CARE: A COMMUNICATION AND RELATIONSHIP EDUCATION PRIMARY PREVENTION SOCIAL COGNITIVE MODEL AIMED AT DEVELOPING THE SELF-EFFICACY OF ADOLESCENTS TO VERBALLY RESPOND TO SEXUAL COERCION

A Thesis submitted to the

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for the degree of

Doctor in Philosophy

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Declaration

The work presented in this thesis is, except where otherwise stated, entirely that of the author and has not been submitted as an exercise for a degree at this or any other university.

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SUMMARY

This thesis describes the design, development, implementation and evaluation of CARE, a communication and relationship education, primary prevention social cognitive model aimed at developing the self-efficacy of adolescents to verbally respond to sexual coercion. CARE encompasses three components: a CARE pedagogy, a CARE training course and a CARE virtual world.

Using a quasi-experimental approach, the main objective of this study was to compare the effectiveness of role-play training in a VW to face-to-face training in a traditional classroom, on the perceptions of adolescents' towards their assertiveness skills and self-efficacy to respond verbally to sexual coercion.

To support the participants to acquire the skills to assertively respond to sexual coercion an integration of Kolb's learning model and Bandura's model of self-efficacy was employed.

Both quantitative and qualitative research methods were employed in this study, providing a triangulation method to collect the data. A total of 46 students participated in the study. Data was gathered through questionnaire measures pre-and post-intervention and through interviews and role-play assessments. The quantitative aspect of the research employed questionnaires to assess whether there was a change in assertiveness and self-efficacy. Qualitative methods were employed to explore the perceptions of the participants and the facilitator towards the social cognitive training model. To analysis the qualitative data, a thematic analysis approach was taken.

The salient findings of this study are as follows:

The results showed that the effects of the VW role-play training were comparable to those of role-play F2F training. The finding that the VW produced similar results is very promising. Most sexual coercion prevention programs require the use of several resources such as finance and personnel. Delivering instruction through a medium that achieves the same pedagogical goals has important implications for schools who may have limited resources available and need to allocate funds to other areas. In addition, this study confirms that the use of a VW can be an effective tool for role-playing by providing a rich visual context for the role-plays where students can practice skills in a safe environment.

Another key finding pertains to the unique characteristics of VWs, specifically *'presence'*, and how a sense of *presence* contributed to the perceptions of the participants towards the verbal

quality of their interactions while enacting the role-plays. Such information is likely to have important implications for initiatives to use VWs for assertive communication to prevent adolescent sexual coercion.

This study was significant in that it examined the important contemporary issue of adolescent sexual coercion. To the researcher's knowledge, no salient studies exist that have addressed this phenomenon through the medium of VWs. In sum, the contributions made by this study are:

- The design, development, implementation and evaluation of an assertiveness course appropriate for 14-15 year old to respond verbally to sexually coercion.

- The design, implementation and evaluation of a VW to teach assertiveness communication to 14-15 year olds to respond verbally to sexual coercion

- Insights into the teaching and learning implications arising from the study

- Complements existing knowledge and evidence base on educational research and practice

- Complements existing knowledge regarding the features of VWs that influences communication

- Provides signposts for future research in this area

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Dedication

This thesis is dedicated to my husband Brendan. He is the love of my life and my best friend. This work would never have been possible without his love and support. This thesis is also dedicated to my parents. I wish you were here to share this with you.

ABSTRACT

This study arises out of concerns, both nationally and internationally into the prevalence of adolescence sexual coercion. It has been reported that sexual coercion is a severe problem that affects young people worldwide, and is neither rare nor unique to any particular region of the world and is prevalent for both boys and girls. The evidence further shows that first time peer-on-peer sexual coercion is most likely to occur during adolescence. Being a victim of sexual coercion has been associated with a number of adverse physical, psychological and emotional consequences for adolescents.

Programs focus on reducing vulnerability to sexual coercion by training individuals how to protect themselves. Self-protection strategies include communication training aimed at improving the self-efficacy of participants to communicate assertively, have been found to have some success. Many assertiveness training programs use role-play activities as an instructional strategy for developing assertiveness skills in the F2F environment. However, it typically involves learning the skills in a classroom setting resulting in an unrealistic and disengaging experience.

VWs are particularly suitable for role-playing as realism can be created through incorporating near perfect replications of environments and thus, can provide unique learning opportunities such as accurate/real context and activities for deeper experiential and situated learning. A key aspect of VWs for facilitating role-play interaction and perceived verbal competence is the elicitation of '*presence*' or the psychological immersion of users in VWs.

This thesis is a quasi-experimental study that compared the effectiveness of role-play training in a VW to F2F role-play training in a traditional classroom on the perceptions of adolescents towards their assertiveness skills and self-efficacy to respond verbally to sexual coercion.

The results showed that the effects of the VW role-plays training were comparable to those of role-play F2F training. The main conclusion is that it is possible to deliver an effective assertive communication program in a VW and this method could be promising for other groups. This study also found that a sense of presence was related positively to the participants' perception of their assertive communication while enacting the role-play in the VW and adds to the evidence of the significance of presence to support the learning experience.

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CHAPTER 1: INTRODUCTION

1.1   Introduction

Adolescence (defined by the United Nations as individuals 10-19 years old) is a period of development marked by the establishment of close, intimate relationships with same and opposite-sex peers. Yet, more than 20% of all adolescents worldwide report having experienced either sexual, psychological or physical coercion from an intimate partner and under reporting remains a concern (Centers for Disease Control and Prevention, 2009). It has been suggested that an adolescent's lack of belief in their efficacy to assertively express wishes or to initiate discussions about safe sex are particularly likely to be coerced in their sexual relationships, thereby placing them at risk of negative outcomes of sexual behaviour such as HIV/ STIs and unintended pregnancies (Wolfe et al., 2009; Gottfredson et al., 2010).

The emergence of romantic relationships and sexual activity during early adolescence is a normative and significant developmental process and according to research, these relationships, especially those of high quality, have been theorised to play a significant role in the course of adolescent development, including the formation of personality, (Arnett, 2004) emotional and psychological well-being, (Dalton & Galambos, 2009) and success in relationships as adults (Collins & van Dulmen, 2006). Conversely, poor quality relationships that involve sexual coercion can contribute to numerous physical and mental problems such as depression, violence, substance use, risky sexual behaviour, eating disorders, poor academic participation and suicide (Connolly & McIsaac, 2011; Welsh et al., 2005; Williams et al., 2008; Basile et al., 2006; Holmes & Sher, 2013). Particularly disturbing is the tendency for adolescents who have experienced sexual coercion to acquire a pattern of continued victimisation. It has been reported that after an early incident of sexual coercion, adolescents' risk for subsequent incidents increased more than sevenfold (Young et al., 2012). Multiple or ongoing experiences of sexual coercion may have cumulative effects upon psychological adjustments and likely impact the health of future romantic relationships (Hedtke et al., 2008).

1.2 Prevalence of Adolescent Sexual Coercion

Sexual coercion is a severe problem that affects young people all over the world and poses a great threat to their sexual development and well-being (De Haas et al., 2012). For example, a study conducted in 27 European Union countries reported that the lifetime prevalence rates of female sexual coercion ranged from 9% to 83% and the rates of males sexual coercion ranged from 2% to 66% (Krahé et al., 2014). Evidence suggests that adolescents' sexual coercion exists in varying degrees in different countries. For instance, in the Netherlands 19% of women and 4% of men report having experienced sexual coercion before the age of 16 (Van Berlo & Hoing, 2006). A more recent study carried out with adolescents in England, Bulgaria, Cyprus, Italy and Norway revealed that sexual coercion ranged from 17% to 41% for young women and 9% to 25% for young men. Most young people reported pressure rather than physical force (Barter et al., 2015).

Research into adolescent sexual coercion in Ireland is quite limited. However, available Irish studies have highlighted how both males and females reported a general sense of social coercion by friends or peers to enter into sexual relationships before they were ready (Hyde, 2004; Layte et al., 2006; O'Keefe et al., 2006; Mayock et al., 2007. A study by Hyde et al.,(2008) reported that 31% of girls and 8.1% of boys reported they felt under pressure to engage in sexual activity.

A further study of Irish adolescents reported that 20% of respondents had lost their virginity before the age of 16. Worryingly, one in five female teens said they felt pressurised to lose their virginity and 15% of males experienced the same pressure (UNICEF, 2011).

A more recent study of 2,590 Irish third-level students' experiences of sexual coercion provided further insights into the prevalence of sexual coercion in Irish society. In this study, 11% of women reported they had been subject to unwanted sexual contact, 5% reported they were the victims of rape and 3% were victims of attempted rape. 1% of men reported either rape or attempted rape. The study also reported some worrying conclusions, "In every category Irish students were less likely to report the offences compared to a similar report conducted on College students in the UK, suggesting the need for improved strategies to address these issues"(Union of Students in Ireland, 2013, p. 48).

One of the most disquieting aspects of the research in relation to sexual coercion is that adolescents are unlikely to seek help or delay seeking help (Forde, 2010). For example, a study in the UK by Barter (2009) found that the majority of participants did not speak to parents or other adults about their experiences with dating violence, highlighting the process

of the "normalisation of violence and the acceptance of such behaviours by young people as a normative aspect of all intimate relationships" (Barter, 2009, p.52).

There is also evidence that sexual coercion starts early in many relationships. A report by the European Union Fundamental Rights Agency (2014) found that 6% of women in Ireland have experienced sexual coercion or violence by a current or former partner since age 15.6% and 31% have experienced psychological violence. Given the fact that Rape Crisis Network Ireland (2014) reported that 37% of all the teenagers using Rape Crisis services were abused by their peers, this is of particular concern. Such data underscores the need for effective interventions, particularly as first time sexual coercion is most likely to occur during early adolescence as compared to childhood and young adulthood and consequently greater attention is needed to prevent sexual coercion from happening in the first place (Bramsen et al., 2012; Lundgren & Amin, 2015).

Due to the severity of this problem and the impact it has on young people and their lives, many programs focus on reducing vulnerability to sexual coercion by training young people in ways they can protect themselves. Self-protection strategies that include communication components aimed at improving the ability of participants to communicate assertively with a partner have been found to have some success (Simpson Rowe et al., 2012).This makes sense given that the ability to resist and refuse unwanted sexual behaviour and activity may diffuse a potentially unsafe situation.

1.3   Self-Efficacy as a Protective Strategy

Self-efficacy is a concept that is often targeted for interventions with adolescents to resist pressure to engage in unwanted sexual experiences (Buhi & Goodson, 2007). Self-efficacy is a major part of the larger theoretical framework of Social Cognitive Theory. According to this theory, actions are formed in thought and the presence or absence of perceived self-efficacy can influence how an individual thinks, feels and behaves in particular situations (Bandura, 1997). If an individual feels confident they have control over a situation, this will be reflected in the amount of effort and persistence in the face of difficulties. With regard to unwanted sexual activity, evidence suggests that adolescent with high levels of self-efficacy to refuse unwanted sexual activity also tend to have higher levels of self-efficacy to use condoms on a consistent basis and other methods of contraception to protect themselves when sexually active (Alvy et al., 2011; Teng & Mak, 2011; Santelli et al., 2004; DiLorio et al., 2004; Faryna & Morales, 2000; Wright et al., 2012). Decreased self-efficacy to communicate about unwanted sexual activity has been associated with higher levels of risky

sexual behaviour and a lack of confidence to negotiate for safe sex (Hovsepian et al., 2010).The incentive to take action to protect oneself in a risky sexual situation is diminished if an adolescent does not believe they have the capability to perform and engage in a health related action (Bandura, 1994; Buhi & Goodson, 2007). If adolescents do not feel capable of performing protective behaviours due to low self-efficacy, then they may not use the skills they have learned. *"This trap of faulty self-judgement can be overcome by acquiring self-knowledge through self-efficacy"*(Bandura, 1986, p.398).

