to explain social media's effects on body image because, as suggested by the model, body image perceptions were influenced by this new sociocultural agent (social media) via body ideal internalisation and appearance comparison processes (Mingoia et al., 2017; Solomon, 2016). Aligning with the literature (Myers & Crowther, 2009; Rodgers & Melioli, 2016), the most problematic behaviours for body image on social media were, consuming, posting and editing body-related content, comparing one's appearance with body ideals and peers, and comparing feedback received on one's body-related images to others. As proposed by contemporary media effects models (Perloff, 2014; Slater, 2007; Valkenburg & Peter, 2013) the user and the way they interacted with social media, influenced the body-related outcomes arising from social media use. Supporting findings in the literature (Valkenburg & Peter, 2013), dispositional factors (including gender, temperament, mood, motivation, personality, pre-existing body image concerns), developmental factors (age) and social factors (peer group and broader societal pressures) were observed to interact and shape the impact of social media on body image

perceptions. These factors and their implications for body image will be discussed in detail in the following section.

### **8.2.2 The differential impacts of social media platforms on body image**

As suggested by Cohen et al. (2017), social media platforms did not exert equal effects on body image. Instagram was considered the most appearance focused, consumer focused and pressurising environment for body image by both young adults and adolescents (Engeln et al., 2020). Alternative platforms such as Reddit-fitness and VSCO, which have not been discussed extensively in the literature to date, were considered healthier platforms for body image because they did not contain hierarchical structures, or the same consumer focus that Instagram did. However, concurring with global and national statistics Instagram was the most used platform by young adults and the second most popular platform among adolescents followed by Snapchat<sup>14</sup> (Dooley et al., 2019; Everri & Park, 2018; Smith et al., 2018). As reported in the literature (Dooley et al., 2019; Mandler & Buckle, 2018), young adults and adolescents used these platforms extensively, with 49% of adolescents reporting that they spent three or more hours on social media per day, while 56.7% of young adults reported that they used social media multiple times per day and 40.6% multiple times per hour. This suggests that although there are platforms that might be more protective for body image, these are not used extensively. In light of young people's extensive use of platforms that are more likely to exert problematic influences on body image, it is important to identify ways to help individuals seek out more positive influences and to reduce potential negative effects of these platforms.

### **8.2.3 Social media features/behaviours that are problematic for body image**

Similar to Goodyear et al.'s (2019) investigation of health-behaviours on social media, scrolling through newsfeeds and "search and explore" features were considered the most damaging activities on social media for body image because they exposed participants to a lot of body-related content and increased the extent to which they compared themselves to others. The hierarchical nature of social media as facilitated by the ability to quantify "likes" and "comments" on posts was also considered a pressurising feature of social media that heightened body-consciousness and body image pressures, especially among adolescent girls (Goodyear et al., 2019; Pai & Schryver, 2015). Social media algorithms, which tended to populate newsfeeds with often unsolicited body-related content and to polarise content towards extreme bodies, were also identified as damaging for body image because they made it difficult to avoid appearance-related content and to make appearance

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<sup>14</sup> Snapchat was primarily used for communication with friends, and although the act of taking selfies was considered an appearance-focused behaviour, adolescents did not feel that Snapchat influenced their body image perceptions strongly

comparisons with moderate targets. Social media algorithms were recognised to limit the users' ability to control the content to which they were exposed on social media, which meant that individuals had to rely more on the ways they processed content to protect their body image perceptions on social media. Similar observations were made by Goodyear et al. (2019), who further delineated that algorithms influenced content exposure by preselecting content for the user based on the accounts followed and the content "liked" by both the user and their friends/followers, and by populating the users' newsfeed with content related to the users' specific searches. This was one of the first studies to document the influence of social media algorithms on body image concerns, and our findings suggest algorithms need to be investigated further because they may play a subtle, but potentially instrumental role in perpetuating potentially problematic cycles of social media use and body dissatisfaction (Goodyear, 2020). Given users' limited control over content encountered on social media, the findings also indicate the value in trying to help individuals process body-related content in self-protective ways.

#### **8.2.4 Social media content: Body related messages propagated, and ideals internalised**

Several body ideals for women and men were identified, which influenced individuals' conceptualisations of body image and the body-related behaviours they engaged in. The fit ideal was the prevailing body ideal for women; however, thin and curvy female ideals were also identified (Betz & Ramsey, 2017; Robinson et al., 2017). Muscular and lean-athletic bodies were identified as ideals for men but similar to Bell and colleagues' (2019), men largely rejected muscularity and conceptualised body ideals in terms of physical functionality rather than aesthetics. Supporting findings by Grogan and Richards (2002) young adult men felt that this functionality focus largely protected their body image perceptions from social media's problematic aesthetic focus.

Although these body ideals were largely recognised as unrealistic and unattainable, they were still endorsed and sought after by participants (Engeln-Maddox & Engeln, 2005). The predominant fitness focus among men and women was attributed to the large volume of fitspiration content on social media (Cohen et al., 2017). Aligning with Grogan (2018), but contrasting with the bulk of experimental work (Robinson et al., 2017; Tiggemann & Zaccardo, 2015), young adult women largely endorsed fitspiration content as a motivating influence and considered fit ideal a better focus than striving for thin ideals. However, as found by Bell (2019) adolescent girls were critical of fitspiration content which propagated extreme and aesthetic "fit ideals" that were even more difficult to attain because of the added requirement of being toned as well as lean. Additionally, it was recognised that while fitspiration could increase health-consciousness in a beneficial way, like Carrotte et al. (2017) and Bell et al. (2019), participants felt that the aesthetic focus of fitspiration was often problematically conflated with health, and served to increase

pressures to pursue body ideals. Adolescent girls reported strong moral obligations to pursue body-related behaviours and stated that they often ate healthily and exercised to avoid feelings of guilt for not engaging in these behaviours. Although young adult women reported social media to be a benign influence, they similarly reported that social media was a “reminder” that they “should” engage in these behaviours. This appeared to contrast with the more intrinsically driven motives influencing men’s pursuit of body related behaviours (Franzoi, Vasquez, Sparapani, Frost, Martin, & Aebly, 2012).

As body-related behaviours arising from social media use have not been extensively investigated in youths (Goodyear et al., 2019a), these findings provide an important contribution to our understanding of how social media influences young people’s body-related behaviours. The finding that pressures to pursue body ideals are greater because of the blurred distinctions between health/fitness and aesthetics on social media is problematic and suggests that public health efforts are required to make this difference more apparent. As noted by Bell (2019), participants’ endorsement of the common rhetoric that equates health and fitness with the absence of fatness, may have problematic consequences for body image and health behaviours and may fuel the negative outcomes such as victimisation and body shame associated weight bias among individuals in larger bodies. Furthermore, given that exercising for intrinsic motives promotes greater long-term adherence and health benefits (Teixeira et al., 2012), health promotion efforts should aim to encourage girls and women to engage in health behaviours for more intrinsic motives than out of guilt avoidance. This may be especially beneficial to reduce the pronounced drop off in exercise participation observed in girls throughout adolescence (Currie et al., 2012), and promote a healthier relationship with one’s body image given the associations between exercise frequency and positive body image (Homan & Tylka, 2014).

### **8.2.5 The influence of self-generated content**

Consistent with the literature (Chua & Chang, 2016), our findings indicate that posting selfies and images of oneself on social media can be problematic for body image as it can increase appearance investment and heighten body-consciousness. As found by Grogan et al. (2018), editing and manipulating images also negatively impact adolescent girls’ body image by drawing attention to their perceived flaws and heightening body dissatisfaction. Although young adults and adolescent boys admitted to editing and applying filters to photos, they did not appear to be negatively influenced in this way by editing behaviours because they invested less in self-presentation. Aligning with the literature (Bell, 2019; McAndrew & Jeong, 2012), women, especially adolescent girls, were reported to post more selfies and images of their bodies and invested more in social media self-presentation than men. This study was one of the first to document young adult men’s photo posting behaviours and found that men were also conscious of

their appearance and “social media persona” and selective of the images they chose to reflect this on social media.

Adolescent girls’ high investment in self-presentation suggests that they are most at risk of developing body dissatisfaction from self-generated behaviours (Fox & Vendemia, 2016). However, while adolescent boys’ low investment in these photo-sharing behaviours might be construed as a protective factor for their body image, the finding that adolescent boys avoided posting content of themselves on social media for fear of the receipt of negative commentary indicates that boys are conscious of how their appearance is received by others, but that this apprehension may manifest in less overt ways than girls (Kenny et al., 2017b). Although further research is warranted, this finding that lower overt investment in self-presentation may not be as protective for male body image as purported in the literature (Cohen et al., 2018), suggests that we need to be more conscientious about how we interpret youths’ appearance-related behaviours on social media.

### **8.2.6 Impact of feedback indices on social media**

The fear of being judged and evaluated by others was identified as the factor driving investment in photo sharing and editing behaviours. Feedback indices on social media were noted to compound peer evaluations and comparisons by providing a quantifiable measure of validation and peer approval not evident in real life (Manago et al., 2008; Pai & Schryver, 2015). Both men and women admitted to being influenced by receipt of “likes” and “comments” on the images they shared of themselves; however, as proposed by McAndrew and Jeong (2012), women were perceived to be influenced this feedback more than men, because they invested more in their appearance and used these indices to quantify their appearance-related self-worth in a way that men did not. Supporting this, in Chapter 3, it was found that while comparisons relating to self-generated content were the least endorsed comparison target for body image, women engaged in these types of comparisons more than men.

Adolescent girls were highly motivated to attain this feedback, and as found by Chua and Chang (2016) failure to achieve sufficient numbers of “likes” was associated with feelings of distress, dissatisfaction and inadequacy. Corroborating findings by Chua and Chang (2016) and Bell (2019) girls went to extensive lengths to receive this validation, including pressurising peers to like photos, posting images at times that would yield the most likes from their friends and even, according to boys, purchasing “bot followers” to artificially inflate likes received on posts. Additionally, peer judgement underpinning feedback indices served to police adolescent’s appearance related self-presentation such that girls posted images of themselves that would conform with peer norms and receive the most validation, rather than expressing their authentic selves (Bell, 2019; McSharry & Honor Fagan, 2006). Boys were not influenced in this way by

“likes” and felt that girls were heavily influenced by likes because it signalled social status and popularity – observations also made by Bell (2019). The pressure to attain “likes” was a prevailing theme in focus groups with adolescent girls highlighting the problematic nature of this social media affordance.

Since the focus groups were conducted, Instagram introduced a trial across several countries including Ireland in 2019, whereby the number of likes on posts were hidden in users’ accounts (Instagram, 2020; Orlando, 2019). Given the problematic influence of feedback indices on body image, especially in adolescent girls, this may represent a positive step forward. Although some commentators have heralded this as positive move that will reduce body-related pressures and competition among users, others feel that it is a band aid solution and that users will simply substitute “number of likes” with other metrics such as number of comments received or number of followers (Nicholson, 2019; Wekler, 2019). Given the recency of this introduction, its impact on body image and self-esteem remains unclear. However, adolescents who participated in the Digital SMART programme (which was conducted after the introduction of the hiding likes trial) still identified Instagram as the most problematic platform for body image in classroom discussions, because it encouraged them to compare themselves to the highlight reels of others, and emphasised discrepancies between themselves and body ideals which induced body dissatisfaction. This suggests that hiding likes may not alone enough to improve body image on social media but may represent a step towards achieving this.

### **8.2.7 Appearance comparison behaviours on social media**

This research provided a nuanced exploration of the dynamics of appearance comparisons and how they operated within a social media context. As anticipated, social media affordances increased the number of comparison targets, the frequency of comparisons with these targets and the perceived similarity to these targets, all of which appeared to heighten the influence of social media on body image (Blond, 2008; Chua & Chang, 2016; Kaplan & Haenlein, 2010). Individuals mostly engaged in upward contrastive directions with “superior targets” (Vogel et al., 2014). Even comparisons with peers, who would be considered more “lateral” comparisons, were described in terms of upward comparisons. Although participants admitted to occasionally engaging in downward comparisons, contrasting with Strahan and colleagues’ (2006), this was not an active comparison and was not considered to provide self-enhancing effects for body image in men or women.

Aligning with the literature, focusing on personal shortcomings or discrepancies (i.e. comparing for self-evaluative purposes) negatively impacted body image (Martin & Gentry, 1997), while focusing on identifying ways to improve (i.e. comparing for self-improvement motives) was associated with more positive outcomes (Halliwell & Dittmar, 2005). Social media content

appeared to influence the motives underpinning comparison behaviours, for example, fitness-related content appeared to be associated with more improvement-focused comparisons while idealised content appeared to be associated with self-evaluative motives (Halliwell & Dittmar, 2005; Tiggemann & Zaccardo, 2015; Vaterlaus et al., 2015). Gender differences in appearance comparison behaviours such that women were more self-critical and men more self-hopeful (Franzoi et al., 2012), were not very evident in young adults but were marked in adolescents. Given the ostensibly positive body image perceptions held by young adult female participants, their reportedly low engagement in self-critical comparisons may constitute a protective way of processing body-related content, while the highly self-critical, evaluative motives driving adolescent girls' comparisons likely signify a cause for concern.

Although qualitative findings suggested that facets of appearance comparisons influenced the nature and outcomes of comparisons, in Chapter 3, the factor structure of the ACSMS indicated that comparison targets were the most salient influencers of body-related outcomes. Similar to findings by Burnette et al., (2017) and the Edcoms and Credos survey (2016) peers were the most common and influential target of comparison because of their perceived similarity and relatability. Although young adults compared less to celebrities and social influencers because of their perceived distance, these targets still influenced body image perceptions (Goodyear et al., 2019b). Young adult women were more likely to compare to social media influencers than celebrities because of their perceived similarity (Kaplan & Haenlein, 2010); however, young adult men largely did not endorse comparisons with social influencers because they disapproved of the body-related messages that they propagated. This contrasts with our expectation that men, who tend to prefer lateral comparisons, would compare more to social influencers because they constitute a moderate comparison target. Women's perceptions of social influencers were mixed; some women felt that social media influencers promoted healthy messages pertaining to body image and exerted a positive, upward assimilative influence; however, others felt that they made impossible body ideals appear more attainable and led them to feel even more dissatisfied with themselves. Adolescents reported that they compared less to social influencers because they found them less relatable than celebrities; however, quantitative findings indicate that they compared more to social influencers than celebrities.

This was one of the first studies to document and quantify appearance comparisons with this new comparison target on social media, the social media influencer/fitness blogger. This is an important contribution given that comparisons with body ideals (as emulated by celebrities or social influencers) were considered to have the most detrimental impact on body image because it distorted perceptions of "normal" bodies and widened the perceived gap between their own bodies and these ideals (Lup et al., 2015; Weinstein, 2017).



### **8.2.8 Moving towards a more positive body image environment on social media?**

Our findings also suggest that there are positive aspects of social media that could be harnessed to foster healthier body image and body-related behaviours among youths (Goodyear et al., 2019a). Young adult women felt that a general shift had occurred in the body-related messages communicated on social media in recent years, such that they had become more focused on realism and body acceptance rather than displaying perfect and idealised bodies and lifestyles as had been predominantly the case when Instagram was first launched. Young adult men and adolescent girls also acknowledged and lauded this movement towards realism and acceptance on social media. Furthermore, young adult women identified fitspiration as having a relatively positive influence on their body image as it motivated them to engage in health-behaviours and provided a healthier focus than just appearance and thinness, as was traditionally the focus in the media (Jong & Drummond, 2016; Robinson et al., 2017). Young adult men and adolescent boys also endorsed fitness-related content as having a motivating and positive influence on body image and body-related behaviours.

However, certain caveats with these more positive aspects of social media were perceived to limit their ability to improve body image. Young adult participants felt that the proportion of positive body-related content on social media was small and that active and concerted efforts were required to access it. While efforts to expose photo manipulation and editing practices were welcomed, they were considered insufficient in reducing desires to attain body ideals. This concurs with McComb and Mills' (2020) finding that media/photo-manipulation disclaimers are ineffective in reducing body dissatisfaction. Additionally, while participants lauded the body positive movement, they felt that it still placed too much emphasis on appearance, showcased more extreme bodies that were difficult to relate to, packaged messages of acceptance in ways that were difficult to endorse and ultimately did not really change how participants felt about their own bodies because dominant rhetoric endorsing body ideals still prevailed (Sastre, 2016).

These findings suggest that although there is some progress in terms of how body image is communicated on social media, there is room for improvement in terms of increasing the ease with which individuals can access genuine, helpful body-related content and in refining body-related messages such that they are communicated in ways that are well received and genuinely helpful for improving body image perceptions. This may be particularly pertinent for adolescent girls, who largely maintained that positive body-related content did not exist on social media. They reported that body acceptance content often made them feel more alienated in their bodies because the bodies depicted were so extreme, while fitness content made them engage in body-related behaviours out of guilt rather than motivation. It may be particularly important to focus on how body-promotive messages are packaged to this cohort to avoid potentially contra-indicative effects.

This was one of the first studies to document young adult and adolescents' perceptions of and engagement with body positive content outside of advertisement space (e.g. Convertino et al., 2019; Rodgers et al., 2019). Contrasting with the predominantly positive perception of "body positivity/body acceptance movements" held in the literature, participants were unconvinced of its ability to improve their body image perceptions. It is unclear whether this scepticism has not been picked up on yet in the literature given the recent emergence of body positivity, or whether it reflects a cultural perspective of body positivity that is unique to Ireland. Writing in an Irish internet publication, psychotherapist Amy Plant (2017) described Ireland as a "nation of self-deprecators" and remarked that "Ireland is the only country where 'love yourself' is an insult". Sociologist, Tom Inglis (2006) also observes that self-denial and humility are part of the Irish culture and consequently self-care may be construed as self-pity and self-love as inflating one's ego. Although this cultural bias may explain participants' scepticism of the body positive movements, similar criticisms have been levelled at the movement by critical feminist writers (Sastre, 2016) and by the most recent report by the British Youth Council (2017) and perhaps further research is required to tease out the impact of this movement on body image and the potential limits of its reach.

### **8.2.9 User's management of social media's influence**

As suggested by Perloff (2014b), some individuals, especially those with pre-existing body image concerns or low self-esteem, were perceived to be more strongly and negatively impacted by social media use than others. Furthermore as observed by Goodyear et al. (2019b), experiences, understandings, mood, mindset and motives of use, were noted to play a role in individuals' response to body-related content (Valkenburg & Peter, 2013). Individuals felt that they could influence the outcomes of their social media use by controlling the ways they engaged with and responded to, social media content and affordances.

Addressing the dearth of research on protective aspects of social media (Tylka, 2011a), this research provided insight into the strategies used by adolescents and young adults to protect and promote body image on social media. Protective filtering, an aspect of positive body image found to buffer the effects of social media on body image, was evinced in young adults and adolescents by their avoidance and dismissal of negative body-related messages, and their active selection and internalisation of positive body-related messages (Andrew, 2015). Although adolescent boys used more active strategies than girls, adolescents generally exhibited more passive/avoidance strategies (considered less effective in promoting body image) than young adults, and contrasting with the findings of Burnette and colleagues (2017), adolescent girls were largely unable to internalise positive body-related messages. This finding that individuals may possess some, but not all facets of protective filtering warrants further attention, as it indicates that efforts to foster this protective

filter may need to be more focused on certain aspects of the construct. Furthermore, as found by Goodyear et al. (2019), adolescents were critically aware of social media content and able to employ strategies to protect body image, thereby defying commonly held beliefs that adolescents are unable to manage social media's influence. However, these findings also suggest that encouraging adolescents' abilities to employ more active cognitive processing and reframing strategies, may enhance their resilience to social media content.

#### **8.2.10 Gender differences in responses to social media**

Our findings concur with the literature which suggests that social media exerts stronger and more negative influence on female versus male body image (Buote et al., 2011; Whitaker et al., 2019). Quantitative findings revealed that women and girls internalised body ideals to a greater extent, engaged in more appearance comparison behaviours, spent more time on social media and experienced greater levels of body dissatisfaction than men and boys (Kantanista et al., 2015; Lawler & Nixon, 2011; Leahey & Crowther, 2008; Myers & Crowther, 2009). Qualitative findings suggested that women/girls experienced more appearance related pressures from social media invested more in their appearance presentations on social media and received greater feedback and validation for their appearance than men/boys (Feltman & Szymanski, 2018). However aligning with Parent (2013), men did concede that body image was an issue of growing importance for them and felt that social media was the driving force behind this focus.

However, social media's ostensibly disproportionate influence on female body image appears to contradict recent meta-analyses which suggest that social media exerts comparable body-related pressures and dissatisfaction in men and women (Holland & Tiggemann, 2016; Saiphoo & Vahedi, 2019). It is possible that the impact of social media on male body image was underestimated in the present research because of the reluctance of males to disclose body image concerns due to the stigma surrounding male body image. The stigma that it is not socially acceptable for males to experience or discuss body image concerns, is commonly a reported barrier in body image research with males and appears to have manifested in the present research (Hargreaves & Tiggemann, 2006; Whitaker et al., 2019). In focus groups, adolescent boys tended to laugh off or dismiss body image concerns and maintained the view that only girls took body image on social media seriously. Adult men also stated they were unlikely to share body image concerns with others because it was considered "oversharing" and not something that they, as men, did.

This stigma may be problematic, not only because it may obscure efforts to determine social media's impact on male body image, but also because it may prevent men/boys from seeking help for body image concerns. Adolescent girls made the astute observation, that although they as females received more appearance-pressures on social media than boys, they felt that they were

better equipped to manage this pressure because they could openly discuss their body image concerns with peers in a way that boys could not. Therefore, even though boys may be less affected by social media and by body image issues, the concerns of those who do struggle may be discounted or they may not receive the help required to manage them. Indeed, body image promotion campaigns are predominately directed at women, which perpetuates the notion that body image is not an issue for males and potentially overlooks the distinct body image pressures faced by men (British Youth Council, 2017).

Our findings suggest that body image is a concern for men and boys that is affected by social media use, albeit to a lesser degree than women/girls. In Ireland, figures from a national survey suggest that 57% of adolescent boys are satisfied with their appearance versus 38% for girls; however, this still means that 43% of males (almost half of the population) are either neutral or dissatisfied with their bodies (Dooley et al., 2019). This highlights the importance of acknowledging male body image concerns and being aware of this stigma and its potential influence on men/boys' self-report behaviours related to body image.

In investigating gendered aspects of body image, it is also important to consider how more recent “fluid” conceptualisations of gender might impact the body ideals internalised and compared to on social media. Investigating body image through the “fluid” gender lens has not featured strongly in body image research to date, and while not a focus of this thesis, it warrants further research attention as it raises interesting questions about how individuals perceive their bodies in relation to their identification.

### **8.2.11 Influence of social media on adolescents versus young adults**

Aligning with Saiphoo and Vahedi (2019), age did appear to moderate the effects of social media on body image such that younger individuals (adolescents) were more strongly influenced by social media than older individuals (young adults). It is not possible to determine whether these differential effects in adolescents and young adults are attributable to differences in their platform and content preferences (Smith et al., 2018; Valkenburg & Peter, 2013), developmental differences (Crone & Konijn, 2018; Dohnt & Tiggemann, 2006) or variation in screen time and first exposure to social media between (Twenge et al., 2018) While our findings provide support for all three possibilities, longitudinal studies would be required to accurately parse out these effects. However, the belief held by both adolescents and young adults, that earlier exposure to body image is problematic for body image highlights the importance of early intervention in body image promotion efforts for adolescents. Also despite being digital natives and evincing strategies to handle social media, the finding that adolescents are vulnerable to the effects of social media emphasises the importance of identifying ways to support their management of this influence (Goodyear, 2020).

### **8.2.12 Alternative approaches to address appearance comparisons on social media**

Our findings highlight a potential need to rethink existing approaches to addressing body dissatisfaction on social media. Social media literacy interventions are premised on the belief that by educating adolescents about the unrealistic, unattainable nature of body ideals on social media, adolescents will be less likely to internalise and compare to these ideals and will experience reduced body dissatisfaction as a result (McLean et al., 2016b). However, in our focus groups, adolescents exhibited high social media literacy levels which didn't always serve protective effects for body image. Simply being aware of unrealistic or problematic nature of body-related content was not alone sufficient to quell desires or attempts to attain these ideals or to mitigate body dissatisfaction when these ideals were not perceived to be met (Engeln–Maddox & Engeln, 2005).

This is not to dismiss the importance of social media literacy; critically processing body ideals helped participants in Chapter 4 to psychologically distance themselves from these ideals, while learning about photo-manipulation practices enabled adolescent girls in Chapter 7 to compare less with these ideals. Furthermore, adolescent boys' limited awareness of photo-manipulation practices and their belief that only female images were subject to this level of editing, suggests they may benefit from social media literacy interventions which may dissuade them from pursuing ideals that are actually unachievable (Edcoms & Credos, 2016).

What our findings do suggest is that knowledge about body ideals did not necessarily change how individuals *felt* about their body image, indicating that affective as well as cognitive aspects of body image need to be addressed in intervention efforts. Existing approaches largely focus on changing cognitive evaluations of body ideals and assume that individuals can consciously inhibit appearance comparison behaviours (Gilbert, 2009). However, this contradicts a bulk of research which suggests that appearance comparisons largely operate outside conscious awareness (Want, 2009). Self-compassion approaches are purported to target and change how individuals *feel* about their bodies (affective components) by addressing self-criticism and shame at the root of body dissatisfaction (Gilbert & Irons, 2005; Gilbert, 2010). Instead of trying to inhibit appearance comparisons, compassion focused approaches try to reduce the self-criticism arising from comparisons - an approach which may be particularly beneficial in light of the highly self-critical attitudes held by adolescent females about their bodies. This represents a new, and potentially promising alternative for tackling body image concerns in adolescents.

### **8.2.13 Theoretical implications of the self-compassion intervention**

This study adds to the body of evidence investigating the use of self-compassion interventions to promote body image in adolescents. The finding that, aside from improvements in body satisfaction, the Digital SMART intervention largely failed to yield increases in self-compassion and body appreciation and reductions in body dissatisfaction and self-criticism, contrasts with expectations in the literature. Given growing evidence of the effectiveness of self-compassion interventions in reducing body image concerns in adults, with a recent meta-analysis reporting small to medium effect sizes of  $g=.29 - .39$  (Turk & Waller, 2020), it was expected that the Digital SMART intervention would also yield similar robust and significant changes in body image outcomes in adolescents. Furthermore, as self-compassion prompts have also been found to attenuate the negative influence of exposure to body ideals on social media in experimental studies with adult women (Slater, Varsani, & Diedrichs, 2017), we expected, but did not observe, similar buffering effects in this study with adolescents.

While self-compassion interventions have been less extensively investigated in adolescents, especially in the domain of body image, a self-compassion intervention for improving adolescents' general wellbeing, was found to produce significant improvements in self-compassion and reductions in depression and anxiety-related symptoms with medium effect sizes (Bluth et al., 2016). In contrast however, the Digital SMART programme yielded non-significant changes in self-compassion and body-related variables and effect sizes were small-negligible. Although there were similarities in study design of the Digital SMART study and Bluth and colleagues' (2016) study, differences in therapeutic approach ((Germer and Neff's MSC (2013) versus Gilbert's (2010) CMT)), sample size, methods of participant recruitment and intervention delivery and analytical strategy adopted, may explain these discrepancies in effect sizes (Lipsey & Wilson, 2001).

As discussed in Chapter 7, it is also possible that the larger effect sizes observed by Bluth and colleagues (2016) and the wider self-compassion literature (Rahimi-Ardabili et al., 2018; Turk & Waller, 2020) are attributable to a positive outcome bias, whereby initial effects in novel research areas (such as the self-compassion domain) appear large, but subsequently reduce over time as more systematic studies are conducted (Fanelli, 2012; Ioannidis, 2018). It may also be the case that effect sizes were small, because this was a schools-based intervention where significant changes and substantial effect sizes are difficult to attain for body image outcomes with middle adolescents (Yager et al., 2013; Yeager et al., 2018). Furthermore, the sample size was relatively small and confidence intervals of effect sizes were wide which may have obscured abilities to detect larger effect sizes (Durlak, 2009).

Other potential reasons for non-significant statistical changes which were discussed in Chapter 7, include; low participant engagement, negative pre-existing attitudes towards the

programme, short programme duration and no pre-screening of “at-risk” groups for more targeted intervention delivery. As noted in Chapter 7, our findings may also be limited by loss of sample size due the premature cessation of the study due to Covid-19 which resulted in reduced statistical power and a gender imbalance.

Although our findings didn’t concur with the medium effect sizes reported in the literature (Rahimi-Ardabili et al., 2018; Turk & Waller, 2020), they did somewhat align with the more modest outcomes yielded Rodgers and colleagues’ (2018) study - the only other self-compassion intervention to address body image in adolescents. Although Rodgers and colleagues’ (2018) self-compassion app produced significant improvements in self-compassion and body esteem in the intervention group versus control from pre-post intervention, the fact that it only produced significant changes in one body-related outcome and that effect sizes were small-moderate suggests that the overall effectiveness of the app was relatively modest. In this respect, the Digital SMART programme’s limited ability to producing statistically significant changes in body-related outcome measures and small effect sizes somewhat parallel the findings of Rodgers and colleagues’ (2018) study. Although findings were modest, we can, like Rodgers and colleagues (2018) propose that these findings provide preliminary support for self-compassion and its potential to promote positive body image among adolescents.

The trends towards significance in body satisfaction at post-intervention, and trends towards significance in body dissatisfaction and self-criticism at three-month follow up, further support self-compassion as a potentially useful approach for promoting body image. Although not statistically significant, trends towards reduced body dissatisfaction and self-criticism from post-intervention to follow up, suggest that intervention effects may have taken time to manifest. It is also possible that these improvements in outcome measures at follow up reflect participant reactivity or response bias in survey responses (Lavrakas, 2008). Our ability to draw inferences from long term effects in this study is limited because of the small sample size involved in follow up analyses; however, these findings illustrate the importance of conducting long-term follow ups in intervention studies to capture the range of likely intervention effects.

Qualitative findings which demonstrated that some participants experienced meaningful desirable gains from the programme also indicate the value of delivering self-compassion interventions to improve adolescent body image and psychological wellbeing. Aligning with the therapeutic rationale of CMT (Gilbert, 2010, 2014), the programme was reported to foster a greater sense of mindful awareness, common humanity and self-compassion among adolescents. This enabled some adolescents to become aware of their internal dialogues and emotions, realise that they were not alone in their struggles and reframe critical self-talk in more self-compassionate ways. Some participants also used mindfulness and breathing exercises to self-soothe when experiencing distress. Additionally, our findings suggest that the principles of CFT-E (Goss et al.,

2010), including psychoeducation about the biological limits of body change and the universality of body dissatisfaction and bodily imperfection, enabled adolescent girls to extend self-compassion to their bodies. Aligning with expectations in the literature, self-compassion also enabled girls to reappraise critical and competitive self-evaluations of their bodies following social media use and view them in a more balanced, empathetic light (Albertson, 2013).

This was one of the first studies to practically apply CMT in adolescents, therefore the finding that adolescents were able to comprehend psychoeducational aspects of CMT and apply lessons from the programme to their daily lives, indicates the suitability of CMT for an adolescent audience (Carona et al., 2016). The Digital SMART programme appeared to produce changes in some adolescent girls' self-compassion and body image in accordance with proposed therapeutic rationales of CMT (Gilbert, 2010, 2014) and CFT-E (Goss et al., 2010), and these changes were applicable to the social media context, indicating the utility of this CMT approach in improving adolescent girls' body image perceptions and their relationship with social media.

Although quantitative findings suggest that boys in experimental group did exhibit improvements in outcome measures, qualitative findings indicated that similar improvements in relationships with body image and social media via these proposed mechanisms were not experienced by boys. It may be the case that because adolescent girls exhibited lower self-compassion, higher self-criticism and greater body image and social media concerns than boys, girls may require and benefit from self-compassion interventions more than boys (Bluth et al., 2017). It is possible that the ability to document these changes and mechanisms were hindered in boys by their low return rate of reflective booklets and because of potential response biases where effects are not reported because it is not perceived socially desirable to do so. However, it appears that although boys responded well to the core concepts of compassion, they felt that aspects pertaining to body image and social media were not relevant for them, which may explain why boys did not report the same effects as girls. The findings indicate that self-compassion interventions may be useful for men/boys but that we need to learn more about how males experience body image issues on social media and how to communicate about these issues with them. This was one of the first body focused self-compassion studies to be conducted with boys and given that the programme drew from sparse literature on male experiences of body image and social media, it may be necessary to research male body image more extensively before adjusting the existing self-compassion intervention for use with adolescent boys. Robertson et al. (2015) emphasise the importance of taking gender-based approaches to working with men in the domain of mental health because of men's lower mental health help-seeking, higher mental health stigma and endorsement of masculine identities. Robertson et al. (2015) suggest that programmes should specifically focus on encouraging males to be emotionally expressive and using "action focused" and "traditionally male based" activities to facilitate this – these recommendations could be useful to incorporate in future self-compassion programmes for boys/men, especially given the difficulty



in engaging boys in discussions and activities within the programme. Furthermore, Yager and O’Dea (2014) suggest that body image interventions may be less successful in boys, because they fail to adequately acknowledge that male body change behaviours aim to improve body functionality and fitness and that drugs/supplementation are often used to achieve this. Although references were made to functional ideals and sporting performance in the programme, this emphasis may not have been sufficient. As suggested by Yager and O’Dea (2014), future work with males could include a focus on aesthetic and performance enhancing substances, the problematic outcomes associated with them and healthy alternatives to them, to make content more relevant for males.

Further research in adolescent male body image is also warranted on foot of the findings in Chapter 7 where boys’ body satisfaction scores unexpectedly increased from pre-to-post exposure to images of body ideals. No exposure studies have been conducted with adolescent boys and it is unclear whether this increased body satisfaction is due to assimilation effects or a reactivity bias, but it does warrant further attention – particularly if it is a reactivity response – as it suggests that we may need to approach experimental exposure studies in alternative ways with adolescent boys.

#### **8.2.14 Importance promoting body image**

Our findings support the characterisation of negative and positive body image as distinct constructs (Tylka & Wood-Barcalow, 2015b), and highlight the importance of both trying to mitigate body dissatisfaction while also promoting positive body image (Cook-Cottone, 2015). Although this thesis primarily focused on addressing body dissatisfaction, the findings that the intervention produced improvements in body satisfaction pre-post intervention and in qualitative reports, increased adolescent girls’ acceptance and appreciation of their bodies, indicates the value of promoting positive body image (Andrew, 2015). Furthermore, young adults reported that body-acceptance helped to buffer against the negative effects of social media highlighting the role of positive body image in protecting body image on social media.

### 8.3 Practical Implications

This thesis offers some practical contributions to the literature, including the development of the ACSMS scale, which is a novel tool for identifying patterns of appearance comparison behaviours on social media. As existing scales had not adequately captured appearance comparisons on social media, this scale represents a useful addition to the literature, especially considering the role of appearance comparisons in the development and maintenance of body dissatisfaction (Thompson et al., 1999). In addition to addressing limitations of existing appearance comparison scales, this is one of the first scales to incorporate appearance comparisons with social media influencers and with self-generated appearance-related content, both of which have a theorised relevance to body dissatisfaction. However, it should be noted that some scale items which quantify body-related responses to the receipt of “likes” may be less applicable to current social media context in light of Instagram’s recent trial involving the hiding of “likes” received on posts. However, it is unclear whether hiding “likes” will become a permanent feature on Instagram and feedback indices continue to be displayed on other platforms indicating the continued suitability of these items. Furthermore, given the heterogeneity of social media influencers, it is possible that the wording of items pertaining to comparisons with “social media influencers or health/fitness/lifestyle bloggers” may be interpreted broadly and it might be helpful to distinguish this target more clearly in future studies. Nonetheless, the ACSMS demonstrated good reliability and validity and model fit, indicating its utility as a measure.

This thesis also extends the literature in a practical way through the development of a novel self-compassion intervention to address body dissatisfaction associated with social media use in adolescents. The value of delivering interventions to address body image and social media concerns is emphasised by the observation that despite the pervasive and problematic nature of body dissatisfaction among adolescents, body image concerns are often overlooked or not given the attention they require in education or mental health provision (British Youth Council, 2017). Corroborating this assertion, adolescent girls observed that the Digital SMART programme addressed topics such as body image and social media, which had not been covered in their school curricula, even though these were significant concerns in their daily lives. This highlights a problematic educational gap that needs to be filled. The notable absence of components of the school curricula that address emotional and psychological components of body image was noted by McSharry (2009) in her evaluation of Irish SPHE curricula and by the British Youth Council (BYC) (2017) in their evaluation of UK secondary school curricula. This prompted the BYC (2017) to call for the explicit promotion of positive body image and media literacy in school syllabi in the UK, and a greater investment in research to develop these evidence-based approaches.

The present research therefore provides a valuable contribution to much needed literature on body image promotion efforts in schools. As the programme was found to be feasible, moderately acceptable and modestly effective, it has the potential to contribute to the development

of school curricula, or to be upscaled and delivered as a course/module within the school curriculum or to be delivered as a standalone intervention to address body dissatisfaction on social media – although further research is required before this occurs. The research also provides useful insights into some of the barriers/facilitators of adolescents’ engagement with the programme which can inform the design and delivery of future self-compassion interventions for body image with adolescents.

Small group sizes, single gender groups and the non-judgemental classroom atmosphere were identified as positive features, while discomfort discussing sensitive topics in the classroom, perceived lack of relatability of the programme, negative pre-held attitudes towards the programme were identified as factors that may have limited this type of participant engagement. It is therefore essential to dismantle these barriers to engagement in future iterations of such interventions. As discussed in Chapter 7, focus-group style sessions could be introduced at the beginning of the programme to elicit adolescents’ general opinions of social media and body image. This could increase adolescents’ comfort and confidence talking about these issues and enable the programme to be more specifically tailored to the audience by using participant responses to inform teaching examples/scenarios. Although this tailoring would have to be conducted cautiously so as not to disrupt the fidelity of the intervention, Jaycox and colleagues (2006) note that a degree of flexibility is required in school-based interventions, such that interventions adequately meet the needs of students, who are likely to possess different knowledge, attitudes and capabilities depending on their varied school cultures and experiences. Future work could also investigate whether participation could be improved if participants were given more opportunities to respond privately to prompts in booklets, or if the programme was delivered by a teacher who students were familiar with, or if the programme was delivered in a different context outside of the school setting.

The findings also point to additional methods of programme delivery that may improve engagement among this cohort. Although these suggestions are outside of the scope of adapting the existing Digital SMART programme (Escoffery et al., 2019), they represent interesting alternatives that could be explored in future research. One such alternative could be to deliver the programme in online or app-based format; the anonymity of mobile apps may enable participants to fully engage with the reflective prompts without fear of judgement from peers, while the asynchrony afforded by apps may enable adolescents to selectively engage with content when it serves/suits them most (Eyles et al., 2016). Given the modest improvements in body esteem and self-compassion yielded by Rodgers and colleagues’ (2017) Bodimojo app, this represents a potentially fruitful avenue of future research. Furthermore, peer-led learning, which involves peer-to-peer delivery of intervention content in a structured way (Cowie & Olafsson, 2000), could be useful in this context, as the delivery of content by peers who are on the same level and who have similar experiences social media and body image could increase the perceived relatability of the programme for adolescents and also counter feelings of being patronised by adults who are

perceived not to fully understand the adolescent experience. Finally, participatory methods such as co-design could be used in future research to elicit nuanced perspectives of adolescents' experiences of body image and social media and to enable adolescents to identify types of supports or resources that they themselves would find helpful in promoting their body image on social media – a line of questioning that was notably lacking in this social media intervention delivery space (de Beurs et al., 2017).

The process evaluation of the Digital SMART programme also highlighted some challenges associated with delivering and evaluating complex interventions in school-based settings, which can usefully inform future intervention/prevention work especially in Irish schools. Several important considerations when conducting this type of research in school settings were discussed in Chapter 7 and included the influence of diverse school cultures, norms and friendship dynamics on the study, the varied and fluid Transition Year programme structures which need to be accommodated and the influential role of the school liaison in mobilising and coordinating the study.

This research also gave “voice” to Irish adolescents' perceptions of social media and body image and their experience of partaking in a psychosocial intervention designed to address body image and social media issues. These contributions are useful within educational contexts as they can inform the design of school SPHE curricula so that they accurately capture adolescent experiences of body image and social media. They are also of value in prevention/intervention contexts and can guide the design and delivery of future psychosocial interventions for adolescents. In the process evaluation, adolescents identified several modifications that could be made to improve the effectiveness of the programme within the adaptation framework outlined by Escoffey et al. (2019). These involve including more activities to increase participant engagement, incorporating more real-life examples/stories to make content more relatable, lightening the tone of the class with humour to make the programme more enjoyable and extending the programme duration (from 40 minute to 1h20 minute sessions), to allow participants more time to discuss topics, assimilate concepts and become more familiar with the facilitator. Although, further research is required to establish whether these modifications enhance the effectiveness of the programme, these contributions highlight the value of obtaining adolescents' input.

Hearing adolescents' perspectives is also particularly important, given that it is typically adult opinions of social media and body image that often shape research, education and policy and these views can often be at odds with those held by adolescents (boyd, 2014; British Youth Council, 2017). This study highlighted some differences in how social media and body image was perceived by young adults and adolescents. When approaching schools to host the Digital SMART programme, all school principals and TY coordinators were eager to participate in the study because they wanted their students to learn skills that would help protect themselves from the

hostile social media social media environment. They largely endorsed the belief that social media was a dangerous place and adolescents needed help to navigate it safely. Similar paternalistic concerns were expressed by young adults in focus groups in Chapter 2. Although adolescents acknowledged that social media could be a problematic space for body image, they were keen to point out that that social media was not an all-consuming aspect of their lives that adults thought it was. Adolescents in one school felt that the Digital SMART programme reflected a common misguided perception held by adults, that all adolescents struggle with social media and body image and need help managing these issues. This highlights the importance adopting a sensitive, strengths-based approach, which builds on adolescents' knowledge and expertise to help them realise ways of engaging with social media that positively impact on their body image. Although the Digital SMART programme endeavoured to adopt this strengths-based approach, aforementioned barriers may have hindered the elicitation of adolescents' views and this further underscores the importance of identifying ways to break down these barriers to communication and participation.

As proposed by Goodyear (2020) it may also be beneficial for adults to become more aware of the social media environment encountered by adolescents to enhance their ability to support adolescents. Mentions of parents, teachers or other adult figures were notably absent in adolescents' discussions of how they managed challenges on social media. As noted by boyd (2014), social media struggles are typically managed by the adolescent themselves or in the context of peers because adults tend to be often less social media literate and able to provide support in this area. Therefore, an action for adults could be to develop greater social media literacy to enable them support and promote positive outcomes for body image among adolescents.

Although standalone programmes like Digital SMART, represent an important approach for promoting body image in adolescents, in line with recommendations by the World Health Organisation (Langford et al., 2015), it is also important that future intervention efforts extend to incorporate a "whole school approach" whereby healthy body image is promoted across the school curriculum, ethos and supports/resources. Although more difficult to implement, whole-school approaches have been found to be more successful in improving mental health than brief class-based mental health promotion programmes (Wells et al., 2003). The work by Mary Welford in schools in the UK, suggests that compassionate mind training (CMT) may be suited to the "whole-school" approach. In a narrative description of CMT and its applications to educational settings, Welford and Langmead (2015) described their delivery of CMT to teachers, school staff and parents in several schools with the aim of fostering a culture of compassion within schools to support the wellbeing of staff and students. Informal feedback from schools indicated that CMT improved staff/teacher wellbeing, increased parental engagement and reduced disruptive behaviours by students; however, as these outcomes were not formally evaluated in a controlled trial, these findings must be interpreted cautiously. Nonetheless, this does indicate that the

principles of CMT are widely applicable and can plausibly be adapted in a whole school approach to promote youth mental health and body image.

The value of a whole school approach (and even better, a streamlined nationwide approach) is highlighted by the mixed response of participants to the Digital SMART programme on the foot of their previous experiences of mental health classes/initiatives. Some participants reported that they were fed up of repeatedly encountering content related to mental health promotion and were jaded of pervasive discussions of mental health and how to protect themselves on social media, while other students reported that they had not previously encountered such information. This varied exposure to and knowledge of mental health is potentially problematic, as it indicates that some students are overwhelmed with this information and resultingly may shut off from it even if it might be of benefit to them, while other students are potentially disadvantaged because they are not privy to this knowledge which may be potentially helpful for them.

The wide-ranging exposure to mental health discourses may be attributable to the flexible structures of Transition Year programmes, where schools establish their own distinct programmes to meet the needs and interests of students. Some schools may have placed greater emphasis on social and emotional personal development in TY than others, potentially explaining such discrepancies. Alternatively, certain schools may have valued and invested greater effort in mental health promotion than others. Although “Wellbeing” is a standard subject that is taught during the Junior Cycle<sup>15</sup> to promote physical, mental, emotional and social wellbeing, schools can choose to include other focuses and areas of provision which might introduce a degree of flexibility in how mental health might be discussed (*Framework for Junior Cycle*, 2015).

Although a resources for Social and Physical Health Education (SPHE) teachers called “Responding to Eating Disorders and Body Image Issues” (2012) and a programme for students called “Be Body Positive”<sup>16</sup> have been made available to schools by Bodywhys, The Eating Disorders Association of Ireland, it is at the school discretion to act on and implement these programmes in SPHE/Wellbeing classes (O Connell & Martin, 2012). As noted by O Connell and Martin (2012), the discretionary use of these supports/programmes may limit their potential impact, indicating the need for universal and empirically supported body image promotion programmes to be rolled out in schools. These findings suggest at a broader level, greater attention needs to be paid to how mental information is shared within school settings and indicate the necessity of a more streamlined and standardised way of sharing mental-health and body image related information at a national level in Irish secondary schools.

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<sup>15</sup> Junior Cycle refers to the first three years of Irish Second Level Education. Transition is a one-year programme that serves as a bridge between Junior and Senior Cycles - which makes up the final two years of second level education.

<sup>16</sup> These resources do include reference to media, but not social media effects, further highlighting the importance of this research in contributing to the development of such resources.

### **8.3.2 Corporate responsibility**

The findings also suggest that more sensitive, measured actions need to be taken by social media corporations to protect and promote body image. Aligning with the views held by the British Youth Council (2017), young adults felt that social media corporations took a light-handed approach in regulating body-related content and largely abdicated themselves from their responsibilities to protect users. Although, social media platforms such as Instagram have introduced several features to improve body image since these studies were conducted, they still have failed to address the issue of targeted advertising especially to these more vulnerable groups, such as young adults and adolescents, which may be particularly problematic in light of the “reinforcing spirals” discussed above. Instagram have also recently imposed age restrictions on diet and cosmetic products but have not regulated the credibility or veracity of the body-related content distributed across these platforms which were viewed as problematic features of social media by young adults. Furthermore, adolescent girls didn’t appear to perceive that their social media use was substantially changed by the concealment of “likes” on Instagram, indicating that further work is required. Given the role played by social media platforms in perpetuating body image problems, it is unreasonable for the burden of responsibility to fall solely on individuals, as was perceived to be the case by young adults. The BYC (2017) similarly acknowledged that current efforts to improve users’ safety on social media are insufficient and that further corporate and governmental action is required to mitigate negative effects of social media.

### **8.4 Strengths**

Qualitative focus groups provided a rich, detailed insight into young adult and adolescents’ perceptions and experiences of appearance-related content on social media and the perceived influence of this content on body image. Focus groups also provided an ecologically valid way for participants to reflect shared, real-world experiences of social media and body image and appeared to be an enjoyable experience for participants. Qualitative studies provided a level of nuance in exploratory research phases that would not have been possible using quantitative methods and findings were used to inform subsequent scale development and intervention development studies. Qualitative studies were systematically conducted and evaluated; methodological triangulation was used to inform, corroborate and validate findings (Murray, 1999), while a reflexive approach was adopted when collecting and analysing data to ensure rigour and quality.

The Appearance Comparisons on Social Media scale (ACSMS) was systematically developed, and drew on pertinent literature, qualitative findings and expert opinion to inform item generation and refinement. The factor structure was assessed and verified using rigorous statistical

procedures in a relatively and international large sample (approx. n=500) that was considered suitable for both EFA and CFA procedures. Decisions on items and factors within the model were carefully considered, guided by best practice recommendations within the literature (DeVellis, 2012; Matsunaga, 2010). The four-factor solution of the 21-item scale demonstrated good theoretical parsimony and moderate model fit. It was also found to have good internal consistency and two-week test-retest reliability as well as good convergent and content validity, indicating its utility as a scale.

The Digital SMART self-compassion intervention was carefully and systematically designed using self-compassion and body image literatures, best-practice guidelines from the Compassionate Mind Foundation, findings from focus groups with adolescents and the expert opinions of both researchers and clinicians. The programme was delivered by a single researcher who had extensive experience working with and teaching adolescents in TY and who had completed two training courses in CFT, one of which specifically focused on CFT for adolescents as offered by the Compassionate Mind Foundation. These factors enabled the programme to be delivered in a relatively smooth and uniform way across groups. A diverse sample of participants from schools that varied in type (private, community and secondary school) size (small, medium, large), location (urban and rural) were recruited to participate in the programme. This diversity was advantageous especially given the growing recognition that school context plays an important role in influencing the effectiveness of schools-based interventions (Yeager et al., 2018). Indeed, participants' responses to the programme varied across school contexts and the study was well placed to identify contexts that yielded favourable responses to the programme. The delivery of the programme in school-contexts provides useful insights into whether the positive effects observed in highly controlled settings can translate to real-world settings.