1.4   The Role of Assertiveness as a Mediating Process in Reducing Sexual Coercion

Studies that have explored the relationship between assertiveness and sexual risk taking have shown that people with lower levels of assertiveness are at higher risk of sexual coercion than those with higher levels of assertion (Krahé et al., 2014; Walker & Messman-Moore, 2011; Young et al., 2012; Schry & White, 2013). Assertiveness in potentially risky sexual situations means "recognising the warning signs of inappropriate sexual advances and having the sense of empowerment and the skills to say no" (East & Adams, 2002, p.3). Individuals who are low in assertiveness find it difficult to refuse unwanted sexual advances or negotiate for protective sexual health behaviours such as condom/contraceptive use (Livingston et al., 2007). Researchers have put forward a number of hypotheses as to why adolescents may not be assertive in refusing unwanted sexual activities. It has been suggested that some adolescents, particularly girls, perceive they do not have the right to refuse or insist on the use of sexual protection when with a partner (Auslander et al., 2012). Another study found that psychological barriers such as the fear that the relationship may end if an individual insists upon asking someone to change their behaviour could result in difficulty in being assertive (Schry & White, 2013). This is particularly true for adolescents who are inexperienced at maintaining and developing intimate relationships (Collins et al., 2009). Thus, interventions should include strategies to address these perceptions (Rickert et al., 2002).

Interventions targeted at reducing adolescent sexual coercion generally build skills and verbal assertive strategies for dealing with unwanted sexual situations (Schmid et al., 2015). This can include, for example, expressing positive and negative feelings, refusing unreasonable requests and standing up for personal rights. Assertiveness training also includes teaching young people appropriate behaviour responses characterised by verbal and non-verbal components of behaviour. The assertive individual should be able to clearly state

what he or she wants and emphasise the message with good posture, eye contact , speech pacing, volume and tone of voice (Vagos & Pereira, 2010). Assertiveness training often requires individuals to practice social interaction through enactive role-plays as research has highlighted the benefits of this interactive learning by doing method of teaching in helping individuals to acquire assertive communication skills in comparison to more didactic methods of teaching (Mercer Kollar et al., 2016).

Role-play training is an approach to learning that has a long history as a technique for communication skills training. The distinguishing feature of role-play is that it supports a more participative, learner-centre approach which: "Places emphasis on direct engagement, rich learning and the construction of meaning by learners" (Andresen, 2005, p.225). Learning through role-play provides students with opportunities to practice verbal responses and thus increase an individual's self-efficacy to use the skills in realistic situations. However, despite the advantages of teaching through role-play, this type of training has some limitations. Often role-play involves an individual learning the skills in a classroom setting resulting in an unrealistic and disengaging experience (Sogunro, 2004). Students find the scrutiny of the rest of the group confronting, and performing in front of their peers frightening and embarrassing (Arnold & Koczwara, 2006). Consequently, behavioural inhibition can impact on the content, style and quality of verbal interactions between individuals practicing role-plays (Hamilton et al., 2014). In addition, schools may be poorly equipped with the resources, staff training, facilities and motivation to teach sexual assertiveness skills through role-play. Furthermore, it is also difficult to simulate the real world in a classroom and consequently students often fail to make the connection between what they learn in school and their lives outside the classroom.

1.5   Three Dimensional Virtual Worlds for Learning through Role-Play

The role that three dimensional (3D) VWs can play in supporting role-play learning is widely recognised (Cho et al., 2015; Gregory & Masters, 2012; Gao et al., 2008; Jamaludin et al., 2009). A VW is particularly suitable for role-playing as realism can be created through incorporating near perfect replications of environments limited only by the creator's imagination and time. Studies on the use of and implementation of 3D VWs in providing support to learners in many varied fields agree they can provide unique learning opportunities such as accurate/real context and activities for deeper experiential and situated learning, simulation, modelling of complex scenarios that may not be experienced by using other learning modalities (Dede, 2009).The benefits of using a VW to learn complex skills,

means that students are able to role-play realistic exercise of those skills, as opposed to engaging in drill and practice regimens in which small pieces of the target skills are learned out of context (Walker, 2009). Moreover, it is suggested that VWs encourages role-playing as it reduces the apprehension and embarrassment that often accompanies this method in F2F classroom environments (Schwienhorst, 2002).

Role-playing in a VW hold tremendous potential for education, allowing students to adopt roles and carry out tasks that may be difficult for them in the real world and have the opportunity to make mistakes without real world repercussions (Gregory & Masters, 2012). A key aspect of VWs for facilitating role-play interaction and perceived verbal competence is the elicitation of '*presence*' or the psychological immersion of users in virtual learning environments (Persky et al., 2009). While there is no definitive definition of *presence* in the literature a sense of '*presence*' has been conceptualized in several forms, of which three, presence as transportation, presence as realism and presence as immersion may play an important part in the facilitation of learning (Lombard & Jones, 2015; Bartle, 2003) .

Presence as transportation refers to *"*the subjective experience of being in one place or environment, even when one is physically situated in another" (Witmer & Singer, 1998, p.225). The feeling of *presence* depends on the ability of the user to focus on what is happening in the VW instead of the real world (Witmer & Singer, 1998).

Presence as realism has been described as the sensation that one is in a '*real place*' (Slater, 2009). The degree of how real the virtual environment is perceived to be, influences how users respond realistically to situations and events in the VW (Slater, 2009).

Presence as immersion has been likened to a "a deep involvement that transcends distractions or sense of time" (Bartle, 2003, p.45). The effect of being immersed influences the level of user engagement and motivation to engage in the learning activities (Mount et al., 2009).

A number of researchers have asserted there is a positive correlation between presence and verbal communication on the performance of role-play in a VW, along with increased motivation and collaboration (Chen et al., 2011; Jamaludin et al., 2009). For example, a number of researchers have reported how *presence* influences the number of verbal interactions in role-plays conducted in VWs compared to F2F environments (Gao et al., 2008) the effect of *presence* on perceived achievement in virtual role-play performance (Cho et al., 2015) and the effect of *presence* on the volume of dialogue while role-playing in a VW (Robertson & Good, 2003). However, understanding the implications of presence on

the quality of verbal interactions such as voice projection, tone and pacing is an important question that has received very little empirical attention (Bailenson et al., 2006; Tapsis & Tsolakidis, 2015). Such information is likely to have important implications for initiatives to use VWs for assertive communication training to prevent adolescent sexual coercion and merits further experimentation and study. In addition, it has been contended that VWs have the capability to "facilitate role-play activities that are equally effective as role-play activities in the real world" (Inman et al., 2010, p.53). One of the goals of this present study is to test this contention.

1.6   Purpose of the Study

This research presents a quasi-experimental study to compare the effectiveness of role-play training in a VW to F2F training in a traditional classroom, on the perceptions of adolescents towards their assertiveness skills and self-efficacy to respond verbally to sexual coercion.

1.7   Research Question 1

Is there a difference in assertiveness scores between students who undertook training in a VW and students who undertook F2F training?

Hypothesis 1:

There will be a statistically significant difference between the participants' perceived 'assertiveness' scores between the experimental and control group.

Null Hypothesis 1:

There will be no statistically significant difference in participants' perceived 'assertiveness' scores between the experimental and control group.

1.7.1   Research Question 2

Is there a difference in self-efficacy scores between students who undertook training in a VW and students who undertook F2F training?

Hypothesis 2:

There will be a statistically significant difference in participants' perceived self-efficacy scores between the experimental group and the control group between pre-and post-test.

Null Hypothesis 2:

There will be no significant difference in participants' perceived self-efficacy scores for the experimental and control group between pre- and post-test.

1.7.2   Research Question 3

Is there a difference in assertiveness role-play scores between students who undertook training in a VW and students who undertook F2F training?

Hypothesis 3:

There will be a statistically significant difference in role-play assertiveness scores between the experimental and control group post-test.

Null Hypothesis 3:

There will be no statistically significant difference in role-play assertiveness scores between the experimental and control group post-test.

1.7.3   Research Question 4

To what extent does a sense of presence while in the VW contribute to the participants' perceptions of the assertive quality of their verbal interactions (volume, and projection, tone, response latency, inflection, pacing) while performing the role-plays?

In order to further understand the overall experience of all those involved in the study, the following subset of questions were explored as part of the current research:

- What are the perceptions of the participants in the experimental group, in relation to program content and effectiveness?

- What are the perceptions of the participants in the control group, in relation to program content and effectiveness?

- What are the perceptions of the F2F facilitator in relation to program content and effectiveness?

1.8   Contribution of the Study

- The thesis contributions are:

  - The design, development, implementation and evaluation of CARE a communication and relationship education, primary prevention social cognitive model aimed at developing the self-efficacy of adolescents to verbally respond to sexual coercion

  - The evaluation of CARE

- The design, development, implementation and evaluation of a CARE VW a communication and relationship education primary prevention social cognitive model aimed at developing the self-efficacy of adolescents to verbally respond to sexual coercion

- The evaluation of the CARE VW

- The design and development of a questionnaire to assess the participants' perception of their assertiveness in negative sexual situations

- The design and development of a questionnaire to assess the participants' perception of their self-efficacy in negative sexual situations

- Insights into the teaching and learning implications arising from the study

1.9   The Researcher's Personal Interest in this Area

The area of adolescent sexual health has always been a great interest of mine, especially in regard to removing any barriers to meeting the particular needs and issues that young people face, given the real risks associated with this period in their lives. As adolescents transition to adulthood, they encounter a range of rapidly expanding social spheres outside of the family and educational institutions. These include trying to find their way in a world where they are exposed to a new form of sexuality that has become popular with young people, such as the hook-up culture, casual sexual encounters, one-night stands and 'friends with benefits'.

I firmly believe that young people should be provided with honest, accurate, non-judgmental information about a range of topics related to their sexual health, including the pressure and expectations to engage in early sexual activity, knowledge about STIs, the influence of pornography and methods of contraception. My interest and knowledge in this area has been cultivated by experience as a teacher of sex education. Working in education, I realised that in addition to appropriate knowledge, it is clear that many young people need guidance and support and skill building opportunities to make healthy choices and to deal with peer pressure to engage in early sexual activity and other activities that may derail their development and health. It was my interest in equipping adolescents with such skills sparked my interest in conducting the current study.

1.9.1   Thesis Structure

The remainder of this thesis is divided into seven chapters:

Chapter Two presents a review of the literature relevant to this research and outlines the current issues and debates surrounding adolescent sexual coercion. The review begins by providing an overview of sexuality education, its aims and purposes in relation to sexual coercion prevention. It then proceeds to discuss and analyse the prominent theoretical approaches underpinning teaching and learning in the field of sexual coercion prevention and how these theories influence the types of interventions that are currently being employed. The review describes a wide range of interventions currently used to prevent adolescent sexual coercion, with specific focus on assertiveness skills training programs. The review then considers how technology has been used in this area and explores how VWs may provide an alternative approach for training in assertiveness skills.

Chapter Three presents and describes the design of CARE. It begins by presenting the theoretical framework that supports the design of CARE. It then describes the two phases of the process: 1) the design and training content of CARE; and 2). the design of the CARE VW.

Chapter Four focuses on the methodology of the research. It looks at general issues related to the traditional paradigms currently used in educational research and outlines the reasons for the adoption of a pragmatic methodology for this inquiry. It describes the research design and explores issues of validity and reliability in quasi-experimental research. The chapter then proceeds to describe the measures used and outlines the data collection procedures applied in this study.

Chapter Five presents the implementation of the pilot study. It begins by describing the context and background, the results and an account of the design and administrative decisions that were taken for the main study.

Chapter Six presents the implementation of the main study. The chapter describes the context and participants and proceeds by discussing the content and delivery of the assertiveness course to the experimental and control groups.

Chapter Seven presents the results of the data analysis and summarises the outcomes of the research in relation to the research questions and hypotheses. This is followed by a thematic analysis of the qualitative data gathered.

Chapter Eight discusses the findings of the study and relates this to relevant issues considered within the literature. The chapter concludes with a summary of the main findings, outlines the limitations of this study, provides recommendations for future work and presents the unique contribution offered by this research.

CHAPTER 2: LITERATURE REVIEW

2.1   Introduction

In this chapter, the research literature relevant to the purposes of this study is presented. The chapter is structured in six sections.

Section 2.2 provides an overview of sexual health education and its links to sexual coercion prevention efforts. The purpose is to provide the reader with an understanding of the context within which the study was conducted. This section also reviews the prevalence and impact of adolescent sexual coercion.