Intervention outcomes were evaluated using a comprehensive mixed method approach that incorporated participant responses to outcome measures at pre-, post- and three-month follow up as well as their responses to weekly prompts in reflective booklets and focus groups post-intervention. The variety of methods used enabled findings to be verified and corroborated via the process of methodological triangulation and provided a comprehensive, detailed account of the programme effects and the factors that potentially served as barriers or facilitators to programme effectiveness. The outcomes were evaluated using reliable, valid and developmentally appropriate measures as indicated by reasonable internal consistency scores, expected correlations across variables and relatively low missing data in responses. Focus groups with a subset of participants post-intervention were conducted by an independent researcher which allowed for a more impartial evaluation of the programme by participants. These focus groups provided important insight into adolescents' perceptions and experiences of the programme and potential barriers and facilitators to programme engagement, which otherwise may not have been identified.



## 8.5 Limitations

The sample sizes in qualitative studies (Chapter 2 and 4) and the pilot trial of the Digital SMART intervention (Chapter 7) were small which may have reduced the transferability and generalisability of findings obtained. Small sample size also led to a loss of statistical power within the intervention study and may have reduced the capacity to detect statistically significant effects. Although, a sufficient number of participants had initially been recruited to ensure the study was adequately powered, the premature cessation of the study because of the closure of Irish secondary schools in light of the Covid-19 pandemic, resulted in a loss of post-intervention data from male participants in two schools and the loss of three-month follow up data from three of the four schools involved. This strongly limited the inferences that could be drawn about the programme's effectiveness, particularly the long-term effects of the programme. Small sample size also hindered the ability to conduct moderation analyses on potential factors such as school group, which may have influenced participant responses to the programme.

Furthermore, the convenience sampling approach used to recruit participants across all studies is likely to have introduced sampling bias and potentially skewed results (Bornstein et al., 2013). For example, the young adult sample recruited for the focus groups were a homogenous group of educated college students who appeared largely satisfied with their body image and their views may not be reflective of the general population. Similarly, although the secondary schools from which we recruited adolescent participants were diverse, these schools were confined to the Leinster and Dublin region, and it is unclear whether qualitative findings and responses to the Digital SMART programme are transferable/generalisable to adolescents across the rest of the country. Additionally, only adolescent participants who received parental consent were able to partake in the research which could potentially have introduced a sampling bias in studies with adolescents. Furthermore, most of this research was conducted with Irish participants only, except for the online scale which was administered to an international audience (however 77% of responses were from Irish participants). Much of our findings align with the existing body image research conducted in other Western contexts including the UK, Canada, Australia and USA indicating the applicability of this research. However, Ireland represents a unique cultural context, and it is unclear whether some of the findings obtained (such as participants' scepticism of body positive content) are generalisable to other cultural contexts.

Convenience sampling also appeared to have introduced a self-selection bias, such that disproportionately more women/girls participated in the adolescent qualitative focus groups and the online questionnaire study than men/boys. This gender imbalance reflects a general trend in body image research where women are typically overrepresented in studies (Grogan, 2010; Whitaker et al., 2019), and may result in findings being biased towards more female-gendered constructs or

opinions. The difficulty in recruiting males, especially adolescent males, has been noted previously, and it is speculated that males are less likely to self-select to participate in body image research because they are reluctant to discuss appearance and body image issues (Wallace, *personal communication*; Dittmar et al. 2001, as cited by Rumsey & Harcourt, 2005). Interestingly, this gender imbalance was not observed in recruitment for the Digital SMART programme which was pitched as a resilience building course rather than one specifically for body image. This suggests that we might need to assess how we approach recruitment of male participants for body image research.

Another main limitation of the research was that most of the data collected was self-report, therefore it is difficult to ascertain whether some behaviours were over or under-reported by participants. Response bias is commonly observed in self-report methods, especially within school settings and some participants may have been reluctant to disclose socially undesirable characteristics, such as struggling with body image issues (Jaycox et al., 2006; Lavrakas, 2008). Social desirability biases are likely to have operated in focus groups, as reflected by the guarded, distanced or contradictory statements sometimes provided by participants. Additionally, group dynamics may have influenced focus group discussions such that certain viewpoints dominated while others were stifled. Response bias also appeared to influence the findings obtained from self-report reflective booklets in the intervention study. The number of reflective booklets completed and returned by participants, especially boys were low which limits our ability to draw inferences about boys' private responses to the intervention. Participants who completed and returned the booklets appeared to hold (or at least provide) more favourable evaluations of the programme than were evinced in the focus groups, indicating the presence of a non-response bias. However, these more positive evaluations may also have reflected greater disclosure in private self-report measures than in public focus groups with peers. Alternatively, positive evaluations may be explained by demand characteristics and the desire to provide the "right" responses in reflective booklets, even though participants were informed that their responses were anonymous. Although methodological triangulation was applied to corroborate responses across measures, it is sometimes difficult to ascertain whether findings reflect a censored dialogue of desirable perceptions or whether they reflect true opinions held by participants.

Other potential limitations of self-report in questionnaires include the possibility that some participants provided erroneous responses, skipped over questions that were uncomfortable for them or engaged in satisficing, where they sped through the survey showing little regard for questions. Although we attempted to mitigate against this by evaluating participants response times and patterns of responding, it is possible that we may not have detected all spurious cases. Additionally, while reliable and valid measures were used to evaluate outcome measures, in the intervention study, some measures were shortened, or their wording was adjusted slightly to reduce response burden or to make them more context and age appropriate. This could have

problematically impacted reliability or validity of responses; however, there was very little missing data, data was found to be missing completely at random and acceptable levels of reliability and validity were observed in participants' responses to measures used, indicating that the quality of the data was satisfactory – nonetheless, these adjustments to measures must be considered when evaluative outcomes of the intervention or comparing them to other studies, especially as shorter measures tend to be less reliable and yield smaller effect sizes.

In the online questionnaire used to validate the ACSMS, there was high attrition rate and proportions of missing data were high, despite efforts to make the survey as optimal and user friendly as possible using SurveyMonkey design feedback tool. This is not uncommon for online surveys of this length (approx. 20 mins) where participants may have become fatigued and disengaged from the study (Hoerger, 2010). Although there were no statistically significant differences in demographic details between full completers and those excluded because of incomplete responses, it is possible that an attrition bias may have influenced results obtained. However, relatively good reliability and validity values were obtained on measures, indicating that responses that were analysed were of acceptable quality.

Other limitations relating to study design that also need to be considered include the non-randomised allocation of participants to experimental and wait-list control groups in the intervention study. Because of school timetable constraints in two schools, it was not possible to allocate girls as waitlist controls as intended, and therefore the waitlist control groups contained boys only. This was not the intended study design and is recognised as highly problematic; however, we elected to trade off randomisation and proper group allocation, to increase sample size and statistical power and to facilitate its delivery in schools (Jaycox et al., 2006). We adjusted our analyses accordingly and attempted to account for potential roles of gender in the analysis. This flexible approach is considered acceptable within early phase pragmatic trials such as this one (Craig et al., 2019); however, this limitation of having no girls in the control group, is an important consideration when interpreting results.

Furthermore, inherent limitations to the methodological approaches used must be acknowledged. In EFA, these largely pertain to the subjective nature of decisions on the selection of observations, factor extraction method, factor retention, type of rotation, and interpretation of items/factor structure (Reio & Shuck, 2015). For CFA, these include decisions on appropriate model fit and adjustment of modification indices (DeVellis, 2012). Although these decisions were guided by theoretical and empirically supported best practice guidelines, the inherent subjectivity in these decisions is likely to have influenced the emergent factor structure (Reio & Shuck, 2015).

Some limitations of the data handling and analysis procedures used must also be considered. Following the protocols used in previous scale development studies (Fitzsimmons-Craft et al., 2012), we elected to use complete case analysis (whereby only full responses are

analysed) and to delete listwise participants who failed to provide full responses to the ACSMS. However, because the ACSMS was in the middle of the sequence of questionnaires used in this study (the point at which many participants tended to drop off, possibly due to the length of the survey) a lot of responses were subsequently deleted. Although the sample size was considered large enough to withstand this data loss, listwise deletion, may still have negatively impacted the statistical power of the study. Listwise deletion is also potentially problematic when data is not missing completely at random because it could introduce bias in the estimation of parameters (Newman, 2014). However, according to Jakobsen, Gluud, Wetterslev and Winkel (2017) complete case analysis is considered more appropriate than imputation techniques if large proportions of the data are missing which was the case for this study. Using imputation techniques in instances where missingness is considerable may mistakenly result in study outcomes being interpreted as confirmative when they are not (Jakobsen et al., 2017). However, the limitations of listwise deletion and the potential for bias must be considered when evaluating this study's findings.

For the intervention study, because missing data was low and missing completely at random, we elected to prorate missing values using the last observation carried forward to retain sample size. Although proration is a commonly used technique for handling missing data, it is important to note that proration can result in the underestimation of variability because each unobserved value carries the same weight as observed values in analyses (Jakobsen et al., 2017).

Finally, issues around credibility and subjectivity must be considered when discussing limitations of qualitative methods. Despite efforts to analyse qualitative data in an objective and impartial manner, this study reflects a subjective interpretation of the data and must be appraised with an awareness of potential biases that may have influenced the researcher. Although inter-rater reliability agreements on interpretations of qualitative findings were high, triangulation was used to corroborate qualitative findings and a reflexive approach was adopted by the researcher, these biases may have prevailed and influenced interpretations of findings.

## 8.6 Future Research

Although our findings mostly corroborate existing research on social media's effects on body image perceptions, there is a need to replicate qualitative studies with more samples across other geographical regions of Ireland. There is also a need to establish whether participants' scepticism towards body positivity reflects a cultural anomaly or if these views are held in other countries/cultures as this could ensure efforts to promote body image are pitched in more appropriate ways. Although our findings provide a nuanced insight into appearance comparison and body ideal internalisation behaviours on social media, the literature could benefit from real time documentation of these behaviours on social media using ecological momentary assessments (EMA). EMA would facilitate these microprocesses to be documented as they occur in real world contexts and provide insight into the moment-to-moment impact of these behaviours on male and female body image.

Given the discrepant findings regarding social media's influence on male versus female body image, further experimental and correlational research are required to establish the precise magnitude of social media effects on body image across gender. Furthermore, longitudinal studies that control for individuals' first exposure to social media, are required to corroborate participants' assertion that exposure to social media at younger ages is more problematic for body image than at older ages. Additionally, future research needs to remain informed of the rapidly evolving content and affordances of new and existing social media platforms and how they influence appearance comparison and body ideal internalisation behaviours. This is important to ensure that methods of measuring and addressing body image concerns on social media are kept up to date.

This research also suggests that further work is required to identify effective ways of protecting and promoting body image on social media. Although this research identified several coping and protective filtering strategies used by adolescents and young adults to manage problematic social media content, little research has investigated protective factors for body image on social media previously and further large scale correlational research is required to corroborate these qualitative findings and quantify coping strategies and patterns of more effective management of social media effects.

Although adolescents were found to possess relatively good social media literacy levels, qualitative work was conducted with a relatively small sample indicating the need to collect national data on social media literacy levels of Irish adolescents. This information could be used to assess the level of need for social media literacy interventions and/or inform about potential gaps in adolescents' knowledge so that these kinds of interventions can be designed effectively to meet adolescents' needs. Media literacy approaches are consistently recommended as an approach for addressing body dissatisfaction; however, little empirical work has been conducted to establish their effectiveness in the social media context or to identify adolescents existing media literacy

levels to inform intervention development (McLean et al., 2016a). Given the potential importance of both cognitive and affective approaches in addressing body dissatisfaction, this constitutes an important direction for future work. Furthermore, it could be beneficial to investigate whether combining a social media literacy (which addresses cognitive aspects of body image) with a self-compassion (which addresses affective issues surrounding body image) approach would yield superior improvements in body image than each approach on its own.

The Digital SMART compassionate mind training programme was found to be feasible, reasonably acceptable and yielded limited but promising improvements in body image outcomes via theorised pathways in some adolescents. These preliminary findings suggest that there is scope to investigate this self-compassion intervention, with its recommended modifications (as identified in process evaluation) in adolescent girls, with larger and more geographically varied samples. Future exploratory pilot testing could evaluate whether differences in methods or context of delivery influence the effectiveness of the programme, for example having the programme delivered by teachers, researchers or students, or hosting the programme inside or outside of school contexts or in online formats. However, considering the modestly promising results of the current phase 2 exploratory trial, future investigations could be upscaled to a phase 3 RCT. In an RCT, the effectiveness of the self-compassion programme in improving body image and self-compassion could be evaluated via comparisons to an active control using an adequately controlled design with sufficient statistical power (Medical Research Council, 2000).

As the mechanisms by which self-compassion interventions remain largely unknown, further experimental research is required to isolate the mechanisms of change of self-compassion interventions on body image. Further intervention-work also needs to use large sample sizes to enable mediation and moderation analyses to be conducted. Although there is evidence that self-compassion interventions exert direct, indirect and moderating effects on body image outcomes, further work is required to clearly identify the causal mechanisms to ensure these interventions are effective.

Although some boys evinced small improvements in body image outcomes particularly at follow up, they didn't appear to report the same changes in self-compassion and body image perceptions via the proposed mechanisms as outlined by girls. Given the small sample of boys involved in these analyses and the low number of reflective responses of boys evaluated there isn't enough evidence to support the use of the self-compassion intervention in its current form with boys and suggests that further modelling and exploratory work of body image-focused self-compassion interventions with boys is required. It might be worthwhile to conduct efficacy trials, whereby participants are screened prior to participation and CMT is delivered only to boys/men who exhibit high levels of body dissatisfaction. This would give a clearer indication of whether self-compassion interventions can produce changes in a controlled setting and might provide

insight as to how to design more effective programmes to target these issues in “real-world” scenarios with men.

Given the relative dearth of research investigating body image concerns in men, further research qualitative is also required to understand how men/boys experience body image issues on social media and how to communicate about these issues with men. Furthermore, mental health promotion efforts need to identify ways of dismantling the stigma associated with discussing body image concerns in men. Men have typically been poorer at discussing and seeking help for mental health concerns (Rickwood et al., 2005); however, recent public health and media campaigns encouraging men to speak about their concerns appeared to have somewhat dispelled the male stigma of talking about mental health (Seaton et al., 2017). Similar efforts need to be directed to the area of body image and body image campaigns need to be extended to address male body image concerns (British Youth Council, 2017), especially considering the growing prevalence of body image concerns in males reported in the literature. Additionally, future research with men needs to adopt research designs such as experimental work and one-on-one interviews to work around the stigma.

Finally, the ACSMS demonstrated good reliability, validity and model fit in a multinational (but predominantly Irish) sample; however, further research is required to investigate the factor structure of the ACSMS in demographically diverse samples containing more men and to validate the factor structure fully in adolescents.

## **8.7 Conclusion**

Social media exerted a strong and mostly negative influence on body image perceptions especially in women and adolescents. Social media influenced body dissatisfaction by altering the parameters through which appearance comparison and body ideal internalisation behaviours operated. Our findings highlight the role of social media content and affordances in amplifying these mediating mechanisms and the role of the user in exacerbating or minimising these influences by the ways they engaged with social media. Our research also emphasises the importance of engaging with social media content in self-protective ways, such that protective messages pertaining to the body are internalised and problematic messages are rejected. Although some participants rejected the pursuit of body ideals at a cognitive level, they continued to critically compare themselves to appearance ideals and experience body dissatisfaction. This suggests that efforts to reduce body dissatisfaction on social media should target not only cognitive but affective components of body image and attempt to mitigate the critical self-evaluations arising from appearance comparisons. Self-compassion represents promise as an approach to achieve these goals especially among adolescent girls who exhibited high levels of self-criticism and intolerance of their bodies and adolescent boys who mostly employed passive (and reportedly less effective)

strategies to manage problematic body-related content on social media. Although statistically significant findings were limited, adolescent girls did appear to benefit from the CMT programme in terms of improved body image perceptions and reduced negative experiences of social media. Future work is required to adapt the content and delivery of the self-compassion programme for adolescents such that is more engaging and impactful in the secondary school context. However, adolescent boys appeared to benefit less from the programme and further research is required to understand adolescent boys' experience of social media and body image such that self-compassion interventions can be more effectively developed to target issues in this cohort.



## References

- Adams, C. E., & Leary, M. R. (2007). Promoting self-compassionate attitudes toward eating among restrictive and guilty eaters. *Journal of Social and Clinical Psychology, 26*(10), 1120–1144. <https://doi.org/10.1521/jscp.2007.26.10.1120>
- Adams, G., Turner, H., & Bucks, R. (2005). The experience of body dissatisfaction in men. *Body Image, 2*(3), 271–283. <https://doi.org/10.1016/j.bodyim.2005.05.004>
- Ahern, A. L., Bennett, K. M., Kelly, M., & Hetherington, M. M. (2011). A qualitative exploration of young women's attitudes towards the thin ideal. *Journal of Health Psychology, 16*(1), 70–79. <https://doi.org/10.1177/1359105310367690>
- Al Sabbah, H., Vereecken, C. A., Elgar, F. J., Nansel, T., Aasvee, K., Abdeen, Z., Ojala, K., Ahluwalia, N., & Maes, L. (2009). Body weight dissatisfaction and communication with parents among adolescents in 24 countries: international cross-sectional survey. *BMC Public Health, 9*(1), 52. <https://doi.org/10.1186/1471-2458-9-52>
- Albertson, E. R. (2013). A randomized controlled trial examining the effects of self-compassion meditation on body image in women [Fielding Graduate University]. In *ProQuest Dissertations and Theses*.  
<http://elib.tcd.ie/login?url=https://search.proquest.com/docview/1289114067?accountid=14404>
- Albertson, E. R., Neff, K. D., & Dill-Shackleford, K. E. (2015). Self-compassion and body dissatisfaction in women: A randomized controlled trial of a brief meditation intervention. *Mindfulness, 6*(3), 444–454. <https://doi.org/10.1007/s12671-014-0277-3>
- Alleva, J. M., Martijn, C., Veldhuis, J., & Tylka, T. L. (2016). A Dutch translation and validation of the Body Appreciation Scale-2: An investigation with female university students in the Netherlands. *Body Image, 19*, 44–48. <https://doi.org/10.1016/J.BODYIM.2016.08.008>
- Alleva, J. M., Sheeran, P., Webb, T. L., Martijn, C., & Miles, E. (2015). A meta-analytic review of stand-alone interventions to improve body image. *PLoS ONE, 10*(9), e0139177. <https://doi.org/10.1371/journal.pone.0139177>
- Allison, P. D. (1990). Change scores as dependent variables in regression analysis. *Sociological Methodology, 20*, 93. <https://doi.org/10.2307/271083>
- Almeida, F. (2017). Strengths and limitations of quantitative and qualitative research methods. *European Journal of Education Studies, 369–387*. <https://doi.org/10.5281/zenodo.887089>
- Andrew, R. (2015). *Predictors and Outcomes of Positive Body Image in Young Women and Adolescent Girls* [Flinders University]. <https://flex.flinders.edu.au/file/ab6a7662-2bfb-4311->

- Andrew, R., Tiggemann, M., & Clark, L. (2015). The protective role of body appreciation against media-induced body dissatisfaction. *Body Image, 15*, 98–104.  
<https://doi.org/10.1016/j.bodyim.2015.07.005>
- Andrew, R., Tiggemann, M., & Clark, L. (2016). Predicting body appreciation in young women: An integrated model of positive body image. *Body Image, 18*, 34–42.  
<https://doi.org/10.1016/j.bodyim.2016.04.003>
- Appel, H., Gerlach, A. L., & Crusius, J. (2016). The interplay between Facebook use, social comparison, envy, and depression. *Current Opinion in Psychology, 9*, 44–49.  
<https://doi.org/10.1016/j.copsyc.2015.10.006>
- Aslam, S. (2020). *Instagram by the Numbers: Stats, Demographics & Fun Facts*. Omnicore.  
<https://www.omnicoreagency.com/instagram-statistics/>
- Augustus-Horvath, C. L., & Tylka, T. L. (2011). The Acceptance Model of Intuitive Eating: A comparison of women in emerging adulthood, early adulthood, and middle adulthood. *Journal of Counseling Psychology, 58*(1), 110–125. <https://doi.org/10.1037/a0022129>
- Bandura, A. (2001). Social cognitive theory of mass communication. *Media Psychology, 3*(3), 265–299. [https://doi.org/10.1207/S1532785XMEP0303\\_03](https://doi.org/10.1207/S1532785XMEP0303_03)
- Barlett, C. P., Vowels, C. L., & Saucier, D. A. (2008). Meta-analyses of the effects of media images on men’s body-image concerns. *Journal of Social and Clinical Psychology, 27*(3), 279–310. <https://doi.org/10.1521/jscp.2008.27.3.279>
- Barnard, L. K., & Curry, J. F. (2011). Self-compassion: conceptualizations, correlates and interventions. *Review of General Psychology, 15*(4), 289–303.  
<https://doi.org/10.1037/a0025754>
- Bell, B. T. (2019). “You take fifty photos, delete forty nine and use one”: A qualitative study of adolescent image-sharing practices on social media. *International Journal of Child-Computer Interaction, 20*, 64–71. <https://doi.org/10.1016/J.IJCCI.2019.03.002>
- Bell, B. T., Deighton-smith, N., & Hurst, M. (2019). “When you think of exercising, you don’t really want to think of puking, tears and pain”: Young adolescents understanding of fitness and #fitspiration. *Journal of Health Psychology, 1–15*.  
<https://doi.org/10.1177/1359105319869798>
- Bell, M. J., Rodgers, R. F., & Paxton, S. J. (2017). Towards successful evidence-based universal eating disorders prevention: The importance of zooming out. *Eating Behaviors, 25*, 89–92.  
<https://doi.org/10.1016/j.eatbeh.2016.10.012>

- Bengtsson, H., Söderström, M., & Terjestam, Y. (2016). The structure and development of dispositional compassion in early adolescence. *Journal of Early Adolescence, 36*(6), 840–873. <https://doi.org/10.1177/0272431615594461>
- Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *NursingPlus Open, 2*, 8–14. <https://doi.org/10.1016/j.npls.2016.01.001>
- Bennett, W., & Gurin, J. (1982). *The dieter's dilemma: Eating less and weighing more*. Basic Books.
- Benton, C., & Karazsia, B. T. (2015). The effect of thin and muscular images on women's body satisfaction. *Body Image, 13*, 22–27. <https://doi.org/10.1016/j.bodyim.2014.11.001>
- Berger, R. (2015). Now I see it, now I don't: researcher's position and reflexivity in qualitative research. *Qualitative Research, 15*(2), 219–234. <https://doi.org/10.1177/1468794112468475>
- Berne, S., Frisé, A., & Kling, J. (2014). Appearance-related cyberbullying: A qualitative investigation of characteristics, content, reasons, and effects. *Body Image, 11*(4), 527–533. <https://doi.org/10.1016/J.BODYIM.2014.08.006>
- Bessenoff, G. R. (2006). Can the media affect us? Social comparison, self-discrepancy, and the thin ideal. *Psychology of Women Quarterly, 30*(3), 239–251. <https://doi.org/10.1111/j.1471-6402.2006.00292.x>
- Betz, D. E., & Ramsey, L. R. (2017). Should women be “All About That Bass?”: Diverse body-ideal messages and women's body image. *Body Image, 22*, 18–31. <https://doi.org/10.1016/j.bodyim.2017.04.004>
- Blakemore, S. J., & Mills, K. L. (2014). Is adolescence a sensitive period for sociocultural processing? *Annual Review of Psychology, 65*(1), 187–207. <https://doi.org/10.1146/annurev-psych-010213-115202>
- Bland, J. M., & Altman, D. G. (1997). Statistics notes: Cronbach's Alpha. *British Medical Journal, 314*(7080), 572. <https://doi.org/10.1136/bmj.314.7080.572>
- Bleyer, W. A., & Albritton, K. (2003). Definition of Older Adolescent and Young Adult. In D. W. Kufe, R. . Pollock, & R. R. Weichselbaum (Eds.), *Holland-Frei Cancer Medicine* (6th ed.). BC Decker. <https://www.ncbi.nlm.nih.gov/books/NBK13167/>
- Blond, A. (2008). Impacts of exposure to images of ideal bodies on male body dissatisfaction: A review. *Body Image, 5*(3), 244–250. <https://doi.org/10.1016/J.BODYIM.2008.02.003>
- Blouin, A. G., & Goldfield, G. S. (1995). Body image and steroid use in male bodybuilders. *The International Journal of Eating Disorders, 18*(2), 159–165. <http://www.ncbi.nlm.nih.gov/pubmed/7581418>

- Bluth, K., & Blanton, P. W. (2015). The influence of self-compassion on emotional well-being among early and older adolescent males and females. *Journal of Positive Psychology, 10*(3), 219–230. <https://doi.org/10.1080/17439760.2014.936967>
- Bluth, K., Campo, R. A., Futch, W. S., & Gaylord, S. A. (2017). Age and gender differences in the associations of self-compassion and emotional well-being in a large adolescent sample. *Journal of Youth and Adolescence, 46*, 840–853. <https://doi.org/10.1007/s10964-016-0567-2>
- Bluth, K., Gaylord, S. A., Campo, R. A., Mullarkey, M. ., & Hobbs, L. (2016). Making friends with yourself: A mixed methods pilot study of a mindful self-compassion program for adolescents. *Mindfulness, 7*(2), 479–492. <https://doi.org/10.1007/s12671-015-0476-6>
- Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quiñonez, H. R., & Young, S. L. (2018). Best practices for developing and validating scales for health, social, and behavioral research: A primer. *Frontiers in Public Health, 6*, 149. <https://doi.org/10.3389/fpubh.2018.00149>
- Boepple, L., & Thompson, J. K. (2016). A content analytic comparison of fitspiration and thinspiration websites. *International Journal of Eating Disorders, 49*(1), 98–101. <https://doi.org/10.1002/eat.22403>
- Bonnie, R., Stroud, C., & Breiner, H. (Eds.). (2015). Young adults in the 21st century. In *Investigating in the Health and Wellbeing of Young Adults* (pp. 903-909.e1). National Academic Press. <https://doi.org/10.1016/j.annepidem.2014.09.010>
- Bornstein, M. H., Jager, J., & Putnick, D. L. (2013). Sampling in developmental science: Situations, shortcomings, solutions, and standards. In *Developmental Review* (Vol. 33, Issue 4, pp. 357–370). Academic Press. <https://doi.org/10.1016/j.dr.2013.08.003>
- boyd, D. (2014). *It's Complicated: The Social Lives of Networked Teens*. Yale University Press.
- Bratt, A., Gralberg, I., Svensson, I., & Rusner, M. (2020). Gaining the courage to see and accept oneself: Group-based compassion-focussed therapy as experienced by adolescent girls. *Clinical Child Psychology and Psychiatry, 1*–13. <https://doi.org/10.1177/1359104520931583>
- Braun, T. D., Park, C. L., & Conboy, A. L. (2012). Kripalu yoga-based weight loss program. *International Journal of Yoga Therapy, 22*, 9–21. <https://doi.org/https://doi.org/10.17761/ijyt.22.1.y47k2658674t1212>
- Braun, T. D., Park, C. L., & Gorin, A. (2016). Self-compassion, body image, and disordered eating: A review of the literature. *Body Image, 17*, 117–131. <https://doi.org/10.1016/j.bodyim.2016.03.003>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>

- Brausch, A. M., & Muehlenkamp, J. J. (2007). Body image and suicidal ideation in adolescents. *Body Image, 4*(2), 207–212. <https://doi.org/10.1016/J.BODYIM.2007.02.001>
- Breen, R. . (2006). A practical guide to focus-group research. *Journal of Geography in Higher Education, 30*(3), 463–475. <https://doi.org/10.1080/03098260600927575>
- Breines, J., Toole, A., Tu, C., & Chen, S. (2014). Self-compassion, body image, and self-reported disordered eating. *Self and Identity, 13*(4), 432–448. <https://doi.org/10.1080/15298868.2013.838992>
- Brennan, R. L., & Prediger, D. J. (1981). Coefficient Kappa: Some uses, misuses, and alternatives. *Educational and Psychological Measurement, 41*(3), 687–699. <https://doi.org/10.1177/001316448104100307>
- British Youth Council Youth Select Committee. (2017). *A Body Confident Future*. <https://www.byc.org.uk/wp-content/uploads/2017/11/Youth-Select-Committee-A-Body-Confident-Future.pdf>
- Brown, B. B., & Lohr, M. J. (1987). Peer-group affiliation and adolescent self-esteem: An integration of ego-identity and symbolic-interaction theories. *Journal of Personality and Social Psychology, 52*(1), 47–55. <https://doi.org/10.1037/0022-3514.52.1.47>
- Brown, B., & Marin, P. (2009). Adolescents and Electronic Media : Growing Up Plugged in. In *Child Trends Research Brief*.
- Brown, Z., & Tiggemann, M. (2016). Attractive celebrity and peer images on instagram: Effect on women’s mood and body image. *Body Image, 19*, 37–43. <https://doi.org/https://doi.org/10.1016/j.bodyim.2016.08.007>
- Browne, M. W., & Cudeck, R. (1992). Alternative ways of assessing model fit. *Sociological Methods & Research, 21*(2), 230–258. <https://doi.org/10.1177/0049124192021002005>
- Bucchianeri, M. M., Arikian, A. J., Hannan, P. J., Eisenberg, M. E., & Neumark-Sztainer, D. (2013). Body dissatisfaction from adolescence to young adulthood: Findings from a 10-year longitudinal study. *Body Image, 10*(1), 1–7. <https://doi.org/10.1016/j.bodyim.2012.09.001>
- Bullock, A., Cave, L., Fildes, J., Hall, S., & Plummer, J. (2017). *Mission Australia’s 2017 Youth Survey Report*.
- Bunce, A. E., Gold, R., Davis, J. V., McMullen, C. K., Jaworski, V., Mercer, M. B., & Nelson, C. (2014). Ethnographic process evaluation in primary care: Explaining the complexity of implementation. *BMC Health Services Research, 14*(1), 1–10. <https://doi.org/10.1186/s12913-014-0607-0>
- Buote, V. M., Wilson, A. E., Strahan, E. J., Gazzola, S. B., & Papps, F. (2011). Setting the bar:

Divergent sociocultural norms for women's and men's ideal appearance in real-world contexts. *Body Image*, 8, 322–334. <https://doi.org/10.1016/j.bodyim.2011.06.002>

- Burnette, B. (2017). Investigating social media use and its relation with body dissatisfaction in an early adolescent female sample [Virginia Commonwealth University]. In *ProQuest Dissertations and Theses*.  
<http://elib.tcd.ie/login?url=https://search.proquest.com/docview/1910865614?accountid=14404%0Ahttp://linksource.ebsco.com/linking.aspx?sid=ProQuest+Dissertations+%26+Theses+A%26I&fmt=dissertation&genre=dissertations+%26+theses&issn=&volume=&issue=&date=20>
- Burnette, C. B., Kwitowski, M. A., & Mazzeo, S. E. (2017). “I don't need people to tell me I'm pretty on social media:” A qualitative study of social media and body image in early adolescent girls. *Body Image*, 23, 114–125. <https://doi.org/10.1016/J.BODYIM.2017.09.001>
- Cafri, G., Thompson, J. K., Ricciardelli, L., McCabe, M., Smolak, L., & Yesalis, C. (2005). Pursuit of the muscular ideal: Physical and psychological consequences and putative risk factors. *Clinical Psychology Review*, 25(2), 215–239. <https://doi.org/10.1016/J.CPR.2004.09.003>
- Cafri, G., Yamamiya, Y., Brannick, M., & Thompson, J. K. (2005). The influence of sociocultural factors on body image: A meta-analysis. *Clinical Psychology: Science and Practice*, 12(4), 421–433. <https://doi.org/10.1093/clipsy/bpi053>
- Campbell, M., Fitzpatrick, R., Haines, A., Kinmonth, A. L., Sandercock, P., Spiegelhalter, D., & Tyrer, P. (2000). Framework for design and evaluation of complex interventions to improve health. *British Medical Journal*, 321, 694–696. <https://doi.org/10.1136/bmj.321.7262.694>
- Campo, R. A., Bluth, K., Santacroce, S. J., Knapik, S., Tan, J., Gold, S., Philips, K., Gaylord, S., & Asher, G. N. (2017). A mindful self-compassion videoconference intervention for nationally recruited posttreatment young adult cancer survivors: feasibility, acceptability, and psychosocial outcomes. *Support Care Cancer*. <https://doi.org/10.1007/s00520-017-3586-y>
- Carlsen, B., & Glenton, C. (2011). What about N A methodological study of sample-size reporting in focus group studies. *BMC Medical Research Methodology*, 11(26), 1–10.  
<https://doi.org/doi:10.1186/1471-2288-11-26>
- Carollo, O. L. (2015). Effectiveness of warning labels on fashion advertisements in combating body dissatisfaction among women of color [Roosevelt University]. In *ProQuest Dissertations and Theses*.  
<http://elib.tcd.ie/login?url=https://search.proquest.com/docview/1668379753?accountid=14404>
- Carona, C., Moreira, H., & Silva, N. (2016). Therapeutic applications of mindfulness in paediatric

- settings. *BJPsych Advances*, 22(01), 16–24. <https://doi.org/10.1192/apt.bp.114.014209>
- Carona, C., Rijo, D., Salvador, C., Castilho, P., & Gilbert, P. (2017). Compassion-focused therapy with children and adolescents. *British Journal of Psychological Advances*, 23, 240–252. <https://doi.org/10.1192/apt.bp.115.015420>
- Carpenter, S. (2018). Ten Steps in scale development and reporting: A guide for researchers. *Communication Methods and Measures*, 12(1), 25–44. <https://doi.org/10.1080/19312458.2017.1396583>
- Carrotte, E. R., Prichard, I., & Lim, S. C. M. (2017). “Fitspiration” on social media: A content analysis of gendered images. *Journal of Medical Internet Research*, 19(3), 95. <https://doi.org/10.2196/jmir.6368>
- Cash, T.F. (2005). The influence of sociocultural factors on body image: Searching for constructs. *Clinical Psychology: Science and Practice*, 79(4), 438–442. <https://doi.org/10.1093/clipsy/bpi055>
- Cash, T.F, Morrow, J. A., Hrabosky, J. I., & Perry, A. A. (2004). How has body image changed? A cross-sectional investigation of college women and men from 1983 to 2001. *Journal of Consulting and Clinical Psychology*, 72(6), 1081–1089. <https://doi.org/10.1037/0022-006X.72.6.1081>
- Cash, Thomas F., Melnyk, S. E., & Hrabosky, J. I. (2004). The assessment of body image investment: An extensive revision of the appearance schemas inventory. *International Journal of Eating Disorders*, 35(3), 305–316. <https://doi.org/10.1002/eat.10264>
- Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research*, 1(2), 245–276. [https://doi.org/10.1207/s15327906mbr0102\\_10](https://doi.org/10.1207/s15327906mbr0102_10)
- Chambers, D., Ryan, F., Doolan, R., Kavanagh, N., & Healy, C. (2017). *What’s Wrecking Your Head? A report on teenage mental health in Ireland*. ReachOut Ireland. <https://ie.reachout.com/wp-content/uploads/2017/04/What-is-wrecking-your-head.pdf>
- Chancellor, S., Pater, J., Clear, T., Gilbert, E., & De Choudhury, M. (2016). Thyghgapp: Instagram content moderation and lexical variation in Pro-Eating disorder communities. *Proceedings of the ACM Conference on Computer Supported Cooperative Work, CSCW*, 27, 1201–1213. <https://doi.org/10.1145/2818048.2819963>
- Charmaz, K. (2003). Grounded theory. In J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods*. (pp. 81–110). Sage Publications, Inc. <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2003-06442-004&site=ehost-live>

- Children's Commissioner England. (2017). *Life in Likes | Children's Commissioner for England*.  
<https://www.childrenscommissioner.gov.uk/publication/life-in-likes/>
- Chou, H. T., & Edge, N. (2012). "They are happier and having better lives than I am": the impact of using Facebook on perceptions of others' lives. *Cyberpsychol Behav Soc Netw*, *15*(2), 117–121. <https://doi.org/10.1089/cyber.2011.0324>
- Chua, T. H. H., & Chang, L. (2016). Follow me and like my beautiful selfies: Singapore teenage girls' engagement in self-presentation and peer comparison on social media. *Computers in Human Behavior*, *55*, 190–197. <https://doi.org/10.1016/J.CHB.2015.09.011>
- Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, *7*(3), 309–319. <https://doi.org/10.1037/14805-012>
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Cohen, R., Irwin, L., Newton-John, T., & Slater, A. (2019). #bodypositivity: A content analysis of body positive accounts on Instagram. *Body Image*, *29*, 47–57. <https://doi.org/10.1016/j.bodyim.2019.02.007>
- Cohen, Rachel, Fardouly, J., Newton-John, T., & Slater, A. (2019). #BoPo on Instagram: An experimental investigation of the effects of viewing body positive content on young women's mood and body image. *New Media & Society*, *21*(7), 1546–1564. <https://doi.org/10.1177/1461444819826530>
- Cohen, Rachel, Newton-John, T., & Slater, A. (2017). The relationship between Facebook and Instagram appearance-focused activities and body image concerns in young women. *Body Image*, *23*, 183–187. <https://doi.org/https://doi.org/10.1016/j.bodyim.2017.10.002>
- Cohen, Rachel, Newton-John, T., & Slater, A. (2018). Selfie-objectification: The role of selfies in self-objectification and disordered eating in young women. *Computers in Human Behavior*, *79*(October 2017), 68–74. <https://doi.org/10.1016/j.chb.2017.10.027>
- Collins, R. L. (1996). For better or worse: The impact of upward social comparison on self-evaluations. *Psychological Bulletin*, *119*(1), 51–69. <https://doi.org/10.1037/0033-2909.119.1.51>
- Collins, R. L. (2000). Among the Better Ones. In Jerry Suls & L. Wheeler (Eds.), *Handbook of Social Comparison: Theory and Research* (pp. 159–171). Springer US. [https://doi.org/10.1007/978-1-4615-4237-7\\_9](https://doi.org/10.1007/978-1-4615-4237-7_9)
- Comrey, A. L. (1988). Factor-analytic methods of scale development in personality and clinical psychology. *Journal of Consulting and Clinical Psychology*, *56*(5), 754.



- Convertino, A. D., Rodgers, R. F., Franko, D. L., & Jodoin, A. (2019). An evaluation of the Aerie Real campaign: Potential for promoting positive body image? *Journal of Health Psychology, 24*(6), 726–737. <https://doi.org/10.1177/1359105316680022>
- Cook-Cottone, C. P. (2015). Incorporating positive body image into the treatment of eating disorders: A model for attunement and mindful self-care. *Body Image, 14*, 158–167. <https://doi.org/10.1016/j.bodyim.2015.03.004>
- Cook, C. (2010). Editorial: Mode of administration bias. In *Journal of Manual and Manipulative Therapy* (Vol. 18, Issue 2, pp. 61–63). Taylor & Francis. <https://doi.org/10.1179/106698110X12640740712617>
- Costello, A. ., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research, & Evaluation, 10*, 1–9.
- Cowie, H., & Olafsson, R. (2000). The role of peer support in helping the victims of bullying in a school with high levels of aggression. *School Psychology International, 21*(1).
- Craig, C., Hiskey, S., & Spector, A. (2020). Compassion focused therapy: a systematic review of its effectiveness and acceptability in clinical populations. *Expert Review of Neurotherapeutics, 20*(4), 385–400. <https://doi.org/10.1080/14737175.2020.1746184>
- Craig, P., Dieoee, P., Macintyre, S., Michie, S., Nazareth, I., & Petticrew, M. (2019). Developing and evaluating complex interventions: *Medical Research Council*, 1–39. <https://mrc.ukri.org/documents/pdf/complex-interventions-guidance/>
- Crone, E. A., & Konijn, E. A. (2018). Media use and brain development during adolescence. *Nature Communications, 9*(1), 588. <https://doi.org/10.1038/s41467-018-03126-x>
- Cruz-Sáez, S., Pascual, A., Włodarczyk, A., & Echeburúa, E. (2018). The effect of body dissatisfaction on disordered eating: The mediating role of self-esteem and negative affect in male and female adolescents. *Journal of Health Psychology, 135910531774873*. <https://doi.org/10.1177/1359105317748734>
- Currie, C., Zanotti, C., Morgan, A., Currie, D., de Looze, M., Roberts, C., Samdal, O., Smith, O. R. F., & Barnekow, V. (2012). *Social determinants of health and well-being among young people. Health behaviour in school-aged children (HBSC) study: International report from the 2009/2010 survey* (Issue Health Policy for Children and Adolescents, No. 6). <https://doi.org/10.1358/dof.2005.030.10.942816>
- D'Agostino, R. B. S., Massaro, J. M., & Sullivan, L. M. (2003). Non-inferiority trials: design concepts and issues - the encounters of academic consultants in statistics. *Statistics in*

*Medicine*, 22(2), 169–186. <https://doi.org/10.1002/sim.1425>

- Dawes, R. M. (1999). Two methods for studying the incremental validity of a Rorschach variable. *Psychological Assessment*, 11(3), 297.
- de Beurs, D., van Bruinessen, I., Noordman, J., Friele, R., & van Dulmen, S. (2017). Active involvement of end users when developing web-based mental health interventions. *Frontiers in Psychiatry*, 8, 72. <https://doi.org/10.3389/fpsyt.2017.00072>
- de Vries, D. A., Peter, J., Graaf, H., Nikken, P., de Graaf, H., & Nikken, P. (2016). Adolescents' social network site use, peer appearance-related feedback, and body dissatisfaction: Testing a mediation model. *Journal of Youth and Adolescence*, 45(1), 211–224. <https://doi.org/10.1007/s10964-015-0266-4>
- de Vries, D. A., Peter, J., Nikken, P., & de Graaf, H. (2014). The effect of social network site use on appearance investment and desire for cosmetic surgery among adolescent boys and girls. *Sex Roles*, 71(9–10), 283–295. <https://doi.org/10.1007/s11199-014-0412-6>
- Decastellarnau, A. (2017). A classification of response scale characteristics that affect data quality: a literature review. *Quality & Quantity*, 52. <https://doi.org/10.1007/s11135-017-0533-4>
- Deighton-Smith, N., & Bell, B. T. (2017). Objectifying fitness: A content and thematic analysis of# Fitspiration images on social media. *Psychology of Popular Media Culture*, 6(1), 1–41. <http://ray.yorks.ac.uk/id/eprint/1901/http://psycnet.apa.org/psycinfo/2017-20810-001/>
- Department of Education. (1993). *Transition Year Programmes – Guidelines for Schools*. 3. [https://www.education.ie/en/Schools-Colleges/Information/Curriculum-and-Syllabus/Transition-Year-/ty\\_transition\\_year\\_school\\_guidelines.pdf](https://www.education.ie/en/Schools-Colleges/Information/Curriculum-and-Syllabus/Transition-Year-/ty_transition_year_school_guidelines.pdf)
- Department of Education. (2015). *Framework for Junior Cycle 2015*. [www.education.ie](http://www.education.ie)
- Depue, R. A., & Morrone-Strupinsky, J. V. (2005). A neurobehavioral model of affiliative bonding: Implications for conceptualizing a human trait of affiliation. *Behavioral and Brain Sciences*, 28(03), 313–350; discussion 350-95. <https://doi.org/10.1017/S0140525X05000063>
- DeVellis, R. (2012). *Scale development; Theory and applications* (3rd ed.). Sage Publications.
- Diedrichs, P. C., & Lee, C. (2011). Waif goodbye! Average-size female models promote positive body image and appeal to consumers. *Psychology and Health*, 26(10), 1273–1291. <https://doi.org/10.1080/08870446.2010.515308>
- Diedrichs, P. C., Lee, C., & Kelly, M. (2011). Seeing the beauty in everyday people: A qualitative study of young Australians' opinions on body image, the mass media and models. *Body Image*, 8(3), 259–266. <https://doi.org/10.1016/j.bodyim.2011.03.003>

- Dijkstra, P., Gibbons, F. X., & Buunk, A. P. (2010). Social comparison. In J. E. Maddux & J. P. Tangney (Eds.), *Social Psychological Foundations of Clinical Psychology* (pp. 195–209). The Guildford Press.  
[https://books.google.ie/books?hl=en&lr=&id=KPxfocUUolsC&oi=fnd&pg=PA195&dq=11+Social+Comparison+Theory&ots=qm6\\_txviM7&sig=1OE7a5QDHX8QoOYtSaCop9hgpLw&redir\\_esc=y#v=onepage&q=11+Social+Comparison+Theory&f=false](https://books.google.ie/books?hl=en&lr=&id=KPxfocUUolsC&oi=fnd&pg=PA195&dq=11+Social+Comparison+Theory&ots=qm6_txviM7&sig=1OE7a5QDHX8QoOYtSaCop9hgpLw&redir_esc=y#v=onepage&q=11+Social+Comparison+Theory&f=false)
- Dittmar, H. (2009). How do “Body Perfect” ideals in the media have a negative impact on body image and behaviors? Factors and processes related to self and identity. *Journal of Social and Clinical Psychology, 28*(1), 1–8. <https://doi.org/10.1521/jscp.2009.28.1.1>
- Dittmar, H., & Howard, S. (2004). Thin-ideal internalization and social comparison tendency as moderators of media models’ impact on women’s body-focused anxiety. *Journal of Social and Clinical Psychology, 23*(6), 768–791. <https://doi.org/10.1521/jscp.23.6.768.54799>
- Dodgson, J. E. (2019). Reflexivity in qualitative research. *Journal of Human Lactation, 35*(2), 220–222. <https://doi.org/10.1177/0890334419830990>
- Dohnt, H. K., & Tiggemann, M. (2006). Body image concerns in young girls: The role of peers and media prior to adolescence. *Journal of Youth and Adolescence, 35*(2), 135–145.  
<https://doi.org/10.1007/s10964-005-9020-7>
- Donovan, E., Rodgers, R. F., Cousineau, T. M., McGowan, K. M., Luk, S., Yates, K., & Franko, D. L. (2016). Brief report: Feasibility of a mindfulness and self-compassion based mobile intervention for adolescents. *Journal of Adolescence, 53*, 217–221.  
<http://dx.doi.org/10.1016/j.adolescence.2016.09.009>
- Dooley, B., O’Connor, C., Fitzgerald, A., & O’Reilly, A. (2019). *My World Survey 2*. 1–167.  
<http://www.myworldsurvey.ie/>
- Downe-Wamboldt, B. (1992). Content analysis: method, applications, and issues. *Health Care for Women International, 13*(3), 312–321.
- Drahansky, M., Paridah, M., Moradbak, A., Mohamed, A. ., Owolabi, F., Asniza, M., & Abdul Khalid, S. (2016). Men’s body image: The effects of an unhealthy body men’s body image: The effects of an unhealthy body image on psychological, behavioral, and cognitive image on psychological, behavioral, and cognitive health. In *Intech Open Access: Vol. i* (p. 13).  
<https://doi.org/http://dx.doi.org/10.5772/57353>
- Drummond, M. (2008). Sport, aging men, and constructions of masculinity. *Generations, 32*(1), 32–35.
- Duarte, C., Ferreira, C., Trindade, I. A., & Pinto-Gouveia, J. (2015). Body image and college

women's quality of life: The importance of being self-compassionate. *Journal of Health Psychology*, 20(6), 754–764. <https://doi.org/10.1177/1359105315573438>

- Dube, S. R., Miller, J. W., Brown, D. W., Giles, W. H., Felitti, V. J., Dong, M., & Anda, R. F. (2006). Adverse childhood experiences and the association with ever using alcohol and initiating alcohol use during adolescence. *Journal of Adolescent Health*, 38(4), 444.e1-444.e10. <https://doi.org/10.1016/j.jadohealth.2005.06.006>
- Dupasquier, J. R., Kelly, A. C., Waring, S. V., & Moscovitch, D. A. (2020). Self-compassionate college women report receiving more social support in the face of distress: Evidence from a daily diary study. *Personality and Individual Differences*, 154. <https://doi.org/10.1016/j.paid.2019.109680>
- Durkin, S. J., & Paxton, S. J. (2002). Predictors of vulnerability to reduced body image satisfaction and psychological wellbeing in response to exposure to idealized female media images in adolescent girls. *Journal of Psychosomatic Research*, 53(5), 995–1005. [https://doi.org/10.1016/S0022-3999\(02\)00489-0](https://doi.org/10.1016/S0022-3999(02)00489-0)
- Durkin, S. J., Paxton, S. J., & Sorbello, M. (2007). An integrative model of the impact of exposure to idealized female images on adolescent girls' body satisfaction. *Journal of Applied Social Psychology*, 37(5), 1092–1117. <https://doi.org/10.1111/j.1559-1816.2007.00201.x>
- Durlak, J. A. (2009). How to select, calculate, and interpret effect sizes. *Journal of Pediatric Psychology*, 34(9), 917–928. <https://doi.org/10.1093/jpepsy/jsp004>
- Edcoms, & Credos. (2016). *Picture of Health: Who influences boys: Friends and the new world of social media*. 1–24. <https://doi.org/10.12968/ftse.2009.8.12.45100>
- Elkind, D. (1967). Egocentrism in adolescence. *Society for Research in Child Development*, 38(4), 1025–1034. <https://doi.org/10.2307/1127100>
- Engeln–Maddox, R., & Engeln, R. S. (2005). Cognitive responses to idealized media images of women: The relationship of social comparison and critical processing to body image disturbance in college women. *Journal of Social and Clinical Psychology*, 24(8), 1114–1138. <https://doi.org/10.1521/jscp.2005.24.8.1114>
- Engeln, R., Loach, R., Imundo, M. N., & Zola, A. (2020). Compared to Facebook, Instagram use causes more appearance comparison and lower body satisfaction in college women. *Body Image*, 34, 38–45. <https://doi.org/10.1016/j.bodyim.2020.04.007>
- Escoffery, C., Lebow-Skelley, E., Udelson, H., Böing, E. A., Wood, R., Fernandez, M. E., & Mullen, P. D. (2019). A scoping study of frameworks for adapting public health evidence-based interventions. *Translational Behavioral Medicine*, 9(1), 1–10.