Section 2.3 reviews the characteristics of effective prevention programs and discusses various approaches to prevention, such as awareness campaigns, whole school approaches, skills training and behaviour modelling. This is followed by an overview of the theoretical frameworks such as Social Cognitive Theory, associated with adolescent sexual coercion prevention interventions.

Section 2.4 provides an account of research evidence in relation to the benefits of assertiveness training to prevent sexual coercion. The section proceeds by reviewing the literature on school-based sexual coercion interventions, specifically approaches dealing with assertiveness and highlights the main effects and outcomes. Whilst the focus is mainly on school-based universal programs, many of the interventions involve after-school programs or community programs with high-risk groups that may be applicable to universal implementation. This information will then offer crucial insights into which types of programs or type of strategies that may be of benefit to adolescents and contribute to an understanding of the effects and outcomes that may be achieved.

Section 2.5 presents an overview of how technology has been utilized in the area of sexual coercion prevention. This is followed by a review of studies that have employed computer technology in schools and adolescent community centres to address adolescent sexual coercion.

Section 2.6 provides a brief outline of VWs, what they are and how they are currently being used in education and the benefits and issues associated with teaching and learning in VWS. This is followed by a review of studies that have employed this technology medium for assertiveness training, with particular focus on interventions to reduce sexual coercion.

2.2 School Sexuality Education and the Prevention of Sexual Coercion

Sexuality education in schools has traditionally focused on the reproductive aspects of sexuality and awareness-raising of risk behaviours that can impact negatively on the lives of adolescents (Gloppen et al., 2010). The emphasis on the health aspects of sexuality education is clear. Both national and International research reports that adolescents and young people have been shown to be particularly vulnerable to sexual ill-health. For example, research from the U.S. reports that rates of sexually transmitted infections (STIs) in particular chlamydia, gonorrhoea, and syphilis have increased in recent years, with the largest increases being among people below the age of 25 years (Centers for Disease Control and Prevention, 2015).

Reports on the sexual health of adolescents in Ireland confirm that Ireland is no exception. Young people in Ireland aged 15-24 years account for 39% of chlamydia, gonorrhoea and genital herpes (Health Service Executive, 2014). Complications from infection with STIs can lead to acute symptoms, chronic infection and delayed consequences such as infertility, ectopic pregnancy, cervical cancer and the untimely death of infants and adults. This data highlights the importance of investing in the sexual health and well-being of adolescents.

2.2.1 Broadening the Scope of Sexuality Education

However, there is a growing body of support for broadening the scope of sexuality education in both content and reach to include issues such as the risk of sexual coercion and abuse, in order to recognise these when they occur and enable young people to protect themselves as far as possible (Gordon, 2009). There have been calls for the "integration of sexuality education and sexual coercion prevention and increased collaboration across sectors to provide education that goes beyond biology, safe sex and ideologically-based approaches such as abstinence"(Carmody, 2009, p.11).

There is a strong rationale for addressing sexual coercion and harassment within sexuality education. Sexuality education includes a focus on interpersonal relationships and adolescence is a crucial period in terms of young people's formation of respectful, non-violent relationships later in life (Flood et al., 2009). Thus, intervening early while attitudes are developing and acquiring the skills for handling potentially coercive situations may be the best outcomes for the young people concerned.

Equally, there is a strong rationale for locating respectful, consensual and safe relationships in schools (Flood et al., 2009). Schools have an important role to play as it is

the one social institution outside the family that most children have consistent, ongoing contact (Weaver et al., 2005). Moreover, many young people have their first sexual coercion experience while they are still attending school, making the setting even more important as an opportunity to provide education on this issue (Bramsen et al., 2012; Lundgren & Amin, 2015).

2.2.2 Sexuality Education and the Prevention of Sexual Coercion

According to UNESCO (2009) a school- based sexuality education programme should include the following objectives:

- Increase knowledge and understanding (such as about sex and the law, the nature of sexual abuse and what to do about it)

- Explore and clarify feeling, values and attitudes

- Develop or reinforce skills (saying "no", resisting pressure)

- Promote and sustain risk-reducing behaviour

Similarly, the United Nations (2012) highlights the importance of promoting safe and healthy relationships among adolescents by empowering young people with the skills to deal with peer pressure and how to assert themselves in such matters so that they are not easily coerced into engaging in any inappropriate or unwanted sexual activity.

The importance of providing adolescents with good quality preventive educational programs is underscored in the Council of Europe Convention for the Protection of Children against Sexual Exploitation and Sexual Abuse (Council of Europe Treaty Serious No.201, 2007) which states in Article 6, "each Party shall take the necessary legislative or other measures to ensure that children, during primary and secondary education, receive information on the risks of sexual exploitation and sexual abuse, as well as on the means to protect themselves, adapted to their evolving capacity."

However, while the above recommendations are articulated in these documents, research shows that few sexuality education programs address the issues of abuse or coercion (Haberland & Rogow, 2015).

The provision of the Relationship and Sexuality Education (RSE) program in Irish schools is implemented through the Social, Personal and Health Education (SPHE) curriculum and is acknowledged as a key intervention to support positive relationships in young people and to reduce pregnancy rates (Mayock et al., 2007). The Irish curriculum is

not a prescriptive document. Rather, it is a framework that provides guidance according to the individual schools' ethos. However, within this framework there are clear statements regarding the key elements of importance to adolescent development (Appendix I). According to the (Department of Education, 1995) the aims for Junior Cycle SPHE are:

- To help young people develop healthy friendships and relationships

- To promote self-esteem and self-confidence

- To promote a healthy attitude to sexuality and to relationships

- To enable the students to develop a framework for responsible decision making

- To promote physical, mental and emotional health and well being

The curriculum comprises ten modules, each of which may be addressed in each year of the three year cycle and the material is introduced at a general level of understanding for younger age groups. These modules are:

- Belonging and Integrating

- Self-Management

- Communication skills

- Physical health

- Friendship

- Relationships and Sexuality

- Emotional Health

- Influences and Decisions

- Substance Use

- Personal Safety (recognising unsafe situations, covers the issue of violence and sources of help)

Irish schools are also required to provide an RSE program in Senior Cycle (15-18 years) which includes:

- Dealing with Sexual Harassment

- Dealing with Sexual Assault

- Dealing with Sexual Abuse

However, whilst the RSE curriculum aims to provide a range of skills towards teaching young people about respectful and equal relationships, the extent to which the curriculum materials address either domestic or sexual violence, has been called into question. A report of Irish schools found that 69% believe that the SPHE/RSE curriculum did not adequately address either domestic violence (89%) or sexual violence (69%) at Junior Cycle (12-15 years) level (The National Office for the Prevention of Domestic Sexual and Gender-Based Violence, 2012). With regard to Senior Cycle, the report also found that most schools did not consider the SPHE/RSE curriculum to be effective for this purpose.

It is notable that some schools (10%) have used external agencies to raise awareness of domestic and sexual violence among junior cycle students and 33% of schools report they have used outside facilitators to raise awareness of sexual violence among Senior Cycle students (The National Office for the Prevention of Domestic Sexual and Gender-Based Violence, 2012). Thus, such interventions tend to be delivered on a once-off basis rather than being integrated into the curriculum.

In addition, the recent European Court of Human Rights directive that Irish schools are liable for the sexual abuse of students while in their care highlights the need for the kinds of information, awareness and skills young people require to avoid sexually coercive behaviour (European Court of Human Rights, 2014).

2.2.3 Sexual Coercion

There is no clear and universally recognised definition of sexual coercion and how it manifests itself, and this has created problems in providing an operational definition (Beres, 2007; Fredland et al., 2005). For instance, researchers employ various terms such as sexual abuse, dating violence, courtship battering, intimate violence and sexual aggression and often use the terms interchangeably, each of which may connote something different (Pacifici et al., 2001). For example, intimate partner violence (IPV) typically includes four types of behaviour: physical violence, sexual violence, threats of violence and emotional abuse (Breiding et al., 2015). On the other hand, sexual coercion lies on the continuum of sexually aggressive behaviour and can cover a whole range of behaviours from subtle emotional language to the use of overt physical force (McCoy & Oelshlager, 2015). Nevertheless, many scholars working in this area agree on the definition put forward by the World Health Organization which defines sexual coercion as "any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic a person's sexuality, using

coercion, threats of harm or physical force, by any person regardless of relationships to the victim, in any setting, including but not limited to home and work"(World Health Organization, 2002, p.149).

This definition has been accepted by many as it is not specific to any gender and covers a broad range from physical acts of sexual violence to verbal and non-verbal pressure and emotionally coercive behaviours.

2.2.4 Adolescent Sexual Coercion

A considerable body of research has been conducted on the prevalence of adolescent sexual coercion and it is clear that it is neither rare nor unique to any particular region of the world and is prevalent for both boys and girls, (Barter, 2009; Foshee et al., 2013; O'Leary et al., 2008; Ball & Rosenbluth, 2008; Munoz-Rivas et al., 2009; Connolly et al., 2010).

However, there is a wide range of estimates regarding its prevalence as some studies measure serious forms of violence such as physical or forced sex and others measure personal insults such as being shouted at (Young et al., 2009). For example, some authors included verbal sexual violence, such as using sexual swear words or making sexual gestures in their definitions of sexual victimisation (De Bruijn et al., 2006) while others included pushing, grabbing or kicking in the private parts (Taylor et al., 2013). However, it has been pointed out that while some of the abuse such as insults are commonplace, neither should they be viewed as harmless as these behaviours can become abusive (Taylor & Mumford, 2014). In addition, "Even were less severe incidents of sexual coercion are experienced, even with playful intentions, it can be harmful to the victim's psychological well-being" (Jouriles et al., 2009, p.68). Furthermore, sexual victimisation can occur at any age and can be perpetrated by parents, family members, teachers, peers, acquaintances and strangers, as well as intimate partners (Lundgren & Amin, 2015).

Evidence further shows that first time peer-on-peer sexual victimisation is most likely to occur during adolescence, in contrast to any other age group (Bramsen et al., 2012; Young et al., 2009). For instance, some researchers have employed predictive longitudinal designs and found that adolescents who have experienced sexual coercion/violence in the past are more likely to be perpetrators or victims of violence as adolescents and adults (Chiodo et al., 2012; Schubert, 2015).

It has also been suggested that the true prevalence of adolescent sexual coercion may be even higher as it is likely that youths' self-reports of their coercive behaviour underestimate its actual occurrence (Sears et al., 2007). Gender-bias may also be reflected in

the reporting. For example, some scholars suggest that the literature for sexual victimisation is overwhelmingly based on samples of females, and similar research on adolescent boys is limited, and the fact that boys and men also experience sexual victimisation has been largely unacknowledged (Lehrer et al., 2013; Platt & Busby, 2009). It has been reported that adolescent girls engage in aggressive behaviours toward dating partners at rates that are comparable to, or exceed, those for boys when considering verbal, emotional, relational, physical and sexual aggression (Chase et al., 2002). Furthermore, "males may be reluctant to divulge experiences of sexual coercion as they face a variety of responses, including disbelief or incredulity that sexual coercion of males is possible"(Platt & Busby, 2009, p.218).

Nevertheless, there are significant gender differences in how men and women experience sexual violence (Rape Crisis Network Ireland, 2010). For example, male sexual violence against women is often accompanied by physical violence and some forms of sexual violence such as gang rape are predominantly committed by young men (World Health Organisation, 2002). When sexual violence is examined, males report more perpetration of sexual violence and females report higher rates of victimisation.

Another significant concern with regard to prevalence rates is that when compared to heterosexual adolescents, lesbian, gay, and bisexual youth are at increased risk for all types of violence victimization (Dank et al., 2014). Men who have experienced coercion from other males often fail to report, disclose or talk openly about their experiences (Braun et al., 2009). Interestingly, the authors found that male gay youth were more likely than heterosexual males to express dominant power, while this did not apply to lesbians. The authors concluded that boys may demonstrate hyper masculinity as a survival tactic against rejection by their peers, particularly if they are questioning their own sexual orientation (Braun et al., 2009).