<https://doi.org/10.1093/tbm/ibx067>

- Everri, M., & Park, K. (2018). *Children's online behaviours in Irish primary and secondary schools*. <https://zeeko.ie/wp-content/uploads/2018/06/ZEEKO-TREND-REPORT-.pdf>
- Eyles, H., Jull, A., Dobson, R., Firestone, R., Whittaker, R., Morenga, L. Te, Goodwin, D., Cliona, & Mhurchu, N., & Mhurchu, C. N. (2016). Co-design of mHealth delivered interventions: A systematic review to assess key methods and processes. *Current Nurt Rep*, 5(3), 1–9. <https://doi.org/10.1007/s13668-016-0165-7>
- Fabrigar, L. R., MacCallum, R. C., Wegener, D. T., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, 4(3), 272–299. <https://doi.org/10.1037/1082-989X.4.3.272>
- Fanelli, D. (2012). Negative results are disappearing from most disciplines and countries. *Scientometrics*, 90(3), 891–904. <https://doi.org/10.1007/s11192-011-0494-7>
- Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015a). Social comparisons on social media: The impact of Facebook on young women's body image concerns and mood. *Body Image*, 13, 38–45. <https://doi.org/https://doi.org/10.1016/j.bodyim.2014.12.002>
- Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015b). The mediating role of appearance comparisons in the relationship between media usage and self-objectification in young women. *Psychology of Women Quarterly*, 39(4), 447–457. <https://doi.org/10.1177/0361684315581841>
- Fardouly, J., Pinkus, R. T., & Vartanian, L. R. (2017). The impact of appearance comparisons made through social media, traditional media, and in person in women's everyday lives. *Body Image*, 20, 31–39. <https://doi.org/10.1016/J.BODYIM.2016.11.002>
- Fardouly, J., & Vartanian, L. R. (2015). Negative comparisons about one's appearance mediate the relationship between Facebook usage and body image concerns. *Body Image*, 12, 82–88. <https://doi.org/10.1016/j.bodyim.2014.10.004>
- Fardouly, J., & Vartanian, L. R. (2016). Social media and body image concerns: Current research and future directions. *Current Opinion in Psychology*, 9, 1–5. <https://doi.org/10.1016/j.copsy.2015.09.005>
- Feltman, C. E., & Szymanski, D. M. (2018). Instagram use and self-objectification: The roles of internalization, comparison, appearance commentary, and feminism. *Sex Roles*, 78(5–6), 311–324. <https://doi.org/10.1007/s11199-017-0796-1>
- Ferguson, C. J., Muñoz, M. E., Garza, A., & Galindo, M. (2014). Concurrent and prospective analyses of peer, television and social media influences on body dissatisfaction, eating

disorder symptoms and life satisfaction in adolescent girls. *Journal of Youth and Adolescence*, 43(1), 1–14. <https://doi.org/10.1007/s10964-012-9898-9>

- Ferreira, C., Pinto-Gouveia, J., & Duarte, C. (2013). Physical appearance as a measure of social ranking: The role of a new scale to understand the relationship between weight and dieting. *Clinical Psychology and Psychotherapy*, 20(1), 55–66. <https://doi.org/10.1002/cpp.769>
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7(2), 117–140. <https://doi.org/10.1177/001872675400700202>
- Field, A. E., Camargo, C. A., Taylor, C. B., Berkey, C. S., Frazier, A. L., Gillman, M. W., & Colditz, G. A. (1999). Overweight, weight concerns, and Bulimic behaviors among girls and boys. *Journal of the American Academy of Child & Adolescent Psychiatry*, 38(6), 754–760. <https://doi.org/10.1097/00004583-199906000-00024>
- Fisher, E., & Thompson, J. K. (1999). Body Comparison Scale. In *PsycTESTS*. <https://doi.org/10.1037/t00752-000>
- Fiske, L., Fallon, E. A., Blissmer, B., & Redding, C. A. (2014). Prevalence of body dissatisfaction among United States adults: Review and recommendations for future research. *Eating Behaviors*, 15(3), 357–365. <https://doi.org/10.1016/J.EATBEH.2014.04.010>
- Fitzsimmons-Craft, E. E. (2011). Social psychological theories of disordered eating in college women: Review and integration. *Clinical Psychology Review*, 31(7), 1224–1237. <https://doi.org/10.1016/J.CPR.2011.07.011>
- Fitzsimmons-Craft, E. E., Bardone-Cone, A. M., & Harney, M. B. (2012). Body, Eating, and Exercise Comparison Orientation Measure. In *PsycTESTS*. <https://doi.org/10.1037/t19431-000>
- Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment*, 7(3), 286–299. <https://doi.org/10.1037/1040-3590.7.3.286>
- Ford, J. K., MacCallum, R. C., & Tait, M. (1986). The application of exploratory factor analysis in applied psychology: a critical review and analysis. *Personnel Psychology*, 39(2), 291–314. <https://doi.org/10.1111/j.1744-6570.1986.tb00583.x>
- Fox, J., & Rooney, M. C. (2015). The Dark Triad and trait self-objectification as predictors of men's use and self-presentation behaviors on social networking sites. *Personality and Individual Differences*, 76, 161–165. <https://doi.org/10.1016/j.paid.2014.12.017>
- Fox, J., & Vendemia, M. A. (2016). Selective self-presentation and social comparison through photographs on social networking sites. *Cyberpsychology, Behavior, and Social Networking*,

- 19(10), 593–600. <https://doi.org/10.1089/cyber.2016.0248>
- Franko, D. L., Cousineau, T. M., Rodgers, R. F., & Roehrig, J. P. (2013). BodiMojo: Effective Internet-based promotion of positive body image in adolescent girls. *Body Image, 10*(4), 481–488. <https://doi.org/10.1016/j.bodyim.2013.04.008>
- Franzoi, S. L., Vasquez, K., Sparapani, E., Frost, K., Martin, J., Aebly, M., Sparapani, E., & Martin, J. (2012). Exploring body comparison tendencies: Women are self-critical whereas men are self-hopeful. *Psychology of Women Quarterly, 36*(1), 99–109. <https://doi.org/10.1177/0361684311427028>
- Frederick, D. A., Buchanan, G. M., Sadehgi-Azar, L., Peplau, L. A., Haselton, M. G., Berezovskaya, A., & Lipinski, R. E. (2007). Desiring the muscular ideal: Men's body satisfaction in the United States, Ukraine, and Ghana. *Psychology of Men & Masculinity, 8*(2), 103–117. <https://doi.org/10.1037/1524-9220.8.2.103>
- Frederick, D. A., Jafary, A. M., Gruys, K., & Daniels, E. A. (2012). Surveys and the epidemiology of body image dissatisfaction. In Thomas F. Cash (Ed.), *Encyclopedia of Body Image and Human Appearance* (pp. 776–774). Elsevier. <https://doi.org/>, <http://dx.doi.org/10.1016/B978-0-12-384926-7.00121-3>.
- Freeman, D., Pugh, K., Dunn, G., Evans, N., Sheaves, B., Waite, F., Černis, E., Lister, R., & Fowler, D. (2014). An early Phase II randomised controlled trial testing the effect on persecutory delusions of using CBT to reduce negative cognitions about the self: The potential benefits of enhancing self confidence. *Schizophrenia Research, 160*(1–3), 186–192. <https://doi.org/10.1016/j.schres.2014.10.038>
- Fuchs, C., & Trottier, D. (2015). Towards a theoretical model of social media surveillance in contemporary society. *Communications, 40*(1), 113–135. <https://doi.org/10.1515/commun-2014-0029>
- Gale, C., Gilbert, P., Read, N., & Goss, K. (2014). An evaluation of the impact of introducing Compassion Focused Therapy to a standard treatment programme for people with eating disorders. *Clinical Psychology & Psychotherapy, 21*(1), 1–12. <https://doi.org/10.1002/cpp.1806>
- Garner, D. (1997). *Body Image in America: Survey Results*. Psychology Today . <https://www.psychologytoday.com/intl/articles/199702/body-image-in-america-survey-results>
- Gattario, K. H., & Frisé, A. (2019). From negative to positive body image: Men's and women's journeys from early adolescence to emerging adulthood. *Body Image, 28*, 53–65. <https://doi.org/10.1016/J.BODYIM.2018.12.002>

- Gerbner, G., Gross, L., Morgan, M., Signorielli, N., & Shanahan, J. (2002). Growing up with television: Cultivation processes. In J. Bryant & D. Zillmann (Eds.), *Media effects: Advances in theory and research* (Vol. 2, p. 634). Lawrence Elbaum Associates.  
[https://books.google.ie/books?hl=en&lr=&id=vBSQAqAAQBAJ&oi=fnd&pg=PA43&dq=cultivation+theory+gerbner&ots=JewVFt0vxg&sig=UfaubvgxHQBHm8L4TARrgD9\\_kFw&redir\\_esc=y#v=onepage&q=cultivation theory gerbner&f=false](https://books.google.ie/books?hl=en&lr=&id=vBSQAqAAQBAJ&oi=fnd&pg=PA43&dq=cultivation+theory+gerbner&ots=JewVFt0vxg&sig=UfaubvgxHQBHm8L4TARrgD9_kFw&redir_esc=y#v=onepage&q=cultivation%20theory%20gerbner&f=false)
- Germer, C. K., & Neff, K. D. (2013). Self-Compassion in clinical practice. *Journal of Clinical Psychology, 69*(8), 856–867. <https://doi.org/10.1002/jclp.22021>
- Gilbert, P. (1997). The evolution of social attractiveness and its role in shame, humiliation, guilt and therapy. *British Journal of Medical Psychology, 70*(2), 113–147.  
<https://doi.org/10.1111/j.2044-8341.1997.tb01893.x>
- Gilbert, P. (2009a). Introducing compassion-focused therapy. *Advances in Psychiatric Treatment, 15*, 199–208. <https://doi.org/10.1192/apt.bp.107.005264>
- Gilbert, P. (2009b). *The Compassionate Mind*. Constable Robinson.
- Gilbert, P. (2010). *Compassion focused therapy: Distinctive features*. Routledge.
- Gilbert, P. (2014). The origins and nature of compassion focused therapy. *British Journal of Clinical Psychology, 53*(1), 6–41. <https://doi.org/10.1111/bjc.12043>
- Gilbert, P., & Irons, C. (2005). Focused therapies and compassionate mind training for shame and self-attacking. In P. Gilbert (Ed.), *Compassion: Conceptualisations, research and use in psychotherapy* (pp. 263–325). Routledge. <https://psycnet.apa.org/record/2005-13871-010>
- Gill, R., Henwood, K., & Mclean, C. (2005). Body projects and the regulation of normative masculinity. *Body & Society, 11*(1), 37–62. <https://doi.org/10.1177/1357034X05049849>
- Glaser, B., & Strauss, A. (1967). *The Discovery of Grounded Theory*. Aldine.
- Goodyear, V. (2020). Narrative Matters: Young people, social media and body image. *Child and Adolescent Mental Health, 25*(1), 48–50. <https://doi.org/10.1111/camh.12345>
- Goodyear, V. A., Armour, K. M. K. M., & Wood, H. (2019). Young people and their engagement with health-related social media: new perspectives. *Sport, Education and Society, 24*(7), 673–688. <https://doi.org/10.1080/13573322.2017.1423464>
- Gorsuch, R. L. (1988). Exploratory Factor Analysis. In *Handbook of Multivariate Experimental Psychology* (pp. 231–258). Springer US. [https://doi.org/10.1007/978-1-4613-0893-5\\_6](https://doi.org/10.1007/978-1-4613-0893-5_6)
- Goss, K., & Allan, S. (2009). Shame, pride and eating disorders. *Clinical Psychology & Psychotherapy, 16*(4), 303–316. <https://doi.org/10.1002/cpp.627>



- Goss, K., Allan, S., & Allen, S. (2010). Compassion focused therapy for eating disorders. *Int J of Cognitive Therapy*, 3(2), 141–158. <https://doi.org/10.1521/ijct.2010.3.2.141>
- Grabe, S., Ward, L. M., & Hyde, J. S. (2008). The role of the media in body image concerns among women: A meta-analysis of experimental and correlational studies. *Psychological Bulletin*, 134(3), 460–476. <https://doi.org/10.1037/0033-2909.134.3.460>
- Greene, S., & Harris, E. (2011). *Qualitative research methodology: Review of the literature and its application to the qualitative component of Growing Up in Ireland. 1.*
- Griffiths, S., Mond, J. M., Murray, S. B., & Touyz, S. (2014). Young peoples' stigmatizing attitudes and beliefs about anorexia nervosa and muscle dysmorphia. *International Journal of Eating Disorders*, 47(2), 189–195. <https://doi.org/10.1002/eat.22220>
- Groesz, L. M., Levine, M. P., & Murnen, S. K. (2002). The effect of experimental presentation of thin media images on body satisfaction: A meta-analytic review. *International Journal of Eating Disorders*, 31(1), 1–16. <https://doi.org/10.1002/eat.10005>
- Grogan, S. (1999). *Body Image: Understanding Body Dissatisfaction in Men, Women, and Children*. Routledge.  
[https://books.google.ie/books/about/Body\\_Image.html?id=G2drfjc8AkIC&redir\\_esc=y](https://books.google.ie/books/about/Body_Image.html?id=G2drfjc8AkIC&redir_esc=y)
- Grogan, S. (2010). Promoting positive body image in males and females; contemporary issues and future directions. *Sex Roles*, 63(9), 757–765.
- Grogan, S., & Richards, H. (2002). Body image focus groups with boys and men. *Men and Masculinities*, 4(3), 219–232.  
<http://journals.sagepub.com/doi/pdf/10.1177/1097184X02004003001>
- Grogan, S., Rotherly, L., Cole, J., & Hall, M. (2018). Posting selfies and body image in young adult women: the selfie paradox. *Journal of Social Media in Society*, 7(1), 15–36.  
<https://doi.org/10.1542/peds.2006-2099>
- Guest, G., Namey, E., & Mckenna, K. (2017). How many focus groups are enough? Building an evidence base for nonprobability sample sizes. *Field Methods*, 29(1), 3–22.  
<https://doi.org/10.1177/1525822X16639015>
- Gupta, S. (2011). Intention-to-treat concept: A review. *Perspectives in Clinical Research*, 2(3), 109. <https://doi.org/10.4103/2229-3485.83221>
- Guttman, L. (1954). Some necessary conditions for common-factor analysis. *Psychometrika*, 19(2), 149–161. <https://doi.org/10.1007/BF02289162>
- Haferkamp, N., & Krämer, N. C. (2011). Social comparison 2.0: Examining the effects of online profiles on social-networking sites. *Cyberpsychology, Behavior, and Social Networking*, 305

14(5), 309–314. <https://doi.org/10.1089/cyber.2010.0120>

Halliwell, E. (2015). Future directions for positive body image research. *Body Image, 14*, 177–189. <https://doi.org/10.1016/j.bodyim.2015.03.003>

Halliwell, E., Diedrichs, P. C., & Orbach, S. (2014). *Costing the Invisible: A review of the evidence examining the links between body image, aspirations, education and workplace confidence*. [http://eprints.uwe.ac.uk/24438/1/CAR Costing the Invisible - final web.pdf](http://eprints.uwe.ac.uk/24438/1/CAR_Costing_the_Invisible_-_final_web.pdf)

Halliwell, E., & Dittmar, H. (2005). The role of self-improvement and self-evaluation motives in social comparisons with idealised female bodies in the media. *Body Image, 2*(3), 249–261. <https://doi.org/https://doi.org/10.1016/j.bodyim.2005.05.001>

Halliwell, E., & Harvey, M. (2006). Examination of a sociocultural model of disordered eating among male and female adolescents. *British Journal of Health Psychology, 11*(2), 235–248. <https://doi.org/10.1348/135910705X39214>

Hanna, E., Ward, L. M., Seabrook, R. C., Jerald, M., Reed, L., Giaccardi, S., Lippman, J. R., Monique Ward, L., Seabrook, R. C., Jerald, M., Reed, L., Giaccardi, S., & Lippman, J. R. (2017). Contributions of social comparison and self-objectification in mediating associations between Facebook use and emergent adults' psychological well-being. *Cyberpsychology, Behavior, and Social Networking, 20*(3), 172–179. <https://doi.org/10.1089/cyber.2016.0247>

Hargreaves, D. A., & Tiggemann, M. (2004). Idealized media images and adolescent body image: “Comparing” boys and girls. *Body Image, 1*(4), 351–361. <https://doi.org/10.1016/j.bodyim.2004.10.002>

Hargreaves, D. A., & Tiggemann, M. (2006). “Body image is for girls” A qualitative study of boys' body image. *Journal of Health Psychology, 11*(4), 567–576. <https://doi.org/10.1177/1359105306065017>

Harris, T. (2016). *How Technology is Hijacking Your Mind — from a Magician and Google Design Ethicist*. <https://medium.com/thrive-global/how-technology-hijacks-peoples-minds-from-a-magician-and-google-s-design-ethicist-56d62ef5edf3>

Harter, S. (1990). Self and identity development. *At the Threshold: The Developing Adolescent*, 352–387. <https://doi.org/10.1080/13576500444000100org/10.1080/13576500444000100>

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.

Hayes, S. C., Villatte, M., Levin, M., & Hildebrandt, M. (2011). Open, aware, and active: contextual approaches as an emerging trend in the behavioral and cognitive therapies. *Annual Review of Clinical Psychology, 7*(1), 141–168. <https://doi.org/10.1146/annurev-clinpsy->

- Haynes, S. N., & Lench, H. C. (2003). Incremental validity of new clinical assessment measures. *Psychological Assessment, 15*(4), 456–466. <https://doi.org/10.1037/1040-3590.15.4.456>
- Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative studies. *Evidence Based Nursing, 18*(3), 66–67. <https://doi.org/10.1136/eb-2015-102129>
- Heary, C., & Hennessy, E. (2006). Focus groups versus individual interviews with children: A comparison of data. *Irish Journal of Psychology, 27*(1–2), 58–68. <https://doi.org/10.1080/03033910.2006.10446228>
- Heary, C. M., & Hennessy, E. (2002). The use of focus group interviews in pediatric health care research. *Journal of Pediatric Psychology, 27*(1), 47–57. <https://doi.org/10.1093/jpepsy/27.1.47>
- Heinberg, L. J., & Thompson, J. K. (1995). Body image and televised images of thinness and attractiveness: A controlled laboratory investigation. *Journal of Social and Clinical Psychology, 14*(4), 325–338. <https://doi.org/10.1521/jscp.1995.14.4.325>
- Heritier, S. R., Gebiski, V. J., & Keech, A. C. (2003). Inclusion of patients in clinical trial analysis: the intention-to-treat principle. *The Medical Journal of Australia, 179*(8), 438–440.
- Hinkin, T. (1995). A review of scale development practices in the study of organizations. *Journal of Management, 21*(5), 967–988. [https://doi.org/10.1016/0149-2063\(95\)90050-0](https://doi.org/10.1016/0149-2063(95)90050-0)
- Hoerger, M. (2010). Participant dropout as a function of survey length in internet-mediated university studies: Implications for study design and voluntary participation in psychological research. *Cyberpsychology, Behavior, and Social Networking, 13*(6), 697–700. <https://doi.org/10.1089/cyber.2009.0445>
- Holland, G., & Tiggemann, M. (2016). A systematic review of the impact of the use of social networking sites on body image and disordered eating outcomes. *Body Image, 17*, 100–110. <https://doi.org/10.1016/j.bodyim.2016.02.008>
- Hollis, S., & Campbell, F. (1999). What is meant by intention to treat analysis? Survey of published randomised controlled trials. *British Medical Journal, 319*(7211), 670–674. <https://doi.org/10.1136/bmj.319.7211.670>
- Holmqvist, K., & Frisén, A. (2012). “I bet they aren’t that perfect in reality:” Appearance ideals viewed from the perspective of adolescents with a positive body image. *Body Image, 9*(3), 388–395. <https://doi.org/10.1016/J.BODYIM.2012.03.007>
- Homan, K. (2010). Athletic-ideal and thin-ideal internalization as prospective predictors of body dissatisfaction, dieting, and compulsive exercise. *Body Image, 7*(3), 240–245.