2.2.5   Impact of Sexual Coercion

Being a victim of sexual coercion has been associated with a number of adverse physical, psychological and emotional consequences for adolescents. Physical consequences include teenage pregnancy and sexually transmitted diseases (STDs) (Campbell, 2002). Psychological consequences include depression, suicidal thoughts and behaviours and post-traumatic stress disorder (Wolitzky-Taylor et al., 2008; Vezina & Hebert, 2007). Other consequences of sexual coercion can include, dropping out of school (Chiodo et al., 2012) and substance misuse (Tyler & Melander, 2012). Being a victim of sexual coercion is also

associated with eating disorders and sexual risk behaviours (Munoz-Rivas et al., 2010). The impact of sexual coercion is understood to be widespread and often long-term.

Therefore, in view of the extent of the problem worldwide and the risks it poses to the health and wellbeing of young people, it is essential to develop the most effective prevention programs and strategies (De La Rue et al., 2014).

2.2.6 Approaches to Prevention of Adolescent Sexual Coercion

There are three main approaches taken to develop effective education and prevention programs (Whitaker et al., 2013; Giordano et al., 2010; Gladden et al., 2008). The first, feminist theory is a perspective that dominates the prevention literature, particularly in North America. Feminists would argue that sexual coercion/violence is a consequence of negative thinking in the context of a rape culture that encourages male sexual aggression and supports violence against women and therefore interventions should focus on these issues (Dutton & Nicholls, 2005). The second approach is evolutionary theory, which asserts that sexually coercive behaviour evolved from difficulties for the reproductive success of males due to a female's ability to choose (Thornhill & Palmer, 2001). The third perspective, Social Cognitive Theory, focuses on protective factors and promoting positive relationship skills to enable young people to deal with sexual coercion (Zurbriggen, 2009). Arguments can be made for the three approaches.

Feminist Theory

Over the past number of decades, the United Nations Fourth World Conference on Women 1995, and successive conferences like the 1996 International Conference on Violence, Abuse and Women's Citizenship, Brighton, have raised awareness of the unacceptability of all kinds of gender-based abuse and discrimination. Feminist scholarship and activism have resulted in the inclusion of the gendered nature of violence as an integral factor embedded in the world of power and oppression (Allen & Jaramillo-Sierra, 2015). The belief is that gender-based violence evolves from females' subordinate social status and the beliefs, norms and social institutions that support a patriarchal system (Hamieh & Usta, 2011). Feminists have demanded public solutions and commitment to end gender inequalities and gender-based violence and the legal systems that protects them.

According to the feminist perspective, sexually coercive behaviour should not be understood as a sexual act fuelled by sexual desire, but rather, a violent criminal act that functions as a form of social control by which men maintain and enhance status hierarchy (Gavey, 2013). For some feminists, "the woman's role in the family, her utilization as a sex

object and male violence are all accommodated by a patriarchal system in which men as a group seek to dominate women" (Walby, 1990, p.19). Sexual coercion is the primary mechanism through which men perpetuate their dominance over women by creating a climate of fear by which all women are kept in their place and that all men benefit from (Brownmiller, 2013).

For feminists, violence is reproduced and sustained in patriarchal family systems whereby societal expectations are that males should be active and aggressive and be the authority figures and decision makers and females should be passive and compliant (Hamieh & Usta, 2011). This gender socialisation contributes to ideas and norms through which young men and women come to identify themselves as sexual beings (Tolman et al., 2003). The endorsement of traditional gender-role beliefs have a particularly, negative effect on the well-being of young women who are required to maintain the role of passive sexual gatekeeper in their prescribed responsibility as passive recipients of sexual interest and desire (Curtin et al., 2011).

However, feminist thinking is by no means homogenous and there is more than one feminist perspective on sexual coercion. For example, it has been argued that by focusing on the existence of a rape culture and viewing all men as rapists, it is harder to stop sexual coercion because it removes the focus from the individual who is at fault (McElroy, 2016). The treatment of sexual coercion needs to expand from the assumption of feminist orthodoxy that views sexual coercion as an expression of culture and towards holding the individuals involved, accountable for their actions (McElroy, 2016). Other feminists advocate for an alternative way of conceptualizing sexual coercion to take into account the sexual victimisation of both men and women (Turchik et al., 2016). For example, it has been argued that a "gender-specific conceptualization of sexual violence, aids in obscuring the assault experiences that are not male to female" (Turchik et al., 2016, p.133). In addition, some researchers have suggested that focusing predominantly on the notion of male to female victimisation discourages research on the higher prevalence rates of sexual of assault on gay, lesbian or bisexual individuals (Rothman et al., 2011).

However, feminist orientated interventions recognise that as men are the primary perpetrators of sexual violence, prevention efforts should target attitudes, believes and rape myths and work on changing perceptions of traditional gender roles as the key to preventing sexual coercion. It must be acknowledged the intent behind such programs is laudable and ensures that females' experiences of sexual coercion are placed on the public agenda and

thus contribute to public policy and interventions. However, evidence of the effectiveness of such interventions are scarce as few have been rigorously evaluated (Fulu et al., 2014). In addition, "the assumption of linear progression from attitude change to behaviour change is not fully convincing and there is an over-reliance on the use of attitude measures as proxies for behaviour" (Fulu et al., 2014, p.31). In line with this argument, it is reported that attitudes account for a relatively small proportion of the variance in behaviour, and attitude change may not be enough to impact sexual coercive behaviours (2013). Therefore, a skills-based intervention may be a more suitable approach for adolescents.

It is also the case that patterns of adolescent sexual relationships differ from adults in two main areas. One of the major differences between adolescent and adult relationships is that male and female adolescent have relatively equal power in relationships and there is generally an absence of unequal power dynamics associated with greater male power in adult relationships (Mulford & Giordano, 2008). For example, in contrast to many adults, adolescent girls are not generally financially dependent on romantic partners for financial security (a situation that has the potential for a power imbalance in adult relationships). A second key factor that distinguishes adolescent and adult relationships is the lack of real-life experience teens and interpersonal skills need to respond to potentially negative situations (Pedlow & Carey, 2004). In addition, cognitive immaturity may reduce the adolescent's ability to reason, consider probabilities and envision multiple behaviour alternatives. Therefore, "Adolescents, particularly younger teens may require extensive instruction in order to protect themselves" (Pedlow and Carey, 2004, p. 175).

Evolutionary Theory

Evolutionary theories of sexual coercion considers the possibility that current psychological attributes are formed over evolutionary time, because they provided solutions to environmental problems faced by our ancestors (Thornhill & Palmer, 2001). Sexual coercion tactics are believed to be one such set of evolved mechanisms (Turchik et al., 2016). The central claim of this theory is that sexually coercive behaviour is due to sexual motivation rather than males' need for power over women. Evolutionary theory provides three possible alternative explanations for sexually coercive behaviour. These are Life History theory (LH), Competitively Disadvantaged Male theory (CDM) and Sexual Coercion as a By-Product theory (SCB) (Gladden et al., 2008).

LH theory suggests that victimising behavior has evolved as an adaptive strategy by males when competing for access to a limited number of resources, whether they are money,

sex or power. Thus, LH proposes, that due to limited time and energy, individuals divided their energy in terms of costs and benefits. Example trade-offs include resources for continued survival versus resources devoted to producing offspring, parental effort versus mating effort and quality versus quantity of offspring (Glenn et al., 2011). LH posits that behaviour is predicated on whether an individual has a high LH strategy or a low LH strategy. For instance, individuals with slow LH strategies have a tendency to have secure attachments, supportive family and friends and a "psychological disposition for long-term planning and long-term mating"(Glenn et al., 2011, p.373). In contrast, individuals with faster LH strategies are associated with personality traits such as a preference for casual sex as opposed to emotional bonding, with having many sexual partners and general aggressiveness (Figueredo et al., 2006). According to LH theory, there is evidence to suggest that sexually coercive behaviour may be related to other forms of anti-social behaviours in individual men, including a predisposition towards a lack of conventional morality and respect for authority (Glenn et al., 2011).

CDM theory posits there exists an evolutionary history of sexual coercion to facilitate the need for genetic propagation (Figueredo et al., 2006). In ancestral environments, physically strong, men with access to resources would have had a competitive advantage over other men who were unable to find mates due to their perceived lower status (Ward & Siegert, 2002). Thus, according to CDM, men who rely on sexually coercive behaviour to obtain sex may perceive themselves to be physically unattractive to women, have low socioeconomic status and poor competency skills in social or sexual situations (Figueredo et al., 2006). If disadvantaged men are unable to find women to mate with them, rape may not be regarded in a negative light (Lalumiere et al., 2005)

SCB theory asserts that sexually coercive behaviours evolved as by-products of sex differences in mating strategies rather than negative male attitudes towards women (Dunkel & Mathes, 2011). This hypothesis proposes that sexual assaults may have evolved from selection pressure as a consequence of a female's ability to choose (Thornhill & Palmer, 2001). For example, males tend to have a stronger sex drive than females and a tendency to be much more indiscriminate in mate preferences and willingness to engage in casual sex compared to females (Felson & Cundiff, 2014). In contrast, women place more time and investment selecting a mate with whom they can together be responsible for their children. These strong differences in the tendencies of male and female sexuality can generate a conflict of interest with regard to contemporary sexual behaviour. Thus, "under the appropriate conditions, this combination of sexual proclivities may lead to coercion of a

female whose adaptive psychological mechanisms may favour more inhibition of sexuality" (Muller et al., 2009 p.348). Based on this theory, it has been suggested evolutionary informed interventions should focus on making young men aware of the evolutionary basis of their natural impulse to rape and should receive training on techniques of self-control to help restrain their impulses (Thornhill & Palmer, 2001). "Completion of such a course might be required, say, before a young man is granted a driver's license. Such a program might start by getting the young man to acknowledge the power of their sexual urges and then explaining why human males have evolved to be that way" (Thornhill & Palmer ,2001, p.179). If young women are to protect themselves against sexual coercion, they should also be educated to be aware of how they dress and "the costs associated with attractiveness and it should be made clear that, although sexy clothing and promises of sexual access may be a means of attracting desired males, they may also attract undesired ones" (Thornhill & Palmer, 2001, p.181).

However, attempts to bring an evolutionary perspective to sexual coercion have provoked a great deal of opposition, arguing that they simply inscribe the dominant norms of misogyny. For example, critics argue that to view rapists as motivated by sexual frustration and who view force as the only way to obtain reproductive opportunities, is clearly contradicted by the available evidence. First, most victims of sexual coercion are raped by individuals they know, dates, acquaintances and husbands (Denmark et al., 2016). Second, while some rapists may report feeling sexually disadvantaged and unable to find cooperative partners, most are not undersexed loners, and have active and ordinary sex lives and are often married (Denmark et al., 2016). Others argue that paedophilia cannot be rationalized by explanations of genetic propagation as selective pressure underlying sexual behaviour, as sex with young children cannot be reproductively effective (Figueredo et al., 2006). In addition, many feminists have argued about the effects of reinforcing gender-based analysis that implies a level of female weakness and a tendency to acquiesce or to be fooled by male coercive tactics (Kelly, 2013). Furthermore, it has been argued that "There are too many unanswered questions concerning the nature of relevant adaptations and the contribution of environmental and cultural factors to conclude that evolutionary theories are sufficient to explain sexual aggression" (Ward & Siegert, 2002, p.145).

2.2.7 Self-Efficacy and Learning

Self-efficacy operates as a key component within the broader conceptual framework of Social Cognitive Theory (Bandura, 2001). Self-efficacy refers to a set of beliefs regarding an individual's personal judgement of their confidence to perform a particular task and is

distinct from ability traits. These beliefs have an important influence on the choices an individual makes when faced with adversity. In terms of learning, the role that self-efficacy plays has been associated with various different aspects of student engagement and motivation in the learning activities. For example, a study conducted of the self-regulation abilities of University students over a whole term, showed that the more self-efficacious the students felt, the more they reported using various cognitive and self-regulatory strategies to achieve their learning goals (Wäschle et al., 2014). Similarly, a study conducted with young adolescents reported that self-efficacy beliefs in self-regulated learning predicted higher academic achievements than the role of intelligence, personality traits and self-esteem (Zuffianò et al., 2013).