<https://doi.org/10.1016/j.bodyim.2010.02.004>

- Homan, K. J., & Tylka, T. L. (2014). Appearance-based exercise motivation moderates the relationship between exercise frequency and positive body image. *Body Image, 11*(2), 101–108. <https://doi.org/10.1016/j.bodyim.2014.01.003>
- Homan, K. J., & Tylka, T. L. (2015). Self-compassion moderates body comparison and appearance self-worth's inverse relationships with body appreciation. *Body Image, 15*, 1–7. <https://doi.org/10.1016/j.bodyim.2015.04.007>
- Homan, K., Mchugh, E., Wells, D., Watson, C., & King, C. (2011). The effect of viewing ultra-fit images on college women's body dissatisfaction. *Body Image, 9*, 50–56. <https://doi.org/10.1016/j.bodyim.2011.07.006>
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Hudson, J. I., Hiripi, E., Pope, H. G., & Kessler, R. C. (2007). The prevalence and correlates of eating disorders in the national comorbidity survey replication. *Biological Psychiatry, 61*(3), 348–358. <https://doi.org/10.1016/j.biopsych.2006.03.040>
- Hummel, A. C., & Smith, A. R. (2015). Ask and you shall receive: Desire and receipt of feedback via Facebook predicts disordered eating concerns. *International Journal of Eating Disorders, 48*(4), 436–442. <https://doi.org/10.1002/eat.22336>
- Hunsley, J., & Meyer, G. J. (2003). The incremental validity of psychological testing and assessment: Conceptual, methodological, and statistical issues. *Psychological Assessment, 15*(4), 446–455. <https://doi.org/10.1037/1040-3590.15.4.446>
- Inglis, T. (2006). From self-denial to self-indulgence: The class of cultures in contemporary Ireland. *Cork University Press, 34*(34), 34–43.
- Instagram. (2020). *Instagram Platform Policy*. <https://help.instagram.com/325135857663734>
- Ioannidis, J. P. A. (2018). Why most published research findings are false. *PLoS Med, 2*(8), e124. <https://doi.org/10.1371/journal.pmed.0020124>
- Jakobsen, J. C., Gluud, C., Wetterslev, J., & Winkel, P. (2017). When and how should multiple imputation be used for handling missing data in randomised clinical trials - A practical guide with flowcharts. *BMC Medical Research Methodology, 17*(1), 1–10. <https://doi.org/10.1186/s12874-017-0442-1>
- Jaycox, L. H., McCaffrey, D. F., Ocampo, B. W., Shelley, G. A., Blake, S. M., Peterson, D. J., Richmond, L. S., & Kub, J. E. (2006). Challenges in the evaluation and implementation of

- school-based prevention and intervention programs on sensitive topics. *American Journal of Evaluation*, 27(3), 320–336. <https://doi.org/10.1177/1098214006291010>
- Jerry, S., René, M., Ladd, W., Suls, J., Martin, R., & Wheeler, L. (2002). Social comparison: Why, with whom, and with what effect? *Current Directions in Psychological Science*, 11(5), 159–163. <https://doi.org/10.1111/1467-8721.00191>
- Jones, D. C. (2001). Social comparison and body image: Attractiveness comparisons to models and peers among adolescent girls and boys. *Sex Roles*, 45(9), 645–664. <https://doi.org/10.1023/A:1014815725852>
- Jong, S. T., & Drummond, M. J. N. (2016). Exploring online fitness culture and young females. *Leisure Studies*, 35(6), 758–770. <https://doi.org/10.1080/02614367.2016.1182202>
- Joshi, R., Herman, C. P., & Polivy, J. (2004). Self-enhancing effects of exposure to thin-body images. *Int J Eat Disord*, 35(3), 333–341. <https://doi.org/10.1002/eat.10253>
- Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*, 20(1), 141–151. <https://doi.org/10.1177/001316446002000116>
- Kantanista, A., Osiński, W., Borowiec, J., Tomczak, M., & Król-Zielińska, M. (2015). Body image, BMI, and physical activity in girls and boys aged 14–16 years. *Body Image*, 15, 40–43. <https://doi.org/https://doi.org/10.1016/j.bodyim.2015.05.001>
- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, 53(1), 59–68. <https://doi.org/https://doi.org/10.1016/j.bushor.2009.09.003>
- Karazsia, B. T., & Crowther, J. H. (2009). Social body comparison and internalization: Mediators of social influences on men's muscularity-oriented body dissatisfaction. *Body Image*, 6(2), 105–112. <https://doi.org/10.1016/J.BODYIM.2008.12.003>
- Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and Gratifications Research. *The Public Opinion Quarterly*, 37(4), 509–523. <http://www.jstor.org/stable/2747854>
- Keery, H. (2002). The tripartite model of body image and eating disturbance: The mediating role of internalization and comparison [University of South Florida]. In *ProQuest Dissertations and Theses*. <http://elib.tcd.ie/login?url=https://search.proquest.com/docview/276259409?accountid=14404>
- Keery, H., van den Berg, P., & Thompson, J. K. K. (2004). An evaluation of the Tripartite Influence Model of body dissatisfaction and eating disturbance with adolescent girls. *Body Image*, 1(3), 237–251. <https://doi.org/http://dx.doi.org/10.1016/j.bodyim.2004.03.001>
- Kelly, A. C., & Carter, J. C. (2015). Self-compassion training for binge eating disorder: A pilot

randomized controlled trial. *Psychology and Psychotherapy: Theory, Research and Practice*, 88(3), 285–303. <https://doi.org/10.1111/papt.12044>

- Kelly, A. C., Carter, J. C., & Borairi, S. (2014). Are improvements in shame and self-compassion early in eating disorders treatment associated with better patient outcomes? *International Journal of Eating Disorders*, 47(1), 54–64. <https://doi.org/10.1002/eat.22196>
- Kelly, A. C., Vimalakanthan, K., & Carter, J. C. (2014). Understanding the roles of self-esteem, self-compassion, and fear of self-compassion in eating disorder pathology: An examination of female students and eating disorder patients. *Eating Behaviors*, 15(3), 388–391. <https://doi.org/10.1016/j.eatbeh.2014.04.008>
- Kelly, A. C., Vimalakanthan, K., & Miller, K. E. (2014). Self-compassion moderates the relationship between body mass index and both eating disorder pathology and body image flexibility. *Body Image*, 11(4), 446–453. <https://linkinghub.elsevier.com/retrieve/pii/S1740144514000813>
- Kelly, A. C., Waring, S. V., & Dupasquier, J. . (2019). Most women with anorexia nervosa report less eating pathology on days when they are more self-compassionate than usual. *International Journal of Eating Disorders*, September, 1–5. <https://doi.org/10.1002/eat.23185>
- Kenny, U., O'Malley-Keighran, M. ., Molcho, M., & Kelly, C. (2017). Peer influences on adolescent body image: Friends or foes? *Journal of Adolescent Research*, 32(6), 768–799. <https://doi.org/10.1177/0743558416665478>
- Kenny, U., Sullivan, L., Callaghan, M., Molcho, M., & Kelly, C. (2018). The relationship between cyberbullying and friendship dynamics on adolescent body dissatisfaction: A cross-sectional study. *Journal of Health Psychology*, 23(4), 629–639. <https://doi.org/10.1177/1359105316684939>
- Khamis, S., Ang, L., & Welling, R. (2016). Self-branding, “micro-celebrity” and the rise of Social Media Influencers. *Celebrity Studies*, 8(2), 191–208. <https://doi.org/10.1080/19392397.2016.1218292>
- Kids Help Phone. (2016). *A Kids Help Phone report on the well-being of teens in Canada*. <http://40zf3x2a45us1qbee83qm619-wpengine.netdna-ssl.com/wp-content/uploads/Kids-Help-Phone-Teens-Talk-2016-English.pdf>
- Kim, J. W., & Chock, T. M. (2015). Body image 2.0: Associations between social grooming on Facebook and body image concerns. *Computers in Human Behavior*, 48, 331–339. <https://doi.org/10.1016/j.chb.2015.01.009>
- Kimberlin, C. L., Winterstein, G., & Winterstein, A. (2008). Validity and reliability of

- measurement instruments used in research. *Am J Health-Syst Pharm*, 65(23), 2276–2284.  
<https://doi.org/10.2146/ajhp070364>
- Kimmel, A. J., & Tissier-Desbordes, E. (1999). Males, masculinity, and consumption: An exploratory investigation. *ACR European Advances*, E-04.  
<http://www.acrwebsite.org/search/view-conference-proceedings.aspx?Id=11390>
- Kirby, J. N. (2017). Compassion interventions: The programmes, the evidence, and implications for research and practice. *Psychology and Psychotherapy: Theory, Research and Practice*, 90(3), 432–455. <https://doi.org/10.1111/papt.12104>
- Kleemans, M., Daalmans, S., Carbaat, I., & Anschütz, D. (2018). Picture perfect: The direct effect of manipulated Instagram photos on body image in adolescent girls. *Media Psychology*, 21(1), 93–110. <https://doi.org/10.1080/15213269.2016.1257392>
- Kline, R. B. (2015). *Principles and Practice of Structural Equation Modeling*. Guilford publications.
- Knauss, C., Paxton, S. J., & Alsaker, F. D. (2007). Relationships amongst body dissatisfaction, internalisation of the media body ideal and perceived pressure from media in adolescent girls and boys. *Body Image*, 4(4), 353–360. <https://doi.org/10.1016/j.bodyim.2007.06.007>
- Knauss, C., Paxton, S. J., & Alsaker, F. D. (2008). Body dissatisfaction in adolescent boys and girls: Objectified body consciousness, internalization of the media body ideal and perceived pressure from media. *Sex Roles*, 59(9–10), 633–643.  
<https://doi.org/http://dx.doi.org/10.1007/s11199-008-9474-7>
- Kostanski, M., & Gullone, E. (1998). Adolescent body image dissatisfaction: Relationships with self-esteem, anxiety, and depression controlling for body mass. *Journal of Child Psychology and Psychiatry*, 39(2), 255–262. <https://doi.org/10.1111/1469-7610.00319>
- Krach, S., Paulus, F. M., Bodden, M., & Kircher, Ti. (2010). The rewarding nature of social interactions. *Frontiers in Behavioral Neuroscience*, 4, 22.  
<https://doi.org/10.3389/fnbeh.2010.00022>
- Krueger, R., & Casey, M. (2001). Designing and conducting Focus group interviews. In *Social analysis: Selected Tools and Techniques* (pp. 3–23).
- Krueger, R. A., & Casey, M. A. (2014). *Participants in a Focus Group* (Fifth). SAGE Publications Inc.
- Kruyen, P. M., Emons, W. H. M., & Sijtsma, K. (2013). On the shortcomings of shortened tests: A literature review. *International Journal of Testing*, 13(3), 223–248.  
<https://doi.org/10.1080/15305058.2012.703734>

- Kumar, H. (2016). Gender difference regarding body image: A comparative study. *Advances in Obesity, Weight Management & Control*, 4(4).  
<https://doi.org/10.15406/aowmc.2016.04.00092>
- Kuzel, A. J., & Like, R. C. (1991). Standards of trustworthiness for qualitative studies in primary care. In *Primary care research: Traditional and Innovative Approaches*. (pp. 138–158). Sage Publications, Inc. <https://psycnet.apa.org/record/1993-97845-009>
- Laliberte, M., Newton, M., McCabe, R., & Mills, J. S. (2007). Controlling your weight versus controlling your lifestyle: How beliefs about weight control affect risk for disordered eating, dissatisfaction and self-esteem. *Cognitive Therapy and Research*, 31(6), 853–869.  
<https://doi.org/10.1007/s10608-006-9104-z>
- Langford, R., Bonell, C., Jones, H., Poulou, T., Murphy, S., Waters, E., Komro, K., Gibbs, L., Magnus, D., & Campbell, R. (2015). The World Health Organization’s Health Promoting Schools framework: A Cochrane systematic review and meta-analysis. *BMC Public Health*, 15(1), 1–15. <https://doi.org/10.1186/s12889-015-1360-y>
- Lapsley, D. K., FitzGerald, D. P., Rice, K. G., & Jackson, S. (1989). Separation-individuation and the “new look” at the imaginary audience and personal fable. *Journal of Adolescent Research*, 4(4), 483–505. <https://doi.org/10.1177/074355488944006>
- Lavrakas, P. (2008). *Encyclopedia of Survey Research Methods*.  
<https://doi.org/10.4135/9781412963947 NV - 0>
- Law, C., & Labre, M. P. (2002). Cultural standards of attractiveness: A thirty-year look at changes in male images in magazines. *Journalism & Mass Communication Quarterly*, 79(3), 697–711.  
<https://doi.org/10.1177/107769900207900310>
- Lawler, M., & Nixon, E. (2011). Body dissatisfaction among adolescent boys and girls; the effects of body mass, peer appearance culture and internalization of appearance ideals. *Youth and Adolescence*, 40(1), 59–71. <https://doi.org/10.1007/s10964-009-9500-2>
- Leahey, T. M., & Crowther, J. H. (2008). An ecological momentary assessment of comparison target as a moderator of the effects of appearance-focused social comparisons. *Body Image*, 5(3), 307–311. <https://doi.org/10.1016/j.bodyim.2008.03.002>
- Leaviss, J., & Uttley, L. (2015). Psychotherapeutic benefits of compassion-focused therapy: an early systematic review. *Psychological Medicine*, 45(5), 927–945.  
<https://doi.org/10.1017/S0033291714002141>
- LeDoux, J. (2003). The emotional brain, fear, and the amygdala. *Cellular and Molecular Neurobiology*, 23(4–5), 727–738. <https://doi.org/10.1023/a:1025048802629>



- Lee, H.-R. E., Choi, J., Kim, J. H., & Han, H. L. (2014a). Social media use, body image, and psychological well-being: A cross-cultural comparison of Korea and the United States. *Journal of Health Communication, 19*(12), 1343–1358. <https://doi.org/10.1080/10810730.2014.904022>
- Lee, H.-R. E., Choi, J., Kim, J. H., & Han, H. L. (2014b). Social media Use Related to Body Image Measure. *Journal of Health Communication, 19*(12), 1343–1358. <https://doi.org/10.1037/t57764-000>
- Leit, R. A., Gray, J. J., & Pope Jr., H. G. (2002). The media's representation of the ideal male body: a cause for muscle dysmorphia? *Int J Eat Disord, 31*(3), 334–338.
- Lew, A.-M., Mann, T., Myers, H., Taylor, S., & Bower, J. (2007). Thin-ideal media and women's body dissatisfaction: Prevention using downward social comparisons on non-appearance dimensions. *Sex Roles, 57*(7–8), 543–556. <https://doi.org/10.1007/s11199-007-9274-5>
- Liamputtong, P. (2015). Focus group methodology: Principles and practice. In *Focus Group Methodology: Principles and Practice*. SAGE Publications Ltd. <https://doi.org/10.4135/9781473957657>
- Linardon, J., Gleeson, J., Yap, K., Murphy, K., & Brennan, L. (2018). Meta-analysis of the effects of third-wave behavioural interventions on disordered eating and body image concerns: implications for eating disorder prevention. *Cognitive Behaviour Therapy, 48*(1), 15–38. <https://doi.org/10.1080/16506073.2018.1517389>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. SAGE Publications Inc.
- Lipsey, M. W., & Wilson, D. B. (2001). Practical meta-analysis. In *Practical meta-analysis*. Sage Publications, Inc.
- Lonergan, A. R., Bussey, K., Mond, J., Brown, O., Griffiths, S., Murray, S. B., & Mitchison, D. (2019). Me, my selfie, and I: The relationship between editing and posting selfies and body dissatisfaction in men and women. *Body Image, 28*, 39–43. <https://doi.org/10.1016/j.bodyim.2018.12.001>
- Lup, K., Trub, L., & Rosenthal, L. (2015). Instagram #Instasad?: Exploring associations among Instagram use, depressive symptoms, negative social comparison, and strangers followed. *Cyberpsychology, Behavior, and Social Networking, 18*(5), 247–252. <https://doi.org/10.1089/cyber.2014.0560>
- Mabe, A. G., Forney, K. J., & Keel, P. K. (2014). Do you “like” my photo? Facebook use maintains eating disorder risk. *The International Journal of Eating Disorders, 47*(5), 516–523. <http://www.ncbi.nlm.nih.gov/pubmed/25035882>

- Macbeth, A., & Gumley, A. (2012). Exploring compassion: A meta-analysis of the association between self-compassion and psychopathology. *Clinical Psychological Review, 32*, 545–552. <https://doi.org/10.1016/j.cpr.2012.06.003>
- MacIsaac, S., Kelly, J., & Gray, S. (2018). ‘She has like 4000 followers!’: the celebrification of self within school social networks. *Journal of Youth Studies, 21*(6), 816–835. <https://doi.org/10.1080/13676261.2017.1420764>
- Magnus, C. M. R., Kowalski, K. C., & McHugh, T.-L. F. (2010). The role of self-compassion in women’s self-determined motives to exercise and exercise-related outcomes. *Self and Identity, 9*(4), 363–382. <https://doi.org/10.1080/15298860903135073>
- Manago, A. M., Graham, M. B., Greenfield, P. M., & Salimkhan, G. (2008). Self-presentation and gender on MySpace. *Journal of Applied Developmental Psychology, 29*(6), 446–458. <https://doi.org/https://doi.org/10.1016/j.appdev.2008.07.001>
- Manago, A. M., Ward, L. M., Lemm, K. M., Reed, L., & Seabrook, R. (2015). Facebook involvement, objectified body consciousness, body shame, and sexual assertiveness in college women and men. *Sex Roles, 72*(1–2), 1–14. <https://doi.org/10.1007/s11199-014-0441-1>
- Mandler, J., & Buckle, C. (2018). *Global Web Index’s flagship report on the latest trends in social media*. [www.globalwebindex.com](http://www.globalwebindex.com)
- Mantzios, M., & Wilson, J. C. (2014). Making concrete construals mindful: A novel approach for developing mindfulness and self-compassion to assist weight loss. *Psychology & Health, 29*(4), 422–441. <https://doi.org/10.1080/08870446.2013.863883>
- Mantzios, M., & Wilson, J. C. (2015a). Mindfulness, eating behaviours, and obesity: A review and reflection on current findings. *Current Obesity Reports, 4*, 141–146. <https://doi.org/10.1007/s13679-014-0131-x>
- Mantzios, M., & Wilson, J. C. (2015b). Exploring mindfulness and mindfulness with self-compassion-centered interventions to assist weight loss: Theoretical considerations and preliminary results of a randomized pilot study. *Mindfulness, 6*(4), 824–835. <https://doi.org/10.1007/s12671-014-0325-z>
- Markey, C. N., & Markey, P. M. (2005). Relations between body image and dieting behaviors: An examination of gender differences. *Sex Roles, 53*. <https://doi.org/10.1007/s11199-005-7139-3>
- Marsh, I. C., Chan, S. W. Y., & Macbeth, A. (2017). Self-compassion and psychological distress in adolescents. A meta-analysis. *Mindfulness, 9*, 1011–1027. <https://doi.org/10.1007/s12671-017-0850-7>
- Martin, A., & Marsh, H. (2005). Motivating boys and motivating girls: Does teacher gender really

- make a difference? *Australian Journal of Education*, 49(3), 320–334.  
<https://doi.org/10.1177/000494410504900308>
- Martin, M. C., & Gentry, J. W. (1997). Stuck in the model trap: The effects of beautiful models in ads on female pre-Adolescents and adolescents. *Journal of Advertising*, 26(2), 19–33.  
<https://doi.org/10.1080/00913367.1997.10673520>
- Martins, N., Williams, D. C., Ratan, R. A., & Harrison, K. (2011). Virtual muscularity: A content analysis of male video game characters. *Body Image*, 8(1), 43–51.  
<https://doi.org/10.1016/j.bodyim.2010.10.002>
- Marwick, A. E. (2015). Instafame: Luxury selfies in the attention economy. *Public Culture*, 27(175), 137–160. <https://doi.org/10.1215/08992363-2798379>
- Matsunaga, M. (2010). Factor analysis: Do's and don'ts. *International Journal of Psychological Research*, 3(1), 97–110. <https://ders.es/Dialnet-HowToFactoranalyzeYourDataRight-3296455.pdf>
- Matthiasdottir, E., Jonsson, S. H., & Kristjansson, A. L. (2012). Body weight dissatisfaction in the Icelandic adult population: a normative discontent? *The European Journal of Public Health*, 22(1), 116–121. <https://doi.org/10.1093/eurpub/ckq178>
- McAndrew, F. T., & Jeong, H. S. (2012). Who does what on Facebook? Age, sex, and relationship status as predictors of Facebook use. *Computers in Human Behavior*, 28(6), 2359–2365.  
<https://doi.org/10.1016/j.chb.2012.07.007>
- McCabe, M. P., Busija, L., Fuller-Tyszkiewicz, M., Ricciardelli, L., Mellor, D., & Mussap, A. (2015). Sociocultural influences on body image and body change questionnaire-Extended. *Journal of Social Psychology*, 143(1), 5–26. <https://doi.org/10.1037/t41154-000>
- McComb, S. E., & Mills, J. S. (2020). A systematic review on the effects of media disclaimers on young women's body image and mood. *Body Image*, 32, 34–52.  
<https://doi.org/10.1016/j.bodyim.2019.10.010>
- McLean, S. A., Paxton, S. J., & Wertheim, E. H. (2016a). Does media literacy mitigate risk for reduced body satisfaction following exposure to thin-ideal media? *Journal of Youth and Adolescence*, 45(8), 1678–1695. <https://doi.org/10.1007/s10964-016-0440-3>
- McLean, S. A., Paxton, S. J., & Wertheim, E. H. (2016b). The measurement of media literacy in eating disorder risk factor research: Psychometric properties of six measures. *Journal of Eating Disorders*, 4, 30. <https://doi.org/10.1186/s40337-016-0116-0>
- McLean, S. A., Paxton, S. J., & Wertheim, E. H. (2016c). The role of media literacy in body dissatisfaction and disordered eating: A systematic review. *Body Image*, 19, 9–23.

<https://doi.org/10.1016/J.BODYIM.2016.08.002>

McLean, S. A., Paxton, S. J., Wertheim, E. H., & Masters, J. (2015). Photoshopping the selfie: Self photo editing and photo investment are associated with body dissatisfaction in adolescent girls. *International Journal of Eating Disorders*, *48*(8), 1132–1140.

<https://doi.org/10.1002/eat.22449>

McLean, S. A., Wertheim, E. H., Masters, J., & Paxton, S. J. (2017). A pilot evaluation of a social media literacy intervention to reduce risk factors for eating disorders. *International Journal of Eating Disorders*, *50*(7), 847–851. <https://doi.org/10.1002/eat.22708>

McNeill, L. S., & Firman, J. L. (2014). Ideal body image: A male perspective on self. *Australasian Marketing Journal (AMJ)*, *22*(2), 136–143. <https://doi.org/10.1016/J.AUSMJ.2014.04.001>

McSharry, M. (2009). *Schooled bodies: negotiating adolescent validation through press, peers and parents*. Institute of Education Press.

McSharry, M., & Honor Fagan, G. (2006). *Schooled Bodies?-Adolescents Encountering Complexities in the Pursuit of Embodied Validation* (Vol. 1) [National University of Ireland, Maynooth].

[http://eprints.maynoothuniversity.ie/5223/1/Majella\\_Mc\\_Sharry\\_20140712083049.pdf](http://eprints.maynoothuniversity.ie/5223/1/Majella_Mc_Sharry_20140712083049.pdf)

Medical Research Council. (2000). A framework for development and evaluation of RCTs for complex interventions to improve health. *London Medical Research Council*, *April*, 1–19.

<http://www.mrc.ac.uk/Utilities/Documentrecord/index.htm?d=MRC003372>

Meier, E. P., & Gray, J. (2014). Facebook photo activity associated with body image disturbance in adolescent girls. *Cyberpsychology, Behavior, and Social Networking*, *17*(4), 199–206.

<https://doi.org/10.1089/cyber.2013.0305>

Melioli, T., Bauer, S., Franko, D. L., Moessner, M., Ozer, F., Chabrol, H., & Rodgers, R. F. (2016). Reducing eating disorder symptoms and risk factors using the internet: A meta-analytic review. *International Journal of Eating Disorders*, *49*(1), 19–31.

<https://doi.org/10.1002/eat.22477>

Menold, N., Kaczmirek, L., Lenzner, T., & Neusar, A. (2014). How do respondents attend to verbal labels in rating scales? *Field Methods*, *26*(1), 21–39.

<https://doi.org/10.1177/1525822X13508270>

Miller, E., & Halberstadt, J. (2005). Media consumption, body image and thin ideals in New Zealand men and women. *New Zealand Journal of Psychology*, *34*(3), 189–195.

<http://search.ebscohost.com/login.aspx?direct=true&db=psych&AN=2006-00449-008&site=ehost-live>

- Mills, J. S., Musto, S., Williams, L., & Tiggemann, M. (2018). “Selfie” harm: Effects on mood and body image in young women. *Body Image, 27*, 86–92.  
<https://doi.org/10.1016/J.BODYIM.2018.08.007>
- Mingoia, J., Hutchinson, A. D., Wilson, C., & Gleaves, D. H. (2017). The relationship between social networking site use and the internalization of a thin ideal in females: A meta-analytic review. *Frontiers in Psychology, 8*, 1351. <https://doi.org/10.3389/fpsyg.2017.01351>
- Mitchell, K., & Branigan, P. (2000). Using focus groups to evaluate health promotion interventions. In *Health Education* (Vol. 100, Issue 6, pp. 261–268). MCB UP Ltd.  
<https://doi.org/10.1108/09654280010354887>
- Moffitt, R. L., Neumann, D. L., & Williamson, S. P. (2018). Comparing the efficacy of a brief self-esteem and self-compassion intervention for state body dissatisfaction and self-improvement motivation. *Body Image, 27*, 67–76. <https://doi.org/10.1016/j.bodyim.2018.08.008>
- Moher, D., Schulz, K. F., & Altman, D. G. (2001). The CONSORT statement: revised recommendations for improving the quality of reports of parallel-group randomised trials. *The Lancet, 357*, 1191–1194. <https://doi.org/10.1024/0036-7281.145.6.291>
- Mond, J., Mitchison, D., Latner, J., Hay, P., Owen, C., & Rodgers, B. (2013). Quality of life impairment associated with body dissatisfaction in a general population sample of women. *BMC Public Health, 13*, 920. <https://doi.org/10.1186/1471-2458-13-920>
- Mooney, E., Farley, H., & Strugnell, C. (2009). A qualitative investigation into the opinions of adolescent females regarding their body image concerns and dieting practices in the Republic of Ireland (ROI). *Appetite, 52*(2), 485–491. [https://ac.els-cdn.com/S0195666308006314/1-s2.0-S0195666308006314-main.pdf?\\_tid=f3c3492d-c60d-4713-805c-9a925847ebd5&acdnat=1545255934\\_b658607b19ac5e365f96e10b987a89a6](https://ac.els-cdn.com/S0195666308006314/1-s2.0-S0195666308006314-main.pdf?_tid=f3c3492d-c60d-4713-805c-9a925847ebd5&acdnat=1545255934_b658607b19ac5e365f96e10b987a89a6)
- More, K. R. (2017). *Evaluating the potential roles of body dissatisfaction in exercise avoidance* [Iowa State University]. <https://lib.dr.iastate.edu/etd>
- Morgado, F. F. R., Meireles, J. F. F., Neves, C. M., Amaral, A. C. S., & Ferreira, M. E. C. (2017). Scale development: Ten main limitations and recommendations to improve future research practices. *Psicologia: Reflexao e Critica, 30*(1), 1–20. <https://doi.org/10.1186/s41155-016-0057-1>
- Morris, S. B. (2007). Estimating effect sizes from pretest-posttest-control group designs. *Organizational Research Methods, 11*(2), 364–386.  
<https://doi.org/10.1177/1094428106291059>
- Morse, J. M. (2015). Critical analysis of strategies for determining rigor in qualitative inquiry.

- Qualitative Health Research*, 25(9), 1212–1222. <https://doi.org/10.1177/1049732315588501>
- Mosewich, A. D., Kowalski, K. C., Sabiston, C. M., Sedgwick, W. A., & Tracy, J. L. (2011). Self-Compassion: A potential resource for young women athletes. *Journal of Sport and Exercise Psychology*, 33(1), 103–123. <https://doi.org/10.1123/jsep.33.1.103>
- Mulhall, A. (2003). Methodological issues in nursing research in the field: notes on observation in qualitative research. *Journal of Advanced Nursing*, 41(3), 306–313.
- Murray, J. S. (1999). Methodological triangulation in a study of social support for siblings of children with cancer. *Journal of Pediatric Oncology Nursing*, 16(4), 194–200. <https://doi.org/10.1177/104345429901600404>
- Murray, S. B., Nagata, J. M., Griffiths, S., Calzo, J. P., Brown, T. A., Mitchison, D., Blashill, A. J., & Mond, J. M. (2017). The enigma of male eating disorders: A critical review and synthesis. *Clinical Psychology Review*, 57, 1–11. <https://doi.org/10.1016/J.CPR.2017.08.001>
- Murray, T., & Lewis, V. (2014). Gender-role conflict and men's body satisfaction: The moderating role of age. *Psychology of Men & Masculinity*, 15(1), 40–48. <https://doi.org/10.1037/a0030959>
- Muth, J. L., & Cash, T. F. (1997). Body image attitudes: What difference does gender make? *Journal of Applied Social Psychology*, 27(16), 1438–1452. <https://doi.org/10.1111/j.1559-1816.1997.tb01607.x>
- Myers, T. A., & Crowther, J. H. (2009). Social comparison as a predictor of body dissatisfaction: A meta-analytic review. *Journal of Abnormal Psychology*, 118(4), 683–698. <https://doi.org/10.1037/a0016763>
- Myers, T. A., Ridolfi, D. R., Crowther, J. H., & Ciesla, J. A. (2012). The impact of appearance-focused social comparisons on body image disturbance in the naturalistic environment: The roles of thin-ideal internalization and feminist beliefs. *Body Image*, 9(3), 342–351. <https://doi.org/https://doi.org/10.1016/j.bodyim.2012.03.005>
- Neff, K. (2003). Self-Compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, 2(2), 85–101. <https://doi.org/10.1080/15298860390129863>
- Neff, K. D., & Germer, C. K. (2013). A pilot study and randomized controlled trial of the Mindful Self-Compassion program. *Journal of Clinical Psychology*, 69(1), 28–44. <https://doi.org/10.1002/jclp.21923>
- Neff, K. D., Kirkpatrick, K. L., & Rude, S. S. (2007). Self-compassion and adaptive psychological functioning. *Journal of Research in Personality*, 41(1), 139–154. <https://doi.org/10.1016/j.jrp.2006.03.004>

- Neff, K. D., Pisitsungkagarn, K., & Hsieh, Y.-P. (2008). Self-compassion and self-construal in the United States, Thailand, and Taiwan. *Journal of Cross-Cultural Psychology, 39*(3), 267–285. <https://doi.org/10.1177/0022022108314544>
- Neff, K. D., & Vonk, R. (2009). Self-compassion versus global self-esteem: Two different ways of relating to oneself. *Journal of Personality, 77*(1), 23–50. <https://doi.org/10.1111/j.1467-6494.2008.00537.x>
- Newman, D. A. (2014). Missing data: Five practical guidelines. *Organizational Research Methods, 17*(4), 372–411. <https://doi.org/10.1177/1094428114548590>
- Nicholson, R. (2019). *Instagram hiding its likes is no bad thing, but young people will find a way round it*. The Guardian. <https://www.theguardian.com/commentisfree/2019/may/02/instagram-likes-culture-validation>
- O'Brien, K. S., Caputi, P., Minto, R., Peoples, G., Hooper, C., Kell, S., & Sawley, E. (2009). Upward and downward physical appearance comparisons: Development of scales and examination of predictive qualities. *Body Image, 6*(3), 201–206. <https://doi.org/10.1016/j.bodyim.2009.03.003>
- O'Toole, F. (2002). *The Clod and the Continent: Irish Identity in the European Union*. [http://anglisztika.ektf.hu/new/content/letoltesek/angolma/segedanyagok/an108/O'Toole\\_identity.pdf](http://anglisztika.ektf.hu/new/content/letoltesek/angolma/segedanyagok/an108/O'Toole_identity.pdf)
- O'Connell, A., & Martin, S. (2012). *How we see it: Report of a survey of young people and body image*. [www.dcyia.ie](http://www.dcyia.ie)
- Ofcom. (2020). *Children and Parents: Media Use and Attitudes Report* (Issue October). <http://stakeholders.ofcom.org.uk/binaries/research/media-literacy/october-2013/research07Oct2013.pdf>
- Ogden, J., & Taylor, C. (2000). Body dissatisfaction within couples. *Journal of Health Psychology, 5*(1), 25–32. <https://doi.org/10.1177/135910530000500107>
- Olivardia, R., Pope, H. G., Iii, J. J. B., Cohane, G. H., Borowiecki, J. J., & Cohane, G. H. (2004). Biceps and body image: The relationship between muscularity and self-esteem, depression and eating disorder symptoms. *Psychology of Men & Masculinity, 5*(2), 112–120. <https://doi.org/10.1037/1524-9220.5.2.112>
- Olivardia, R., Pope, H. G., Mangweth, B., & Hudson, J. I. (1995). Eating disorders in college men. *The American Journal of Psychiatry, 152*(9), 1279–1285. <https://doi.org/10.1176/ajp.152.9.1279>
- Orlando, J. (2019). *Not enough likes? Not a nice feeling. What's not to like? Instagram's trial to*

*hide the number of 'likes' could save users' self-esteem.* The Conversation.

<https://theconversation.com/whats-not-to-like-instagram-trial-to-hide-the-number-of-likes-could-save-users-self-esteem-120596>

Pai, S., & Schryver, K. (2015). *Children, Teens, Media and Body Image; A Common Sense Media Research Brief*. Common Sense Media.

Papp, I., Urbán, R., Czeglédi, E., Babusa, B., & Túry, F. (2013). Testing the Tripartite Influence Model of body image and eating disturbance among Hungarian adolescents. *Body Image, 10*(2), 232–242. <https://doi.org/10.1016/J.BODYIM.2012.12.006>

Parent, M. C. (2013). Clinical considerations in etiology, assessment, and treatment of men's muscularity focused body disturbance. *Psychology of Men & Masculinity, 14*(1), 88–100. <https://doi.org/10.1037/a0025644>

Park, S.-Y. (2005). The influence of presumed media influence on women's desire to be thin. *Communication Research, 32*(5), 594–614. <https://doi.org/10.1177/0093650205279350>

Party Parliamentary Group on Body Image, A. (2011). *Reflections on body image*. <http://ymca-central-assets.s3-eu-west-1.amazonaws.com/s3fs-public/APPG-Reflections-on-body-image.pdf>

Paxton, S. J., Neumark-Sztainer, D., Hannan, P. J., & Eisenberg, M. E. (2006). Body dissatisfaction prospectively predicts depressive mood and low self-esteem in adolescent girls and boys. *Journal of Clinical Child & Adolescent Psychology, 35*(4), 539–549. [https://doi.org/10.1207/s15374424jccp3504\\_5](https://doi.org/10.1207/s15374424jccp3504_5)

Perloff, R. M. (2014a). Act 2: Extending theory on social media and body image concerns. *Sex Roles, 71*(11–12), 414–418. <https://doi.org/10.1007/s11199-014-0433-1>

Perloff, R. M. (2014b). Social media effects on young women's body image concerns: Theoretical perspectives and an agenda for research. *Sex Roles, 71*(11), 363–377. <https://doi.org/10.1007/s11199-014-0384-6>

Peytchev, A., Couper, M. P., McCabe, S. E., & Crawford, S. D. (2006). Web Survey Design: Paging versus Scrolling. *Public Opinion Quarterly, 70*(4), 596–607. <https://doi.org/10.1093/poq/nfl028>

Pingitore, R., Spring, B., & Garfieldt, D. (1997). Gender differences in body satisfaction. *Obesity Research, 5*(5), 402–409. <https://doi.org/10.1002/j.1550-8528.1997.tb00662.x>

Piran, N. (2015). New possibilities in the prevention of eating disorders: The introduction of positive body image measures. *Body Image, 14*(Supplement C), 146–157. <https://doi.org/https://doi.org/10.1016/j.bodyim.2015.03.008>



- Plant, A. (2017). *Self-care: : “Ireland is the only country where ‘you love yourself’ is an insult.”* The Journal. <https://www.thejournal.ie/readme/self-care-ireland-is-the-only-country-where-you-love-yourself-is-an-insult-3732772-Dec2017/>
- Polivy, J., & Herman, C. P. (2002). Causes of eating disorders. *Annual Review of Psychology*, 53(1), 187–213. <https://doi.org/10.1146/annurev.psych.53.100901.135103>
- Pope, H., Phillips, K. A., & Olivardia, R. (2000). *The Adonis complex : the secret crisis of male body obsession*. Free Press.
- Pope, M., Corona, R., & Belgrave, F. Z. (2014). Nobody’s perfect: A qualitative examination of African American maternal caregivers’ and their adolescent girls’ perceptions of body image. *Body Image*, 11(3), 307–317. <https://doi.org/10.1016/j.bodyim.2014.04.005>
- Prichard, I., Kavanagh, E., Mulgrew, K. E., Lim, M. S. C., & Tiggemann, M. (2020). The effect of Instagram #fitspiration images on young women’s mood, body image, and exercise behaviour. *Body Image*, 33, 1–6. <https://doi.org/10.1016/j.bodyim.2020.02.002>
- Quittkat, H. L., Hartmann, A. S., Düsing, R., Buhlmann, U., & Vocks, S. (2019). Body dissatisfaction, importance of appearance, and body appreciation in men and women over the lifespan. *Frontiers in Psychiatry*, 10(864), 1–12. <https://doi.org/10.3389/fpsy.2019.00864>
- Raes, F. (2010). Rumination and worry as mediators of the relationship between self-compassion and depression and anxiety. *Personality and Individual Differences*, 48(6), 757–761. <https://doi.org/10.1016/j.paid.2010.01.023>
- Raes, F., Pommier, E., Neff, K. D., & Van Gucht, D. (2011). Construction and factorial validation of a short form of the Self-Compassion Scale. *Clinical Psychology and Psychotherapy*, 18(3), 250–255. <https://doi.org/10.1002/cpp.702>
- Raggatt, M., Wright, C. J. C., Carrotte, E., Jenkinson, R., Mulgrew, K., Prichard, I., & Lim, M. S. C. (2018). “I aspire to look and feel healthy like the posts convey”: engagement with fitness inspiration on social media and perceptions of its influence on health and wellbeing. *BMC Public Health*, 18(1), 1002. <https://doi.org/10.1186/s12889-018-5930-7>
- Rahimi-Ardabili, H., Reynolds, R., Vartanian, L. R., McLeod, L. V. D., Zwar, N., Victoria, L., Mcleod, D., & Zwar, N. (2018). A systematic review of the efficacy of interventions that aim to increase self-compassion on nutrition habits, eating behaviours, body weight and body image. *Mindfulness*, 9(2), 388–400. <https://doi.org/10.1007/s12671-017-0804-0>
- Ramme, R. A., Donovan, C. L., & Bell, H. S. (2016). A test of athletic internalisation as a mediator in the relationship between sociocultural influences and body dissatisfaction in women. *Body Image*, 16, 126–132. <https://doi.org/10.1016/j.bodyim.2016.01.002>

- Reio, T. G., & Shuck, B. (2015). Exploratory factor analysis: Implications for theory, research, and practice. *Advances in Developing Human Resources, 17*(1), 12–25.  
<https://doi.org/10.1177/1523422314559804>
- Richardson, S. M., & Paxton, S. J. (2010). An evaluation of a body image intervention based on risk factors for body dissatisfaction: A controlled study with adolescent girls. *International Journal of Eating Disorders, 43*(2), 112–122.  
<http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2010-04191-003&site=ehost-live>
- Rickwood, D., Deane, F. P., Wilson, C. J., & Ciarrochi, J. (2005). Young people’s help-seeking for mental health problems. *Australian E-Journal for the Advancement of Mental Health, 4*(3), 218–251. <https://doi.org/10.5172/jamh.4.3.218>
- Ridolfi, D. R., Myers, T. A., Crowther, J. H., & Ciesla, J. A. (2011). Do appearance focused cognitive distortions moderate the relationship between social comparisons to peers and media images and body image disturbance? *Sex Roles, 65*(7–8), 491–505.  
<https://doi.org/10.1007/s11199-011-9961-0>
- Robertson, S., Bagnall, A., & Walker, M. (2015). *Evidence for a gender-based approach to mental health program: identifying the key considerations associated with “being male”: an Evidence Check rapid review brokered by the Sax Institute (www.saxinstitute.org.au) for the Movember Foundation*. <https://www.saxinstitute.org.au/wp-content/uploads/A-gender-based-approach-to-mental-health-programs.pdf>
- Robinson, L., Prichard, I., Nikolaidis, A., Drummond, C., Drummond, M., & Tiggemann, M. (2017). Idealised media images: The effect of fitnesspiration imagery on body satisfaction and exercise behaviour. *Body Image, 22*, 65–71. <https://doi.org/10.1016/j.bodyim.2017.06.001>
- Rodgers, R. F., Donovan, E., Cousineau, T., Yates, K., McGowan, K., Cook, E., Lowy, A. S., & Franko, D. L. (2018). BodiMojo: Efficacy of a mobile-based intervention in improving body image and self-compassion among adolescents. *Journal of Youth and Adolescence, 47*(7), 1363–1372. <https://doi.org/10.1007/s10964-017-0804-3>
- Rodgers, R. F., Franko, D. L., Donovan, E., Cousineau, T., Yates, K., McGowan, K., Cook, E., & Lowy, A. S. (2017). Body image in emerging adults: The protective role of self-compassion. *Body Image, 22*, 148–155.  
<https://www.sciencedirect.com/science/article/pii/S174014451730147X>
- Rodgers, R. F., Kruger, L., Lowy, A. S., Long, S., & Richard, C. (2019). Getting Real about body image: A qualitative investigation of the usefulness of the Aerie Real campaign. *Body Image, 30*, 127–134. <https://doi.org/10.1016/J.BODYIM.2019.06.002>

- Rodgers, R. F., McLean, S. A., & Paxton, S. J. (2015). Longitudinal relationships among internalization of the media ideal, peer social comparison, and body dissatisfaction: Implications for the tripartite influence model. *Developmental Psychology, 51*(5), 706–713. <https://doi.org/10.1037/dev0000013>
- Rodgers, R. F., & Melioli, T. (2016). The relationship between body image concerns, eating disorders and internet use, part II: An integrated theoretical model. *Adolescent Research Review, 1*(2), 95–119. <https://doi.org/10.1007/s40894-015-0016-6>
- Rodin, J., Silberstein, L., & Striegel-Moore, R. (1984). Women and weight: a normative discontent. *Nebraska Symposium on Motivation. Nebraska Symposium on Motivation, 32*, 267–307. <http://www.ncbi.nlm.nih.gov/pubmed/6398857>
- Rousseau, A., Eggermont, S., & Frison, E. (2017). The reciprocal and indirect relationships between passive Facebook use, comparison on Facebook, and adolescents' body dissatisfaction. *Computers in Human Behavior, 73*, 336–344. <https://doi.org/10.1016/j.chb.2017.03.056>
- Rubin, A. M. (2009). *Uses and gratifications; an evolving perspective of media effects* (R. L. Nabi & M. B. Oliver (Eds.); pp. 147–157). SAGE Publications.
- Rubin, H., & Rubin, I. (2012). *Qualitative interviewing: The art of hearing data* (2nd ed.). SAGE Publications, Inc. <https://doi.org/10.4135/9781452226651>
- Rumsey, N., & Harcourt, D. (2005). *The Psychology of Appearance* (S. Payne & S. Horn (Eds.)). Open University Press.
- Ryan, T. A., & Morrison, T. (2009). Factors perceived to influence young Irish men's body image investment: A qualitative investigation. *International Journal of Men's Health, 8*(3), 213–234. <http://elib.tcd.ie/login?url=https://search.proquest.com/docview/222854113?accountid=14404>
- Ryan, T. A., & Morrison, T. G. (2011). Men's body image evaluation and investment: A review of key theoretical frameworks. In C. Blazina & D. S. Shen-Miller (Eds.), *An International Psychology of Men: Theoretical advances, case studies, and clinical innovations*. (pp. 189–232). Routledge/Taylor & Francis Group. <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2010-18799-007&site=ehost-live>
- Sacks, D. (2003). Age limits and adolescents. In *Paediatrics and Child Health* (Vol. 8, Issue 9, pp. 577–578). Pulsus Group Inc. <https://doi.org/10.1093/pch/8.9.577>
- Saiphoo, A. N., & Vahedi, Z. (2019). A meta-analytic review of the relationship between social

media use and body image disturbance. *Computers in Human Behavior*, 101, 259–275.  
<https://doi.org/10.1016/J.CHB.2019.07.028>

Sastre, A. (2016). *Towards A Radical Body Positive: Reading The Online Body Positive Movement* [University of Pennsylvania].

<https://repository.upenn.edu/cgi/viewcontent.cgi?article=4355&context=edissertations>

Schaefer, L. M. (2017). The development and validation of the Physical Appearance Comparison Scale-3 (PACS-3) [University of South Florida]. In *ProQuest Dissertations and Theses*.  
<http://scholarcommons.usf.edu/etd>

Schaefer, L. M., Harriger, J. A., Heinberg, L. J., Soderberg, T., & Kevin Thompson, J. (2017). Development and validation of the sociocultural attitudes towards appearance questionnaire-4-revised (SATAQ-4R). *International Journal of Eating Disorders*, 50(2), 104–117.  
<https://doi.org/10.1002/eat.22590>

Schaefer, L. M., & Thompson, J. K. (2014). Physical Appearance Comparison Scale--Revised. In *PsycTESTS*. <https://doi.org/10.1037/t46176-000>

Schaefer, L. M., & Thompson, J. K. (2018b). The development and validation of the Physical Appearance Comparison Scale–3 (PACS-3). *Psychological Assessment*.  
<https://doi.org/10.1037/pas0000576>

Schafer, J. L., & Graham, J. W. (2002). Missing data: our view of the state of the art. *Psychological Methods*, 7(2), 147.

Schmidt, C. K., Raque-Bogdan, T. L., & Hollern, E. A. (2019). Self-compassion, affect, and body image in college women. *Journal of College Counseling*, 22(2), 152–163.  
<https://doi.org/10.1002/jocc.12127>

Schoenefeld, S. J., & Webb, J. B. (2013). Self-compassion and intuitive eating in college women: Examining the contributions of distress tolerance and body image acceptance and action. *Eating Behaviors*, 14(4), 493–496. <https://doi.org/10.1016/j.eatbeh.2013.09.001>

Seaton, C. L., Botorff, J. L., Jones-Bricker, M., Oliffe, J. L., DeLeenheer, D., & Medhurst, K. (2017). Men's mental health promotion interventions: A scoping review. *American Journal of Men's Health*, 11(6), 1823–1837. <https://doi.org/10.1177/1557988317728353>

Seekis, V., Bradley, G. L., & Duffy, A. (2017). The effectiveness of self-compassion and self-esteem writing tasks in reducing body image concerns. *Body Image*, 23, 206–213.  
<https://doi.org/10.1016/j.bodyim.2017.09.003>

Shannon, A., & Mills, J. S. (2015). Correlates, causes, and consequences of fat talk: A review. *Body Image*, 15, 158–172. <https://doi.org/10.1016/J.BODYIM.2015.09.003>

- Sherman, L. E., Payton, A. A., Hernandez, L. M., Greenfield, P. M., & Dapretto, M. (2016). The power of the like in adolescence: Effects of peer influence on neural and behavioral responses to social media. *Psychological Science, 27*(7), 1027–1035.  
<https://doi.org/10.1177/0956797616645673>
- Shin, Y., Kim, M., Im, C., & Chong, S. C. (2017). Selfie and self: The effect of selfies on self-esteem and social sensitivity. *Personality and Individual Differences, 111*, 139–145.  
<https://doi.org/10.1016/j.paid.2017.02.004>
- Shroff, H., & Thompson, J. K. (2006). The tripartite influence model of body image and eating disturbance: A replication with adolescent girls. *Body Image, 3*(1), 17–23.  
<https://doi.org/http://dx.doi.org/10.1016/j.bodyim.2005.10.004>
- Siegel, J. A., Huellemann, K. L., Hillier, C. C., & Campbell, L. (2020). The protective role of self-compassion for women’s positive body image: an open replication and extension. *Body Image, 32*, 136–144. <https://doi.org/10.1016/j.bodyim.2019.12.003>
- Slater, A., Varsani, N., & Diedrichs, P. C. (2017). #fitspo or #loveyourself? The impact of fitspiration and self-compassion Instagram images on women’s body image, self-compassion, and mood. *Body Image, 22*(Supplement C), 87–96.  
<https://doi.org/https://doi.org/10.1016/j.bodyim.2017.06.004>
- Slater, M. D. (2007). Reinforcing spirals: The mutual influence of media selectivity and media effects and their impact on individual behavior and social identity. *Communication Theory, 17*(3), 281–303. <https://doi.org/10.1111/j.1468-2885.2007.00296.x>
- Smith, A., Anderson, M., & Jingjing, J. (2018). *Social Media Use in 2018*.  
<http://www.pewinternet.org/2018/03/01/social-media-use-in-2018/>
- Smith, A. R., Hames, J. L., & Joiner, T. E. J. (2013). Status update: Maladaptive Facebook usage predicts increases in body dissatisfaction and bulimic symptoms. *Journal of Affective Disorders, 149*(1–3), 235–240. <https://doi.org/10.1016/j.jad.2013.01.032>
- Smolak, L., & Murnen, S. K. (2008). Drive for leanness: Assessment and relationship to gender, gender role and objectification. *Body Image, 5*(3), 251–260.  
<https://doi.org/10.1016/j.bodyim.2008.03.004>
- Smolak, L., Murnen, S. K., & Thompson, J. K. (2005). Sociocultural influences and muscle building in adolescent boys. *Psychology of Men & Masculinity, 6*(4), 227–239.  
<https://doi.org/10.1037/1524-9220.6.4.227>
- Smolak, L., & Stein, J. A. (2006). The relationship of drive for muscularity to sociocultural factors, self-esteem, physical attributes gender role, and social comparison in middle school boys.

*Body Image*, 3(2), 121–129. <https://doi.org/10.1016/j.bodyim.2006.03.002>

Social Bakers. (n.d.). *Instagram Marketing Review: Top Industries*. 2019. Retrieved October 23, 2019, from <https://www.socialbakers.com/social-media-content/studies/datadriven-social-marketing-on-instagram>

Sohn, S. H. S. . (2010). Sex differences in social comparison and comparison motives in body image process. *North American Journal of Psychology*, 12(3), 481–500. <https://search.proquest.com/docview/821544865?accountid=14404>

Solomon, M. (2016). Social media and self-evaluation: The examination of social media use on identity, social comparison, and self-esteem in young female adults [William James College]. In *ProQuest Dissertations and Theses* (Vol. 78). <http://elib.tcd.ie/login?url=https://search.proquest.com/docview/1855123331?accountid=14404>

Sommers-Spijkerman, M., Trompetter, H., ten Klooster, P., Schreurs, K., Gilbert, P., & Bohlmeijer, E. (2018). Development and validation of the forms of Self-Criticizing/Attacking and Self-Reassuring Scale—Short Form. *Psychological Assessment*, 30(6), 729–743. <https://doi.org/10.1037/pas0000514>

Sommers-Spijkerman, M., Elfrink, T. R., Drossaert, C. H. C., Schreurs, K. M. G., & Bohlmeijer, E. T. (2020). Exploring compassionate attributes and skills among individuals participating in compassion-focused therapy for enhancing well-being. *Psychology and Psychotherapy: Theory, Research and Practice*, 93(3), 555–571. <https://doi.org/10.1111/papt.12235>

Steers, D., Steers, A., Pruess, J. J., Young, C. M., Steers, M. N., Wickham, R., & Acitelli, L. K. (2014). Seeing everyone else’s highlight reels: How Facebook usage is linked to depressive symptoms. *Journal of Social and Clinical Psychology*, 33(8), 701–731. <https://doi.org/10.1521/jscp.2014.33.8.701>

Stefanone, M. A., Lackaff, D., & Rosen, D. (2011). Contingencies of self-worth and social-networking-site behavior. *Cyberpsychology, Behavior, and Social Networking*, 14(1–2), 41–49. <https://doi.org/10.1089/cyber.2010.0049>

Steinberg, L. (2015). How to improve the health of American adolescents. *Perspectives on Psychological Science*, 10(6), 711–715. <https://doi.org/10.1177/1745691615598510>

Steindl, S. R., & Buchanan, K. (2016). Radiance: Self-compassion for eating and weight concerns. *Unpublished Manuscript*.