Self-efficacy has also been related to the quality of effort in terms of deeper processing strategies an individual engages in when managing tasks. For example, researchers have shown that students who try to organise their learning material to further their understanding, reflect a student's quality of effort in the task and can be related to actual learning and comprehension (Linnenbrink & Pintrich, 2003). Other researchers have found that persistence, self-discipline and order are indispensable to academic engagement and efforts to produce a higher level of achievement in exams (Dieterle, 2009). The quality of cognitive engagement reflects the student's effort in the task and the willingness to persist at tasks (Bandura, 1997).

In terms of self-efficacy as a motivational construct, it has been observed that students' self-efficacy is particularly important for success in challenging learning environments, such as distance education, due to the self-directed nature of on-line learning (Tsai et al., 2011). In their study, the authors found that the students' judgement of their capability to complete an online-course was crucial to their satisfaction with the course (Tsai et al., 2011). In addition, it has been reported that self-efficacy exerted significant effects on learner persistence and less drop-out rates within online environments (Joo et al., 2013). Other motivation constructs that predict student engagement in a task is how useful or important it is to them (Linnenbrink & Pintrich, 2003). This could be in terms of the content of the material or their personal interest in the task. In addition, self-efficacy beliefs influence the emotional reactions individuals experience when learning and can play an important in their motivation to engage. For instance, confident students are more likely to feel less anxiety in classroom situations and more motivated than students with high levels of anxiety. For this reason, Bandura (1986) asserts that believing in your ability to do something enhances your confidence in your ability to succeed.

Overall, the research on self-efficacy beliefs provides a consistent picture of how self-efficacy is positively related to students' beliefs in their learning abilities. Moreover, this view appears to be consistent across diverse disciplines, different age groups and applies equally to males and females and all ethnic groups (Linnenbrink & Pintrich, 2003). As the research has shown, self-efficacy plays an important role in student engagement in the learning environment. Accordingly, this model holds promise as a powerful tool for educators to meet the learning needs of students.

2.2.7.1 Self-efficacy to Prevent Sexual Coercion

Self-efficacy in the context of sexual coercion may be a necessary variable as a motivation to act to improve one's situation. Bandura asserts that "among the mechanisms of personal agency, none is more central or pervasive than people's beliefs in their capacity to exercise some measure of control over their own functioning and over environmental events" (Bandura, 2001, p.10).

Interventions based on Social Cognitive Theory aim to reduce sexual coercion by focusing on skill building elements, for example, by promoting self-efficacy and confidence in one's ability to communicate. In addition, self-efficacy can be influenced by the perceived usefulness of what is being learned and the subsequent degree of effort and persistence an individual will put into learning the skills. Effective programs to enhance self-efficacy incorporate methods that are appropriate for a particular task within a specific context that is meaningful to the learner (Zimmerman & Cleary, 2006). These interventions are then assumed to translate into healthy attitudes and skills as adolescents transition into adulthood and form long-term relationships (Lundgren & Amin, 2015).

From a feminist perspective, critics of this approach argue that placing the responsibility on individuals to protect themselves fails to recognise we live in a society where it is unsafe for women to be sexually assertive, as males continue to believe women and girls are sexual objects who have no sexual rights or needs (Tolman et al., 2003). However, it could be argued that training females in assertiveness should not imply they are in any way responsible for victimization, as the perpetrator is always to blame. Failing to provide young people with the skills and strategies to handle potentially negative situations leaves them more vulnerable to coercion, violence and bullying. In addition, it has been suggested that sexual assertiveness is not only a female issue and the ability to refuse unwanted sexual contact is an important skill for all adolescents who are not able to control

their sexual encounters and feel compelled to engage in activities with which they are not comfortable (Suvivuo et al., 2009).

According to Social Cognitive Theory, self-efficacy is an individual's beliefs about his or her ability to perform a particular behaviour in a given situation with whatever skill one possesses (Bandura, 1997). Judgments of personal efficacy affect an individual's choice of actions. For instance, people tend to avoid activities and situations they believe to be beyond their capabilities, but they are more likely to engage in activities they believe themselves capable of handling (Bandura, 1997). Thus, self-efficacy functions as a self-fulfilling prophecy as individuals who doubt their ability to achieve a satisfactory outcome in a particular situation will fail to even try to achieve their goals. Self-efficacy also influences how much effort and commitment an individual will take to perform a task. For example, research has shown how self-efficacy relates to the effort people will make to successfully change and maintain virtually every behaviour crucial to health, including exercise, diet, stress management, safe sex, smoking cessation, overcoming alcohol abuse, and compliance with treatment and prevention regimens (Bandura, 1997; Good & Abraham, 2011; Floyd, 2006). All of the major theories of health behaviour, such as protection motivation theory, the health belief model and the theory of reasoned action/planned behaviour include self-efficacy as a key component (Maddux, 2009). However, Bandura's self-efficacy model is the most widely accepted.

In the context of sexual coercion, self-efficacy may contribute to an individual's self-belief they can control a situation such as the confidence to refuse unwanted sexual activity (Jones et al., 2016). It has also been reported that self-efficacy can improve the confidence of adolescents to reach out for help when they have been victims of sexual coercion and also the competence to intervene when they see others being victimised (Van Camp et al., 2014). Bandura (1997) suggests that self-efficacy is crucial in people's decisions to act and improve one's own or another's situation. Hence, increasing self-efficacy may enable adolescents to engage in protective sexual health behaviour.

According to Bandura (1997) individuals form their sense of self-efficacy from four sources (1) vicarious learning (2) mastery of experiences (3) verbal persuasion, and (4) physiological responses (Bandura, 1997).

Vicarious Learning

Self-efficacy beliefs are influenced by our observations of the behaviour of others and the consequences of those behaviours. We use this information to form expectancies

about our own behaviour and its consequences (Bandura, 1997). For example, attitudes adverse to sexual coercion are learned through conventional childhood socialization and later through social controls (Akers, 2011). However, the opposite is also true. Exposure to negative sexual attitudes and behaviour is maintained by socialisation influences such as the traditional sexual scripts. "From a sexual script perspective, sexual coercion is a result of traditional sexual scripts that prescribes men as the sexual initiators who are open to (and indeed pursue) any sexual opportunity, and does not take no for an answer and women as sexually reluctant gatekeepers" (Byers & Glenn, 2012, p.828). This suggests that to improve young people's self-efficacy, sexual behaviour should be understood within the context of gender stereotypes and therefore interventions should address these beliefs which operate to influence negative sexual attitudes.

Mastery of Experiences

Mastery of experience is the most effective way of creating a strong sense of efficacy. A mastery experience is when a person is convinced they have personal control over a situation (Bandura, 1997). A sense of mastery can be damaged when an individual is subjected to a sexually coercive experience and leads to increased levels of helplessness and ability to cope with such situations (Benight & Bandura, 2004). An individual's sense of mastery to be able to control coercive encounters can be improved by skill development to boost an individual's sense of self-efficacy (Schwarzer, 2014). It has been suggested that as adolescents have little experience in dealing with relationship problems, particular attention should be paid to their verbal or communication skills (Akers, 2011). This can be most effective by breaking down difficult steps into small steps that are easy to ensure progressive mastery of the skill (Dowd & Tierney, 2005).

Verbal Persuasion

Self-efficacy is also influenced by encouragement and positive feedback. Efficacy beliefs are influenced by what others say to us about what they believe we can or cannot do. Enhancing a learner's belief they can solve difficult problems leads them to put more effort into succeeding at a particular task. The most effective type of feedback needs to provide information specifically related to the task or process of learning that fills the gap between what is understood and what is aimed to be understood (Hattie & Timperley, 2007).

Physiological Responses

The fourth source of self-efficacy is the reduction of an individual's reaction to stress. People who lack confidence in their abilities to perform in specific, challenging

situations will approach these situations with anxiety, thereby reducing the probability that they will perform effectively. Being in a sexually coercive situation can provoke great stress reactions in both males and females. These reactions can include anxiety, depression and anger which lowers the ability to deal with stressful situations. Perceived self-efficacy can lower the level of physiological stress reactions (Bandura, 1997). This highlights the importance of providing adolescents with coping skills such as verbal response strategies to reduce their vulnerability to potential negative sexual encounters.

2.3   Effective Sexual Coercion Prevention Programs

Prevention programs aim to prevent sexual coercion perpetration and victimisation before it occurs. A number of researchers and organisations have offered suggestions for important recommendations of good practice in prevention programs. Some studies have advocated the characteristics of effective programs within particular content areas of adolescent sexual health such as teen pregnancy and Human Immunodeficiency Virus (HIV)/Acquired Immunodeficiency (AIDS) (Kirby et al., 2007; Darbes et al., 2008). However, reviews by DeGue (2014) and Nation et al.(2003) concluded that certain characteristics of effective programs for sexual coercion prevention were common to all programs. They include the following:

- Prevention strategies should be based on the best available evidence

- Language and content should be appropriately matched to the adolescents, biological, cognitive and social developmental age

- Interventions should be interactive

- Provide skills training workshops

- Target single behaviours rather than targeting multiple outcomes at any one time

- Interventions should have a theoretical basis

- Target younger age groups

- Multiple sessions over long periods rather than long sessions over a short period

- Target both boys and girls

- Build relationship skills

- Provide enough time for adolescents to practice the skills

It has also been suggested that educators should ensure "that adolescents have opportunities to practice social skills, assertiveness and rejection of unwanted sexual advances" (American Academy of Pediatrics, 2001, p.500).

However, the literature currently lacks a consensus of which characteristics an effective program should possess in terms of targeting, format, duration, structure or whether single or mixed sex groups are more effective (Whitaker et al., 2013). There are numerous differences between the available programs, including variations in the duration of the program, to whether the program should be delivered by males or female educators, from teachers or outside facilitators to the methodologies involved (lectures, group work, games, role-play and interactive presentation methods. Therefore, "drawing conclusions about any particular program or which elements were the key ingredients in the effective programs remains very difficult at this present time" (Whitaker et al., 2013, p.8).

2.3.1   Prevention Strategies

Prevention strategies are generally categorized as primary, secondary and tertiary interventions. Primary intervention is a category that attempts to address sexual victimisation before it occurs. By contrast, secondary prevention generally refers to interventions to reduce risk factors associated with sexual coercion and tertiary prevention aims to prevent repeat victimization and perpetration (Dickson & Willis, 2015). Because tertiary interventions are preventions that deal with the consequences of sexual coercion after it has occurred, this study reviews only primary and secondary prevention efforts.

Primary prevention of teen sexual coercion has generally been realised through two approaches described as universal or selective (O'Leary et al., 2006). Universal interventions target the general public or a whole population not identified as being at particular risk. For example, a universal program might include a classroom-based curriculum for all students in a form or in a school. For example, '*Safe Dates*' a program which focuses on 11-14 year olds is one of the most widely used evidence-based programs to prevent teen dating victimisation in the United States (Tharp et al., 2011). This program consists of a 10 session curriculum that promotes healthy relationships by changing attitudes condoning sexual coercion and includes activities such as a theatre production and a poster competition focusing on gender-based expectations and cognitive restructuring regarding violence norms (Foshee et al., 2009).

In addition, some schools aim to make schools a safe and supportive place for students by adopting a 'whole school' approach against sexual coercion. Strategies include

school posters, putting clear policies in place to address violence and improving reporting mechanisms such as setting up boxes in schools to anonymously report incidences of sexual violence (Fulu et al., 2014). An example of a 'whole school' approach is, '*Shifting Boundaries*' a program employed in the U.S. for 11-12 year olds that involves a classroom curriculum emphasising the laws relating to sexual coercion and harassment and a building-based component that includes high levels of staff and security presence. An evaluation of '*Shifting Boundaries*' found the intervention reduces sexual coercion and harassment due to the increase of knowledge regarding the legal aspects of sexual coercion and the importance of a whole school approach to increase awareness and reporting of sexual harassment (Taylor et al., 2011).

Another universal approach is training influential youth leaders in efficacy to intervene and confront friends and peers when they witness sexual violence. Examples of this type of program include the '*Green Dot*' bystander intervention and *GET SAVI* (Students against Violence Initiative) targeted at students in higher education institutions. These programs offer bystanders the skills and confidence to stand up and speak out against all forms of gender-based violence. Bystander tactics include helping victims or speaking up to others when they are being sexist and aggressive (Coker et al., 2015).