Steindl, Stanley R., Buchanan, K., Goss, K., & Allan, S. (2017). Compassion focused therapy for eating disorders: A qualitative review and recommendations for further applications. *Clinical*

- Psychologist*, 21(2), 62–73. <https://doi.org/10.1111/cp.12126>
- Stern, N. G., & Engeln, R. (2018). Self-compassionate writing exercises increase college women's body satisfaction. *Psychology of Women Quarterly*, 42(3), 326–341.  
<https://doi.org/10.1177/0361684318773356>
- Stice, E., & Agras, W. S. (1998). Predicting onset and cessation of bulimic behaviors during adolescence: A longitudinal grouping analysis. *Behavior Therapy*, 29(2), 257–276.  
[https://doi.org/10.1016/S0005-7894\(98\)80006-3](https://doi.org/10.1016/S0005-7894(98)80006-3)
- Stice, E., & Bearman, S. K. (2001). Body-image and eating disturbances prospectively predict increases in depressive symptoms in adolescent girls: A growth curve analysis. *Developmental Psychology*, 37(5), 597–607. <https://doi.org/10.1037/0012-1649.37.5.597>
- Stice, E., Presnell, K., & Spangler, D. (2002). Risk factors for binge eating onset in adolescent girls: a 2-year prospective investigation. *Health Psychology : Official Journal of the Division of Health Psychology, American Psychological Association*, 21(2), 131–138.  
<https://doi.org/10.1037/0278-6133.21.2.131>
- Stice, E., & Shaw, H. E. (2002). Role of body dissatisfaction in the onset and maintenance of eating pathology: A synthesis of research findings. *Journal of Psychosomatic Research*, 53(5), 985–993. [https://doi.org/10.1016/S0022-3999\(02\)00488-9](https://doi.org/10.1016/S0022-3999(02)00488-9)
- Strahan, E. J., Wilson, A. E., Cressman, K. E., & Buote, V. M. (2006). Comparing to perfection: How cultural norms for appearance affect social comparisons and self-image. *Body Image*, 3(3), 211–227. <https://doi.org/https://doi.org/10.1016/j.bodyim.2006.07.004>
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research - Techniques and procedures for developing grounded theory*. Sage Publications.
- Streiner, D., & Geddes, J. (2001). Intention to treat analysis in clinical trials when there are missing data. *Evidence Based Mental Health*, 4(3), 70 LP – 71. <https://doi.org/10.1136/ebmh.4.3.70>
- Streiner, D. L., & Kottner, J. (2014). Recommendations for reporting the results of studies of instrument and scale development and testing. *Journal of Advanced Nursing*, 70(9), 1970–1979. <https://doi.org/10.1111/jan.12402>
- Striegel-Moore, R., & Franko, D. L. (2004). Body Image Issues Among Girls and Women. In T. F. Cash & T. Pruzinsky (Eds.), *Body Image: A Handbook of Theory, Research and Clinical Practice*. Guilford Publications.
- Sullivan, L. A., & Harnish, R. J. (1990). Body image: Differences between high and low self-monitoring males and females. *Journal of Research in Personality*, 24(3), 291–302.  
[https://doi.org/10.1016/0092-6566\(90\)90022-X](https://doi.org/10.1016/0092-6566(90)90022-X)

- Suls, J. (2012). Social comparison processes; Implications for physical health. In H. E. Freidman (Ed.), *Oxford Handbook of Health Psychology*. Oxford University Press.  
<https://doi.org/DOI: http://dx.doi.org/10.1093/oxfordhb/9780195342819.013.0012>
- Sundar, S. S., Jia, H., Waddell, T. F., & Huang, Y. (2015). Toward a Theory of Interactive Media Effects (TIME). In *The Handbook of the Psychology of Communication Technology* (pp. 47–86). John Wiley & Sons, Ltd. <https://doi.org/10.1002/9781118426456.ch3>
- Swami, V., & Ng, S.-K. (2015). Factor structure and psychometric properties of the Body Appreciation Scale-2 in university students in Hong Kong. *Body Image, 15*, 68–71.  
<https://doi.org/10.1016/J.BODYIM.2015.06.004>
- Sypeck, M. F., Gray, J. J., & Ahrens, A. H. (2004). No longer just a pretty face: Fashion magazines' depictions of ideal female beauty from 1959 to 1999. *International Journal of Eating Disorders, 36*(3), 342–347. <https://doi.org/10.1002/eat.20039>
- Tabachnick, B. G., & Fidell, L. S. (2019). *Using Multivariate Statistics Title: Using multivariate statistics*. <https://lcn.loc.gov/2017040173>
- Tamplin, N. C., McLean, S. A., & Paxton, S. J. (2018). Social media literacy protects against the negative impact of exposure to appearance ideal social media images in young adult women but not men. *Body Image, 26*, 29–37. <https://doi.org/10.1016/j.bodyim.2018.05.003>
- Tantleff-Dunn, S., Barnes, R. D., & Larose, J. G. (2011). It's not just a "Woman Thing": The current state of normative discontent. *Eating Disorders, 19*(5), 392–402.  
<https://doi.org/10.1080/10640266.2011.609088>
- Teixeira, P. J., Carraça, E. V., Markland, D., Silva, M. N., & Ryan, R. M. (2012). Exercise, physical activity, and self-determination theory: A systematic review. In *International Journal of Behavioral Nutrition and Physical Activity* (Vol. 9, Issue 1, p. 78). BioMed Central. <https://doi.org/10.1186/1479-5868-9-78>
- Testa, M., & Major, B. (1990). The impact of social comparisons after failure: The moderating effects of perceived control. *Basic and Applied Social Psychology, 11*(2), 205–218.  
[https://doi.org/10.1207/s15324834basp1102\\_7](https://doi.org/10.1207/s15324834basp1102_7)
- Third, A., Bellerose, D., Diniz, J., Oliveira, D., Lala, G., & Theakstone, G. (2017). The State of the World's Children 2017 Companion Report. In *Unicef*. Unicef.  
[https://www.unicef.org/publications/files/SOWC\\_2017\\_ENG\\_WEB.pdf](https://www.unicef.org/publications/files/SOWC_2017_ENG_WEB.pdf)
- Thompson, B. (2006). *Exploratory and confirmatory factor analysis: Understanding concepts and applications*. American Psychological Association. <https://doi.org/10.1037/10694-000>
- Thompson, J. Kevin, van den Berg, P., Roehrig, M., Guarda, A. S., & Heinberg, L. J. (2004). The



- sociocultural attitudes towards appearance scale-3 (SATAQ-3): Development and validation. *International Journal of Eating Disorders*, 35(3), 293–304. <https://doi.org/10.1002/eat.10257>
- Thompson, J.K., Coovert, M. D., & Stormer, S. M. (1999). Body image, social comparison, and eating disturbance: A covariance structure modeling investigation. *International Journal of Eating Disorders*, 26(1), 43–51. [https://doi.org/10.1002/\(SICI\)1098-108X\(199907\)26:1<43::AID-EAT6>3.0.CO;2-R](https://doi.org/10.1002/(SICI)1098-108X(199907)26:1<43::AID-EAT6>3.0.CO;2-R)
- Thompson, J.K., & Stice, E. (2001). Thin-ideal internalization: Mounting evidence for a new risk factor for body-image disturbance and eating pathology. *Current Directions in Psychological Science*, 10(5), 181–183. <https://doi.org/10.1111/1467-8721.00144>
- Thompson, J.K., Heinberg, L., Altabe, M., & Tantleff-Dunn, S. (1999). *Exacting beauty: Theory, Assessment, and Treatment of Body Image Disturbance*. American Psychological Association. <https://doi.org/10.1037/10312-000>
- Throuvala, M. A., Griffiths, M. D., Rennoldson, M., & Kuss, D. J. (2019). Motivational processes and dysfunctional mechanisms of social media use among adolescents: A qualitative focus group study. *Computers in Human Behavior*, 93, 164–175. <https://doi.org/10.1016/J.CHB.2018.12.012>
- Tiggemann, M., Brown, Z., Zaccardo, M., & Thomas, N. (2017). “Warning: This image has been digitally altered”: The effect of disclaimer labels added to fashion magazine shoots on women’s body dissatisfaction. *Body Image*, 21, 107–113. <https://doi.org/10.1016/j.bodyim.2017.04.001>
- Tiggemann, M., Hayden, S., Brown, Z., & Veldhuis, J. (2018). The effect of Instagram “likes” on women’s social comparison and body dissatisfaction. *Body Image*, 26, 90–97. <https://doi.org/10.1016/J.BODYIM.2018.07.002>
- Tiggemann, M., & Mccourt, A. (2013). Body appreciation in adult women: Relationships with age and body satisfaction. *Body Image*, 10, 624–627. <https://doi.org/10.1016/j.bodyim.2013.07.003>
- Tiggemann, M., & Miller, J. (2010). The Internet and adolescent girls’ weight satisfaction and drive for thinness. *Sex Roles*, 63(1–2), 79–90. <https://doi.org/10.1007/s11199-010-9789-z>
- Tiggemann, M., & Zaccardo, M. (2015). “Exercise to be fit, not skinny”: The effect of fitspiration imagery on women’s body image. *Body Image*, 15, 61–67. <https://doi.org/https://doi.org/10.1016/j.bodyim.2015.06.003>
- Tod, D., Edwards, C., & Cranswick, I. (2016). Muscle dysmorphia: Current insights. In *Psychology Research and Behavior Management* (Vol. 9, pp. 179–188). Dove Medical Press Ltd.

<https://doi.org/10.2147/PRBM.S97404>

Toma, C. L., & Hancock, J. T. (2010). Looks and lies: The role of physical attractiveness in online dating self-presentation and deception. *Communication Research*, *37*(3), 335–351.

<https://doi.org/10.1177/0093650209356437>

Turel, T., Jameson, M., Gitimu, P., Rowlands, Z., Mincher, J., & Pohle-Krauza, R. (2018).

Disordered eating: Influence of body image, sociocultural attitudes, appearance anxiety and depression - a focus on college males and a gender comparison. *Cogent Psychology*, *5*(1).

<https://doi.org/10.1080/23311908.2018.1483062>

Turk, F., & Waller, G. (2020). Is self-compassion relevant to the pathology and treatment of eating and body image concerns? A systematic review and meta-analysis. *Clinical Psychology Review*, *79*(April), 101856. <https://doi.org/10.1016/j.cpr.2020.101856>

<https://doi.org/10.1016/j.cpr.2020.101856>

Twenge, J., Martin, G., & Campbel, W. (2018). Decreases in psychological well-being among American adolescents. *Emotion*, *18*(6), 765–780. <http://psycnet.apa.org/fulltext/2018-02758-001.pdf>

Tylka, T. L. (2011a). Positive psychology perspectives on body image. *Encyclopedia of Body*

*Image and Human Appearance*, *2*(2011), 657–663. <https://doi.org/10.1016/B978-0-12-384925-0.00104-8>

Tylka, T. L. (2011b). Refinement of the tripartite influence model for men: Dual body image pathways to body change behaviors. *Body Image*, *8*(3), 199–207.

<https://doi.org/10.1016/j.bodyim.2011.04.008>

Tylka, T. L., Russell, H. L., & Neal, A. A. (2015). Self-compassion as a moderator of thinness-related pressures' associations with thin-ideal internalization and disordered eating. *Eating Behaviors*, *17*, 23–26. <https://doi.org/10.1016/j.eatbeh.2014.12.009>

<https://doi.org/10.1016/j.eatbeh.2014.12.009>

Tylka, T. L., & Wood-Barcalow, N. L. (2015). The Body Appreciation Scale-2: item refinement and psychometric evaluation. *Body Image*, *12*, 53–67.

<https://doi.org/10.1016/j.bodyim.2014.09.006>

Tylka, T. L., & Wood-Barcalow, N. L. (2015b). What is and what is not positive body image? Conceptual foundations and construct definition. *Body Image*, *14*, 118–129.

<https://doi.org/10.1016/J.BODYIM.2015.04.001>

Valkenburg, P. M., & Peter, J. (2013). The differential susceptibility to media effects model.

*Journal of Communication*, *63*(2), 221–243. <https://doi.org/10.1111/jcom.12024>

Valkenburg, P. M., Peter, J., & Walther, J. B. (2016). Media effects: Theory and research. *Annual*

*Review of Psychology*, *67*(1), 315–338. <https://doi.org/10.1146/annurev-psych-122414->

- van den Berg, P. A., Mond, J., Eisenberg, M., Ackard, D., & Neumark-Sztainer, D. (2010). The link between body dissatisfaction and self-esteem in adolescents: Similarities across gender, age, weight status, race/ethnicity, and socioeconomic status. *Journal of Adolescent Health, 47*(3), 290–296. <https://doi.org/10.1016/J.JADOHEALTH.2010.02.004>
- van den Berg, P., Paxton, S. J., Keery, H., Wall, M., Guo, J., & Neumark-Sztainer, D. (2007). Body dissatisfaction and body comparison with media images in males and females. *Body Image, 4*(3), 257–268. <https://doi.org/http://dx.doi.org/10.1016/j.bodyim.2007.04.003>
- van den Berg, P., & Thompson, J. K. (2007). Self-schema and social comparison explanations of body dissatisfaction: A laboratory investigation. *Body Image, 4*(1), 29–38. <https://doi.org/10.1016/j.bodyim.2006.12.004>
- van den Berg, P., Thompson, J. K. K., Obremski-Brandon, K., & Coovert, M. (2002). The Tripartite Influence model of body image and eating disturbance: A covariance structure modeling investigation testing the mediational role of appearance comparison. *Journal of Psychosomatic Research, 53*(5), 1007–1020. [https://doi.org/http://dx.doi.org/10.1016/S0022-3999\(02\)00499-3](https://doi.org/http://dx.doi.org/10.1016/S0022-3999(02)00499-3)
- Vannucci, A., & McCauley Ohannessian, C. (2019). Social media use subgroups differentially predict psychosocial well-being during early adolescence. *Journal of Youth and Adolescence, 48*(8), 1469–1493. <https://doi.org/10.1007/s10964-019-01060-9>
- Vartanian, L. R., Wharton, C. M., & Green, E. B. (2012). Appearance vs. health motives for exercise and for weight loss. *Psychology of Sport and Exercise, 13*(3), 251–256. <https://doi.org/10.1016/j.psychsport.2011.12.005>
- Vaterlaus, J. M., Patten, E. V., Roche, C., & Young, J. A. (2015). #Gettinghealthy: The perceived influence of social media on young adult health behaviors. *Computers in Human Behavior, 45*, 151–157. <http://dx.doi.org/10.1016/j.chb.2014.12.013>
- Vaughn, S., Schumm, J. S., & Sinagub, J. (1996). Use of focus groups with children and adolescents. In *Focus Group Interviews in Education and Psychology* (pp. 128–143). SAGE Publications, Inc. <https://doi.org/10.4135/9781452243641.n9>
- Veissière, S. P. L., & Stendel, M. (2018). Supernatural monitoring: A social rehearsal account of smartphone addiction. *Frontiers in Psychology, 9*, 141. <https://doi.org/10.3389/fpsyg.2018.00141>
- Vimalakanthan, K., Kelly, A. C., & Trac, S. (2018). From competition to compassion: A caregiving approach to intervening with appearance comparisons. *Body Image, 25*, 148–162.

<https://doi.org/10.1016/j.bodyim.2018.03.003>

- Voelker, D. K., Reel, J. J., & Greenleaf, C. (2015). Weight status and body image perceptions in adolescents: current perspectives. *Adolescent Health, Medicine and Therapeutics*, 6, 149–158. <https://doi.org/10.2147/AHMT.S68344>
- Vogel, E. A., Rose, J. P., Roberts, L. R., & Eckles, K. (2014). Social comparison, social media, and self-esteem. *Psychology of Popular Media Culture*, 3(4), 206–222. <https://doi.org/10.1037/ppm0000047>
- von Lengerke, T., Mielck, A., & KORA Study Group. (2012). Body weight dissatisfaction by socioeconomic status among obese, preobese and normal weight women and men: results of the cross-sectional KORA Augsburg S4 population survey. *BMC Public Health*, 12(1), 342. <https://doi.org/10.1186/1471-2458-12-342>
- Walker, M., Thornton, L., De Choudhury, M., Teevan, J., Bulik, C. M., Levinson, C. A., & Zerwas, S. (2015). *Online Physical Appearance Comparison Scale*. <https://doi.org/10.1037/t45114-000>
- Wallmark, E., Safarzadeh, K., Daukantaitė, D., & Maddux, R. E. (2012). Promoting altruism through meditation: An 8-week randomized controlled pilot study. *Mindfulness*, 4. <https://doi.org/10.1007/s12671-012-0115-4>
- Want, S. C. (2009). Meta-analytic moderators of experimental exposure to media portrayals of women on female appearance satisfaction: Social comparisons as automatic processes. *Body Image*, 6(4), 257–269. <https://doi.org/https://doi.org/10.1016/j.bodyim.2009.07.008>
- Wasylikiw, L., MacKinnon, A. L., & MacLellan, A. M. (2012). Exploring the link between self-compassion and body image in university women. *Body Image*, 9(2), 236–245. <https://doi.org/10.1016/j.bodyim.2012.01.007>
- Webb, J. B., Wood-Barcalow, N. L., & Tylka, T. L. (2015). Assessing positive body image: Contemporary approaches and future directions. *Body Image*, 14, 130–145. <https://doi.org/10.1016/j.bodyim.2015.03.010>
- Weinstein, E. (2017). Adolescents' differential responses to social media browsing: Exploring causes and consequences for intervention. *Computers in Human Behavior*, 76, 396–405. <https://doi.org/10.1016/j.chb.2017.07.038>
- Weinstein, E. (2018). The social media see-saw: Positive and negative influences on adolescents' affective well-being. *New Media & Society*, 20(10), 3597–3623. <https://doi.org/10.1177/1461444818755634>
- Weiss, M. J., Bloom, H. S., & Brock, T. (2014). A conceptual framework for studying the sources

- of variation in program effects. *SSRN Electronic Journal*, June.  
<https://doi.org/10.2139/ssrn.2393091>
- Weisz, J. R., Donenberg, G. R., Han, S. S., & Weiss, B. (1995). Bridging the gap between laboratory and clinic in child and adolescent psychotherapy. *Journal of Consulting and Clinical Psychology*, 63(5), 688–701. <https://doi.org/10.1037/0022-006X.63.5.688>
- Wekler, A. (2019). *Instagram to hide “likes” on posts in Ireland trial*. Independent.Ie.  
<https://www.independent.ie/business/technology/instagram-to-hide-likes-on-posts-in-ireland-trial-38321540.html>
- Welford, M. (2016). *Compassion focused therapy for dummies*. John Wiley & Sons.
- Welford, M. (2019). Why wait 'till adulthood? A Compassion Focused approach to working with young people: workshop. *8th International Conference. The Compassionate Mind in It's Social Context: From the Body to the Social World*.
- Welford, M., & Langmead, K. (2015). Compassion-based initiatives in educational settings. *Educational and Child Psychology*. <https://www.researchgate.net/publication/320584562>
- Wells, J., Barlow, J., & Stewart-Brown, S. (2003). A systematic review of universal approaches to mental health promotion in schools. *Health Education*, 103(4), 197–220.  
<https://doi.org/10.1108/09654280310485546>
- Wertz, R. T. (1995). Intention to Treat: Once randomized, always analyzed. In *Clinical Aphasiology* (Vol. 23, pp. 57–74). <http://aphasiology.pitt.edu/archive/00000188/>
- Wheeler, L. (1966). Motivation as a determinant of upward comparison. *Journal of Experimental Social Psychology*, 1, 27–31. [https://doi.org/https://doi.org/10.1016/0022-1031\(66\)90062-X](https://doi.org/https://doi.org/10.1016/0022-1031(66)90062-X)
- Wheeler, L., & Miyake, K. (1992). Social comparison in everyday life. *Journal of Personality and Social Psychology*, 62(5), 760–773. <https://doi.org/10.1037/0022-3514.62.5.760>
- Whitaker, C., Gough, B., Fawcner, H., & Deighton-Smith, N. (2019). Young men 's body dissatisfaction : A qualitative analysis of anonymous online accounts. *Journal of Health Psychology*.
- Whittaker, T. A. (2012). Using the modification index and standardized expected parameter change for model modification. *Journal of Experimental Education*, 80(1), 26–44.  
<https://doi.org/10.1080/00220973.2010.531299>
- Wildes, J. E., Emery, R. E., & Simons, A. D. (2001). The roles of ethnicity and culture in the development of eating disturbance and body dissatisfaction: A meta-analytic review. *Clinical Psychology Review*, 21(4), 521–551. [https://doi.org/10.1016/S0272-7358\(99\)00071-9](https://doi.org/10.1016/S0272-7358(99)00071-9)

- Wilksch, S. M., Paxton, S. J., Byrne, S. M., Austin, S. B., McLean, S. A., Thompson, K. M., Dorairaj, K., & Wade, T. D. (2015). Prevention Across the Spectrum: a randomized controlled trial of three programs to reduce risk factors for both eating disorders and obesity. *Psychological Medicine*, *45*(9), 1811–1823. <https://doi.org/10.1017/S003329171400289X>
- Wiseman, C. V., Gray, J. J., Mosimann, J. E., & Ahrens, A. H. (1992). Cultural expectations of thinness in women: An update. *International Journal of Eating Disorders*, *11*(1), 85–89. [https://doi.org/10.1002/1098-108X\(199201\)11:1<85::AID-EAT2260110112>3.0.CO;2-T](https://doi.org/10.1002/1098-108X(199201)11:1<85::AID-EAT2260110112>3.0.CO;2-T)
- Women’s Council of Ireland. (2015). *The Looking Glass Survey*. <https://www.nwci.ie/looking-glass/Through-the-Looking-Glass.pdf>
- Wood-Barcalow, N. L., Tylka, T. L., & Augustus-Horvath, C. L. (2010). “But I like my body”: Positive body image characteristics and a holistic model for young-adult women. *Body Image*, *7*(2), 106–116. <https://doi.org/10.1016/j.bodyim.2010.01.001>
- Worthington, R. L., & Whittaker, T. A. (2006). Scale development research: A content analysis and recommendations for best practices. *The Counseling Psychologist*, *34*(6), 806–838. <https://doi.org/10.1177/0011000006288127>
- Wright, K. B. (2005). Researching Internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication*, *10*(3), JCMC1034.
- Yager, Z., & O’Dea, J. A. (2014). Relationships between body image, nutritional supplement use, and attitudes towards doping in sport among adolescent boys: implications for prevention programs. *Journal of the International Society of Sports Nutrition*, *11*(1), 13. <https://doi.org/10.1186/1550-2783-11-13>
- Yager, Z., Diedrichs, P. C., & Drummond, M. (2013). Understanding the role of gender in body image research settings: Participant gender preferences for researchers and co-participants in interviews, focus groups and interventions. *Body Image*, *10*(4), 574–582. <https://doi.org/10.1016/j.bodyim.2013.06.004>
- Yager, Z., Diedrichs, P. C., Ricciardelli, L. A., & Halliwell, E. (2013). What works in secondary schools? A systematic review of classroom-based body image programs. *Body Image*, *10*(3), 271–281. <https://doi.org/10.1016/j.bodyim.2013.04.001>
- Yager, Z., & O’Dea, J. A. (2008). Prevention programs for body image and eating disorders on University campuses: a review of large, controlled interventions. *Health Promotion International*, *23*(2), 173–189. <https://doi.org/10.1093/heapro/dan004>
- Yeager, D. (2017). Social and emotional learning programs for adolescents. *Social and Emotional*

*Learning*, 27(1), 73–94.

Yeager, D. S., Dahl, R. E., & Dweck, C. E. (2018). Why interventions to influence adolescent behavior often fail but could succeed. *Perspectives on Psychological Science*, 13(1), 101–122. <https://doi.org/10.1177/1745691617722620>

Zessin, U., Dickhäuser, O., & Garbade, S. (2015). The relationship between self-compassion and well-being: A meta-analysis. *Applied Psychology: Health and Well-Being*, 7(3), 340–364. <https://doi.org/10.1111/aphw.12051>