Targeted or secondary prevention programs are designed to fit the needs and knowledge base of vulnerable individuals or population sub-groups who appear to be at higher risk of dating and sexual violence. For example, adolescents from marginalized groups, those with disabilities, homeless youth and children who have dropped out of school. However, although important, and evidence suggests that sexual coercion is more commonplace among high risk populations, it is also the case that such attention disguises the fact that teen sexual coercion appears to occur in a wide range of socio-economic strata. As such, "it does not make sense to target only specific communities as this would likely miss a large proportion of those at risk of sexual victimisation"(DeGue et al., 2013, p. 14).

Education should be provided to all adolescents, both male and female, whether or not they are of risk for sexual coercion perpetration. Such education will be broadly useful to teens, in addition to reducing the incidents of sexual coercion (Wolfe et al., 2009).

Other prevention strategies include awareness campaigns such as the Irish *2IN2U National Public Awareness Campaign* launched by *Women's Aid* in 2011 using radio, posters, online and digital advertising to target young adolescent women and encourage them to complete an online 'Relationship Healthcheck' (Women's Aid, 2011). However, public

awareness campaigns as stand-alone interventions are generally not intensive enough to transform norms or change actual behaviour (Fulu et al., 2014).

2.3.2   Pedagogical Considerations

Approaches to pedagogical instruction and learning activities have been re-thought over the past 50 years to promote student development and engagement through more active methodologies such as collaborative learning, problem-based learning and experiential learning (Slavich & Zimbardo, 2012; Beard & Wilson, 2006). Although these approaches may differ, at their core is the emphasis on student-centred active engagement for promoting learning. For example, Kolb's model of experiential learning is a wildly adopted pedagogical method for learner-centred education as it provides a mechanism for engaging learners by creating meaningful learning experiences (Rea & Parker, 2014). Experiential learning posits that experience plays a central role in human knowledge production and personal growth. Knowledge results from "a combination of grasping and transforming experience" (Kolb, 1984, p.41). In addition, experiential learning is a student-centred approach that places the learner as the 'central actor' in the learning process.

For learning to be total Kolb (1984) posits that learning from experience can be visualised as a cycle. The cycle is composed of four connecting stages, moving from concrete experience in which the learner actively experiences learning; through reflection in which the learner reflects on the learning; abstract conceptualization, in which the learner tries to make sense of what has happened; to active experimentation when the learner converts what they have learned into action. (Figure 2.1)
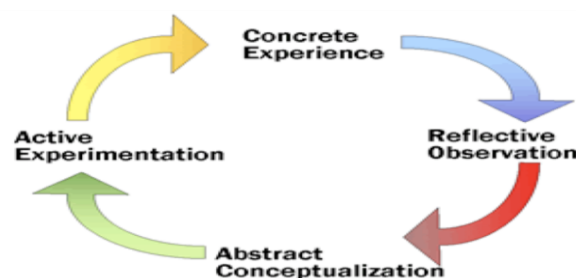
Figure 2.1 Kolb's Learning Model
(Kolb, 1984)

According to the literature, to promote experiential learning a number of best practice activities should be incorporated into the learning process (Beard & Wilson, 2006; Slavich & Zimbardo, 2012; Kolb, 1984). These include:

- Engaging students in activities that enable them to experience course content (this can include having students observe course relevant behaviour or keeping a reflective journal)

- Providing learning activities in a context that is relevant to the student

- Providing students opportunities to reflect on their experience in order to gain new insights and new learning (this can include observing behaviour and participating in discussions, role-playing)

- Providing activities that allow students to make connections between what they are learning and the world (this can be accomplished by giving students homework assignments outside of class to facilitate self-directed learning).

- Providing students with opportunities to practice the skills they have learned

2.4   Assertiveness and the Prevention of Sexual Coercion

Assertiveness in a sexual situation has been defined as the ability to recognize, prioritize, and express one's own limits, needs, and desires in a sexual situation (Zerubavel & Messman-Moore, 2013). There is growing research and literature that assertiveness works as a protective factor from sexual coercion and victimisation experiences, as well as from engaging in risky sexual behaviours (Livingston et al., 2007; Santos-Iglesias et al., 2013; Zerubavel & Messman-Moore, 2013). Individuals with poor assertiveness skills are linked to less use of protection and are more likely to be in coercive sexual relationships (Auslander et al., 2012). Failure to act assertively on behalf of their sexual health may place individuals at risk of unintended pregnancy, STDs, sexual violence and other negative sexual experiences (Fontenot & Fantasia, 2011). In contrast, individuals with high levels of assertiveness have more equitable interpersonal relationships and make healthier sexual choices.

Two main skills are hypothesised to manage potentially coercive situations, recognition of sexual coercion and the ability to respond assertively to sexual coercion (Noll & Grych, 2011). However, some authors have suggested that improving an individual's ability to respond to sexual coercion, rather than merely recognising it, may be more important (Gidycz et al., 2015). Assertiveness responsiveness refers to language that "functions to advance one's personal agency in a situation" (Leaper & Ayres, 2007, p.328). For example, tone of voice conveys information about an individual's psychological attitude towards what is being spoken (Chomphan & Kobayashi, 2009). Therefore, if an individual wants to refuse or set limits on sexual activity they need to be able to state clearly and with

confidence the message they are trying to convey (Anderson et al., 2009). Other assertive paralinguistic variables that convey meaning and are associated with reduction in sexual coercion is response latency. The efficacy to respond quickly and firmly rather than tentatively in negative sexual situations has been identified as an effective strategy (Anderson & Cahill, 2014). This suggests that students may benefit from incorporating paralinguistic aspects of assertiveness into sexual coercion prevention activities as it has been hypothesised that the way a message is delivered is as important to get a point across as the message itself (McWhirter et al., 2013).

Assertiveness training has a long history in the area of socially competent behaviour. Originally developed in clinical practice in the middle of the last century to help individuals with mental health issues, it later progressed to a means of strengthening human potential and achieving maximum personal fulfilment in various spheres of public and personal life (Peneva & Mavrodiev, 2013). Assertiveness can be differentiated from other protective concepts such as self-esteem, resilience and confidence, in that it is essentially treated as a communication construct. It is a characterisation of how a person responds in a situation in which his/her positions or interests could be in conflict with others' position and interests (Ames, 2008).

Assertiveness training in the context of sexual coercion teaches adolescents knowledge and awareness about healthy and unhealthy relationships, how to identify abusive behaviours, how to refuse unwanted sexual activity, and if sexually active to insist upon pregnancy/STD prevention (Auslander et al., 2012; Anderson et al., 2009). Training is generally conducted with small groups and includes structured activities to learn assertive behaviours and how to apply the knowledge and skills in different contexts and situations (Anderson et al., 2009). In addition, effective prevention programs teach students both physical and verbal strategies for resisting both direct and indirect pressures to engage in negative sexual behaviours and model both verbal and physical, assertive behaviours (Nichols et al., 2010; Gidycz et al., 2015). Physical strategies can involve walking away from the situation or some other physical behaviour to deter sexual coercion. Assertive verbal strategies can include techniques such as the 'broken record' strategy of repeating the same thing until the other person understands you are not going to change your mind.

Other strategies that researchers suggest should be incorporated into prevention training include identifying barriers to assertiveness in sexual situations. For example, some researchers have found that certain individuals internalise fear of sexual powerlessness and

have little belief (lack of self-efficacy) they can control or refuse unwanted sexual situations. Hence, awareness of the benefits of assertiveness and overcoming psychological barriers is necessary to initiate action and generate an assertive response (Zerubavel & Messman-Moore, 2013; Rickert et al., 2002). Other psychological barriers that may be addressed is the belief that one is responsible for sexual coercion and even deserving of future experiences (Katz et al., 2010).

Training can incorporate a range of instructional activities designed to provide perspective on assertive behaviour and the nature and importance of different communication styles, along with their characteristic behavioural and verbal signs (Peneva & Mavrodiev, 2013; Bishop, 2012). In addition, training programs for sexually assertiveness skills must be broken down into its behavioural components and operationally defined. "These components are taught individually, building from one session to the next, in a systematic fashion using core modelling, rehearsal, feedback, and reinforcement" (Nangle et al., 2010, p.100). As individuals have different learning styles, it has also been suggested that a range of resources should be used to teach the skills such as worksheets, graphics and videos (Kotzman & Kotzman, 2008).

Many assertiveness training programs use role-play activities as an instructional strategy for developing assertiveness skills in the F2F environment. Role-play is a participatory and experiential learning method that emphasises "learning by doing and is especially important in the acquisition of skills (Kolb, 1984, p.38). Role-play instruction provides learners with the opportunities to learn, observe and practice cognitive skills through the use of realistic simulations and receive feedback on their use of these skills (Rowe et al., 2015). Using role-play techniques, students participate actively in learning activities and thus, they create and develop self-efficacy beliefs (Vasileiou, 2010).

Role-play training to reduce sexual coercion typically involves what to say or do to deal with unwanted sexual advances escalating (Jouriles et al., 2009. This can include initiating discussions for safer sex, verbal response training to deal with sexual coercion and how to handle partner resistance to contraceptive/condom use (Kalichman, 2014). To support learners' oral skills, role-play instruction can be enhanced by providing the learners with either fully scripted role-plays, semi-scripted role-plays or non-scripted role-play scenarios in order to practice the skills (Cho, 2015). Role-play instruction can also be broken down into small steps for the learners. For example, by introducing and modelling the targeted skill and providing learners with plenty of time to practice and receive feedback on

their performance (Dowd & Tierney, 2005). Homework assignments also ensure that learners practise the skills outside of the training sessions (Dowd & Tierney, 2005).

2.4.1 School-Based Programs to Reduce Sexual Coercion

Concern over the legal liability of schools to protect students against sexual harassment, sexual coercion and violence has provided the impetus for many prevention efforts (Young et al., 2009). However, most published evaluations of universal prevention interventions are drawn from the United States in low socioeconomic communities and this makes it difficult to generalise to other countries or populations where there are different sets of cultural beliefs and behaviours (Poobalan et al., 2009).

There have been several reviews conducted in the last number of years into the effectiveness of school-based sexual coercion prevention programs, for example, (Fellmeth et al., 2013; Whitaker et al., 2006; De Koker et al., 2014; DeGue et al., 2014).

A meta-analysis by Fellmeth et al., (2013) looked at the results of 38 studies that conducted Randomized Controlled Trials (RCTs) and quasi-RCTs, including primary (before violence occurs) and secondary (where violence is occurring) prevention programs. The study found that apart from an increase in participants' knowledge, there was no statistically significant evidence that the interventions decreased relationship violence or improved participants' attitudes or skills related to sexual coercion (Fellmeth et al., 2013).

A review of exclusively RCTS by De Koker et al., (2014) included interventions conducted in schools, communities or clinics that reported interventions to reduce at least one type of intimate violence: physical, sexual, psychological, and/or threats of violence perpetration and/or victimisation, and/or sexual harassment. The researchers identified 2 school interventions (*Safe Dates*, *Fourth R*) that reported positive results for less perpetration of physical violence; one intervention (*Safe Dates*) reported less sexual and psychological perpetration and (*Shifting Boundaries*) reported less physical violence perpetration and victimization. Only one intervention (*Safe Dates*) measured sexual violence separately from other forms of violence, and this intervention demonstrated positive results.

Another review by DeGue et al., (2014) examined the outcome evaluations of 140 primary prevention interventions to reduce sexual coercion perpetration. The researchers focused particularly on identifying effective strategies for prevention and included only studies that had an RCT or quasi-RCT design. The results of their review found that only three interventions (*Safe Dates*, *Shifting Boundaries* and funding associated with the 1994 U.S. *Violence Against Women Act*) were effective for sexual coercion outcomes. The authors

concluded that these three interventions were effective as they not only helped change adolescents norms about sexual coercion, but also equipped them with the skills to develop healthy relationships. They were also appropriately timed, were theory driven and included interactive instruction and opportunities for skills-based learning (DeGue et al., 2014).

A review by Whitaker et al., (2006) of 11 primary prevention programs that included non-randomised and randomised interventions found that 9 of the 11 interventions demonstrated positive effects on either knowledge or attitudes, although the authors cautioned that it is not clear whether these changes would translate to corresponding changes in behaviour. The researchers also found that having a structured curriculum and interventions of longer duration than one to five hour sessions may contribute to the effectiveness of programs (Whitaker et al., 2006). A similar view was also expressed by (Lundgren & Amin, 2015) following their review of the effectiveness of interventions addressing sexual coercion which included studies from Tanzania, Spain, India and Uganda as well as the U.S. The authors suggest that interventions delivered over several sessions has better results than single awareness or discussion sessions as short term interventions to reduce sexual coercion may not be intense enough to allow for effective evaluation (Lundgren & Amin, 2015).

2.5   Computer-Mediated Interventions (CMIs) and Adolescent Sexual Health

As we enter the 21st century technology has been increasingly recognized as an innovative platform to promote positive sexual health. The benefits of technology include promotion of active learning, anonymity, 24 hour access and the ability to tailor an intervention to an individual or groups (Bailey et al., 2010). Other commonly cited advantages include removal of time, place and situational barriers and the capability of CMIs to allow users access and navigate intervention content at their own pace and skill level (Schinke et al., 2009).

Young people have grown up with technology and it is an integral part of their lives. 93% of adolescents aged 12-17 have a mobile phone and 97% play video games (Lenhart et al., 2010). Thus, the growing trend of adolescents to engage with technology provides educators with an opportunity to engage young people in a medium they use and enjoy. Additionally, research has shown that adolescents are open to using technology for sex education (Selkie et al., 2011; Guse et al., 2012).

Most evaluations of CMIs for sexual health have focused on interventions with adults, such as Noar et al., (2009) meta-analysis of HIV preventions aimed at increasing

condom use among a variety of at-risk populations and Bailey et al., (2010) review of interactive computer-based interventions focussing mainly on the prevention of STIs including HIV. Collectively, the aforementioned studies show that technology-based interventions hold great promise to promote sexual health.

Given the uptake of technology by adolescents and their interest in learning about sexual health issues through technology, it is reasonable to suggest that sexual health educators should consider the potential of the medium to support and engage young people in all areas of sexual health.

Most of the school computer interventions use a combination of both classroom and computer-based activities, making it difficult to say which components of the program were effective. In addition, although studies were designed to improve assertiveness and refusal skills as a component of the interventions, they were typically evaluated based on pre-post-test changes in attitudes, knowledge and behavioural intentions (Dickson & Willis, 2015). Therefore it is not clear whether the interventions actually improved the assertiveness skills of the participants.

For example, Pacifici et al., (2001) combined classroom activities with a virtual interactive video to teach assertive refusal skills. Using a randomised control design in addition to pre and post-test measures, the researchers evaluated a co-educational program for adolescents with a mean age of 15.8 years, on preventing sexual coercion, over three class periods. Class activities integrated the use of an interactive video, a 'virtual date', role-play and discussion formats. Evaluation of the program showed that participants in the intervention group who were above the pre-score mean at baseline on coercive attitudes improved significantly more than participants in the control group, whereas participants below did not. In their discussion, the authors pointed out the importance of a coeducational approach to instruction. This is in contrast to other studies who argue that single gender programs may be more effective as the goals of prevention programs are different for men and women (Schewe, 2008). On the other hand, Pacifici et al., (2001) contends that as both genders can be victims of sexual coercion, mixed gender programs avoid the stigmatizing effects of programs that target only one group of students.

Another study conducted in the U.S. assessed the experimental intervention, known as the *Fourth R: Skills for Youth Relationships,* for efficacy in developing negotiation and delay skills through a 7-lesson (75 minutes each) curriculum with video peer modelling of effective communication behaviour, and role-play exercises (Wolfe et al., 2012). The students learned

to practice the skills they observed from the video modelling in each of three areas – dating and peer conflict, pressure to use drugs or alcohol and pressure to engage in sexual behaviour.

The results from the evaluation of the *Fourth R* study showed that students in the intervention group were twice as likely as those in the control group to demonstrate negotiation ($p=.05$) during the role-plays and the control group four times more likely to respond to pressure ($p=.05$). There was no significant effect between the groups for refusal responses. In this case, girls from the control group showed more refusal skills than girls in the intervention group, indicating that the boys benefited more from the intervention. The authors concluded that rather than teaching adolescents to "just say no", they need to generate strategies that allow them to avoid negative situations while at the same time maintain the peer and/or romantic relationships within which they are occurring" (Wolfe et al., 2012, p. 8).

A study conducted in a Spanish school by Martín et al., (2012) used a pre and post-test design with a treatment and control group to evaluate the efficacy of a seven week sexual coercion assertiveness prevention program with 16-18 year olds. In conjunction with didactic lectures, activities included a video presenting scenarios demonstrating how individuals may engage in unwanted sexual relations (Martín et al., 2012). Evaluation of the study showed a significant decrease ($p=.001$) in stereotypical beliefs about sexual coercion with the intervention group compared to control. However, the results were not significant in terms of assertiveness (Martín et al., 2012). The authors suggested that focusing on one aspect of training and ensuring participants have time to understand and practice the skills may provide better learning outcomes.

One of the few school studies evaluated that used computer technology as the sole medium for intervention delivery is the "*It's Your Game-Tech*" a 13 lesson Internet-based project that targets HIV, STIs and pregnancy prevention with early adolescents (Peskin et al., 2015). To address skills and self-efficacy within the environment, two animated narrators introduce the activities which include characteristics of healthy relationships, consequence of sex (HIV, STI and pregnancy) and refusal skills training (Peskin et al., 2015). The intervention used a randomized, two-arm nested design. However, similar to the literature on other interventions, the results showed there were improvements in knowledge gains about STIs only and no significant difference in the delay of sexual initiation or any other sexual activity. The authors suggested that the negative results on sexual behaviour were due

to the intervention lacking important components of effective programs, "namely group activities, role-play scenarios and small group discussions" (Peskin et al., 2015, p.519).

'The World Starts with me' (WSWM) is a computer-based interactive sex education programme aimed at secondary school students in Uganda, (age12-19). The program uses virtual peer educators to help develop students' self-efficacy to deal with sexual coercion (Rijsdijk et al., 2011). Using a non-randomised experimental design, Rijsdijk et al.,(2011) evaluated the program with 48 schools. At post-test, both intervention group students and comparison group students were more confident that they could deal with situations where sexual pressure and force would be used when compared to pre-test, but the increase in the mean score was significantly higher among the intervention group than in the comparison group, F (1, 1467) = 7.73, p =.006). The authors reported that the main determinants of successful outcomes was the use of a theory-based foundation for the development of WSWM (Rijsdijk et al., 2011).

A study in the U.K by Arnab et al., (2013) piloted a digital game PREPARE (Positive Relationships: Eliminating Coercion and Pressure in Adolescent Relationships) aimed at assisting the delivery of Relationship and Sex Education (RSE). The purpose of the pilot was to assess the psychological preparedness of students (*n*=505) for dealing with sexual coercion. Using a cluster randomized controlled trial, the authors found promising findings that participants' confidence to recognise sexual coercion improved, although not statistically significant, compared to the control group (Arnab et al., 2013). The authors make the case that having a structured curriculum, providing scaffolding, applying the skills and a medium that promotes engagement and motivation contributed to the positive outcomes.

Similarly a study from the U.S, conducted by Raghupathy et al., (2013) evaluated a digital library of interactive activities aimed at supplementing existing sex education resources that could promote effective communication and reduce sexual involvement and risk-taking. Interactive activities included video presentations to the students depicting peer actors communicating competently and effectively in various social settings such as a party or a date in which sexual decisions have to be made and specific actions taken.

Evaluation of this program over two weeks with 335 high school students using a randomised control design and a 3-month follow up assessment, found that participants in the control group were statistically significantly more likely to report having the intention not to be sexually active (*p*=.01)when compared to the control group (Raghupathy et al.,

2013). These differences were observed between sexually initiated and non-sexually initiated participants.

In contrast to other studies that attempt to influence attitude change, the authors suggested that behavioural intentions are the main predictors for not engaging in negative sexual behaviour. The underlying premise of this approach is that an adolescent's intention to perform a particular behaviour is based on a positive or negative attitude towards that behaviour. However, evidence from research indicates that several factors influence behaviour change. These include perceptions of risk; self-efficacy and motivation to change the behaviour (Ogden, 2012). As such, it is plausible that incorporating the participants' perception of their control over the performance of the behaviour may have added an additional predictor. For example, the intention to avoid negative sexual situations may be improved if participants feel they have control (self-efficacy) in future sexual situations.

Several studies have been conducted in community settings that focus on developing assertiveness skills and self-efficacy for at-risk adolescent females in relation to negotiating abstinence or if sexually active, being assertive about condom use to prevent STIs/HIV (Morrison-Beedy, 2012). For example, Ito et al., (2008) developed an interactive CD-ROM for at-risk female adolescents attending a community clinic, called "*Let's Talk about Sex: A Girl's Guide to Sexually Transmitted Infections*". The CD-ROM focused on modelling skills, by showing video clips of teens describing how they successfully discuss these issues with partners. Data collection was based on a written questionnaire delivered pre and post-test.

The primary outcomes measured were the acceptability and feasibility of the CD-ROM. While the program was reported to have high acceptability there were no significant differences (p=.84) between control and treatment in the other sub constructs studied (i.e. attitudes, beliefs and self-efficacy toward sexual intercourse or condom use (Ito et al., 2008). This suggests that passive modelling of modelling of skills without active skills training has limited effect on self-efficacy. Previous studies have found that behavioural skills training, including skills rehearsal produces better knowledge and skill gains than simply modelling of skills by a presenter (Dickson & Willis, 2015).

Downs.et al., (2004) developed an interactive video intervention aimed at increasing young women's (14-18) ability to negotiate for safer sex. The interactive video offered the participants' choice points to take control of the sexual scenarios with the screen freezing at various stages to allow the participants "*cognitive rehearsal*" to think about what they may say or do in a particular situation. Using a longitudinal randomised design, the researcher

evaluated the study based on participants' self-report of condom use over 6 months. The results of the study indicated that for those participants exposed to the video, fewer experienced condom failure and were significantly less likely to be diagnosed with an STD, compared to controls at month six (Downs et al., 2004). Similar to other studies the authors concluded that having a sound theoretical basis to guide the program contributed to the successful outcomes.

2.5.1 Review of Existing Sexual Coercion Prevention Interventions

This review by the researcher of existing sexual coercion prevention interventions indicates that most focused on changing attitudes and social norms towards sexual coercion. This approach, without the benefit of a communication skills-based component "and specifically the use of role-playing, modelling and rehearsal" is likely to be minimal (Cornelius & Resseguie, 2007, p.373). In addition, while some of the interventions incorporated assertiveness skills training, evaluations were not conducted to assess whether the participants' assertiveness skills improved following implementation of the program. This is important information regarding the efficacy of prevention programs and represents a gap in in the current literature. Furthermore, most of the studies provided either no education for the control group or standard education, so therefore it is not clear whether the interventions can confidently be attributed to the intervention and not to other factors.

While there was no single approach which worked to improve all outcomes, the review found that theory-based interventions were more effective and associated with better outcomes than non-theory based interventions. The review also pointed to the importance of providing developmentally-appropriate interventions, because patterns of adolescent sexual behaviour differs from adults and they lack the experience and communication skills to implement reduction actions (Pedlow & Carey, 2004). Findings from the literature report a range of activities and strategies for successful learning outcomes that can help to inform the design of future interventions. (See table 2.1 for summary).

Table 2.1 Summary of Interventions, Evaluation and Teaching Strategies			
Interventions	**Evaluation**	**Teaching Strategies**	**Authors**
Build Healthy Relationships	Understanding Concepts	Role-Play	(Wolfe et al., 2012)
Verbal Response Training	Increased Knowledge	Modelling	(Pacifici et al., 2001)
Skills Training	Awareness of Verbal Components of Assertiveness	Behavioural Rehearsal	(Downs et al., 2004)
Cognitive Restructuring	Awareness of Non-Verbal Language	Feedback	(Dickson & Willis, 2015)
Structured Activities	Identification of Barriers to Assertive Communication	Discussions	(Dickson & Willis, 2015)
Gender-Based Expectations	Improved Attitudes	Behavioural Strategies	(Martín et al., 2012)
Cultural Norms	Improved Self-Efficacy	Interactive Instruction	(Rijsdijk et al., 2011)
Psychological Barriers	Behavioural Intentions	Experiential Learning	(Pedlow & Carey, 2004)
Assertiveness Skills	Appropriate Responses	Practice	(Pacifici et al., 2001)
Psychological Preparedness	Self-Efficacy to Control a Sexual Situation	Observation	(Arnab et al., 2013)
Stereotypical Beliefs	Reduced Sexual Coercion	Scaffolding	(Martín et al., 2012)
Behaviour Modification	Self-Efficacy to Negotiate Abstinence	Cognitive Rehearsal	(Downs et al., 2004)
Identify Abusive Behaviour	Increased Condom Use	Demonstrations	(Ito et al., 2008)
Recognise Existence of Sexual Scripts	Reduced Condom Failures	Video	(Raghupathy et al., 2013)
Promote Healthy Sexual Behaviours	Lowered Tolerance for Abusive Relationships	Animation	(Peskin et al., 2015)

2.6   Three Dimensional Virtual Worlds: Overview

Three-dimensional (3D) VWs have been defined as computer generated, interactive representation of an environment that strives to simulate real life scenarios in real time (Parsons et al., 2006). Other definitions describe them as electronic environments that visually mimic complex physical spaces (Bainbridge, 2007). The term VWs are often interchangeably described as massively multiplayer online role-playing games (MMORPGs), massively multiplayer online games (MMOs or MMOGs), virtual reality, virtual spaces, virtual environments, massively-multiuser on inline graphical environments and immersive virtual environments (IVEs).

In these environments, users can interact in real time with other users via their graphical self-representations known as avatars, using a range of synchronous and asynchronous communication channels (e.g. text chat, instant messages, using a keyboard or voice communication using a microphone and speakers) as well as non-verbal communication in the form of gestures and facial expressions (Minocha et al., 2010). Avatars can create a profile that displays information which can be shared with other users and can add friends to their profile in a similar way to social media forums

Avatar representation may be predefined by the VW provider or may be created by the user using the virtual reality system, to generate body shape, clothing and hair etc. How one's avatar appears is crucially important for understanding how users interact and communicate in VWs (Ducheneaut et al., 2009). It has been suggested that the customization of one's avatar enhances on-line communication as well as the social and educational experiences in VWs (Peterson, 2006; Baylor, 2009). Some authors believe that users' often perceive their avatars as a medium through which their deeper inner persona can be expressed and that individuals take on the role of avatars as a way of freeing themselves from offline limitations of gender, race or class (Dodds et al., 2011; Kim et al., 2012). This has been referred to as the 'Proteus' effect – the ability to take on many self-representations while in a VW, which may in turn transfer to an individual's behaviour in the physical world (Yee et al., 2009; Fox et al., 2009).

VWs, originally derived from game technology, have been around for a long time, although the advancement of the technology developed over the last decade offers users a much more immersive and interactive experience than earlier versions. VWs differ from games in that users do not have specific rules and challenges to achieve in order to progress. Instead, VWs are unstructured on-line spaces designed to foster social interaction and the formation of groups and communities (Wang et al., 2011). Interaction in VWs can take place in many forms: making friends, joining groups with common interests, and engaging in various social activities such as chatting, dancing, visiting art exhibitions and attending concerts together (Jarmon et al., 2009). In some VWs like Second Life and OpenSim, residents can create content such as images, landscapes and buildings and buy and sell virtual property, artefacts and clothing. It is also possible for residents to start businesses and gain employment in VWs.

The rapid growth and development of VWs has seen user uptake specifically in the 10-15 age group gaining in popularity, with active accounts of 1.185 billion users in 2011

(KZero, 2011). Second Life, OpenSim and Active Worlds are examples of the more well-known VWs. It has been predicted that in the future most people under 18 will have their own avatar and will be using them daily (De Freitas, 2008). While this of course does not mean that they will be used for learning, this wide uptake by young users demonstrates the potential of VWs for education.

2.6.1 VWs in Education

VWs have been cited as being capable of facilitating unique, highly interactive, engaging, and flexible environments for learning (Lee, 2013). VWs offer abilities to communicate in a virtual space that is created by the users and fosters potential for many educational and cooperative activities (Eschenbrenner et al., 2008; Franceschi et al., 2009). Recognising their potential for education, many renowned 3rd level institutions such as Harvard and Edinburgh University are using these environments for various projects, indicating there is a massive potential for learning in these environments (Downey, 2014; Warburton, 2009). In addition, many organisations are using VWs for workplace simulations and training in fields as diverse as medical simulations (Richardson et al., 2011) hospitality and tourism (Penfold & Duffy, 2009) and fashion design (Polvinen, 2007). In a VW learners "can participate in experiential learning, practice skills and make mistakes without serious repercussions" (Boulos et al., 2007, p.240).

The use of VWs as an educational tool can be related to their unique characteristics that differentiate them from other ICT applications and contribute to positive learning outcomes (Mikropoulos & Natsis, 2011). The advantage VWs have over other computer-based environments is that the multiple layers of sensory information enables users to transcend the real world to see, hear and feel as if they are really inside these environments (Blascovich & Bailenson, 2011; Twining, 2009; Slater, 2009). One of the main assumptions cited about the educational uses of VWs is that the subjective impression that one is participating in a realistic experience is highly engaging and thus can enhance the learning experience (Dede, 2009).

VWs provide opportunities for alternative environments for situating learning because an endless variety of virtual contexts can be created that can give a sense of '*being there'* and thus, the ability to apply learning in a plausible authentic context (Dawley & Dede, 2014; Slater, 2009). This has been described as situated learning where the learning takes place in the same context in which it is applied in practice (Lave & Wenger, 1991). For example, traditional learning occurs through transmission of knowledge from a teacher to a

student in a classroom setting. For situated learning, knowledge occurs in the learning environment. Learners construct knowledge or acquire skills by actively participating in activities which replicate actual settings where events may occur (Falconer, 2013).

In a VW a realistic environment can be enabled by incorporating several features to provide the effect of immersion in the environment. Perception of realism can be achieved with graphics and sound, lifelike avatars and a sense of belonging to the environment (Minocha & Hardy, 2016; Tapsis & Tsolakidis, 2015; Warburton & Perez Garcia, 2016). However, moving from transmission teaching to situated learning in a VW can be challenging for some learners and environmental features alone may not be sufficient to promote engagement with the environment. Guidelines proposed to encourage learner immersion include spatial planning, such as the location of entrances, exits and major destinations, provision of maps to provide direction, the use of note cards for ease of teleporting, and to aid familiarity, the inclusion of objects and buildings that replicate the real-world (Minocha & Hardy, 2016).

Studies on VWs advocate for their potential to provide radically different models of education by allowing learners to do things that would be impossible in the physical world (Twining, 2009). For example, it is possible to re-create historical buildings such as the Erechtheum in Athens and have students observe it up close, thus providing an authentic learning experience (Eggarxou & Psycharis, 2007). Hence, VWs can expand the possibility of what students can learn that may be difficult to present in text book form. Additionally, VWs allow for teaching concepts that learners may find difficult to comprehend. For example, Chen et al., (2007) reported that a VW allows young children to more easily grasp concepts in astronomy such as the size and shape of the Earth; the cause of day and night; the cause of the seasons, and the orbits of the Earth, the Sun and the Moon.

Learning in a VW means that location is not a barrier to education as they provide excellent capabilities for effective distance and on-line learning opportunities in addition to allowing the development of virtual collaborative work with others (De Freitas, 2008). Additionally, VWs have the potential to bring the experience of learning closer to F2F education (Jones, 2005). For example, VWs offers the possibility to communicate through different channels at the same time such as text and voice, and students can use a channel that best suits them (Holmberg & Huvila, 2008). Furthermore, VWs can also be used to enhance and support an already existing curriculum (Beltrán Sierra et al., 2012).

However, while 3D VWs are assumed to bring about new opportunities in education, they also present a number of challenges (Kluge & Riley, 2008). For instance, the graphic capabilities and bandwidth required can interfere with the user experience (Warburton, 2009). A slow computer network can cause technical issues such as 'lagging' and slow rendering of images and thus can incapacitate the learner (Parson & Bignell, 2011). Another challenge is that most educators do not have the skills necessary in what can often be a challenging landscape for teaching (Kluge & Riley, 2008). The use of VWs for education also places demands on the learner to develop a range of technical skills to facilitate interaction (Grant & Pasfield-Neofitou, 2013). In addition, consideration must be given to the safety and security of young learners while in the VW as there is evidence that some users may not dress or behave appropriately and may engage in "disruptive and hostile behaviour" (Graves, 2008, p.8). Other issues of concern are behaviour management, such as sabotaging of buildings and monitoring of student activities so they are not distracted from course goals and remain on task (Kluge & Riley, 2008).

However, it has been reported that some of these issues may be addressed by providing structured training and induction sessions and by supplying students with detailed help documents while learning (Lee et al., 2013). Researchers also highlight the importance of giving students adequate support and guidance to adapt to the new environment (Minocha et al., 2010).

While these issues do raise questions about the viability of VWs for teaching and learning, as the technology continues to evolve and grow in speed and power they may become of increasing interest to educators (Warburton & Perez Garcia, 2016). Moreover, it has been pointed out that "educators have adapted to new technologies over the years. Digital projectors, audio, video, websites, PowerPoint and Learning Management systems are all technologies which at one time presented their own set of challenges to educators" (Kluge & Riley, 2008, p.132).

2.6.2 Application of VWs for Assertiveness Training

In the context of education and training, VWs offer some distinct affordances over F2F assertiveness training such as enabling accurate/real context and activities for deeper experiential and situated learning, simulation, modelling of complex scenarios that may not be experienced by using other learning modalities (Jarmon et al., 2009). VWs allow learners to practice skills, try new ideas and learn from their mistakes (Herold, 2012). Employing VWs to prepare individuals for similar real-world experiences makes them an invaluable tool

with unlimited potential (Herold, 2012). While it may be argued that VWs are not the 'real world' and therefore it is not possible to create 'real world' experiences, for some contexts where training may be impractical or too expensive for training in the traditional way, they can be very effective to simulate the environment.

There is a substantial body of literature reporting on the benefits of VWs for assertiveness training. VWs have been found to be effective for reducing shyness in adolescents (Lee, 2013), public speaking anxiety (Heuett & Heuett, 2011), schizophrenia patients (Park et al., 2011) and has value in other areas where communication competence is required, such as counselling (Walker, 2009), preparing teachers for classroom practice (Gregory & Masters, 2012), preparing people for job interviews (Kwon et al., 2013) language learning (Grant & Pasfield-Neofitou, 2013) and developing communication competency in medical students (King et al., 2012).

According to research, the high level of presence and realism experienced by users while in the VW contributes to successful outcomes in communication training (Mennecke et al., 2011). For example, the extent of the user's perception that the VW is real and the sensation of 'being there' in the VW rather than being in their actual physical location, can influence an individual's psychological sense of liberation that allows an individual to communicate with more confidence (Lee, 2013; Fox et al., 2009). A feeling of presence in the VW can affect how people respond to virtual humans and the amount of words used while speaking with others (Robb et al., 2015; von der Putten et al., 2010). This in turn promotes user self-efficacy through accomplishment. "The higher their accomplishment experience, the higher their self-efficacy" (Lee, 2013, p.256). This is particularly true for individuals who have difficulties expressing themselves in the physical world. For instance, Park et al.,(2011) found that the higher the level of presence a user experienced while in the VW, the better the verbal interactions, as users felt less anxious and more in control while in the VW. In addition, the realism of verbal interactions that can be created in a VW produces a sense of learning by doing, which is the principle consistent with experiential learning on how individuals learn and develop (Jarmon et al., 2009).

Another advantage of communication training in VWs is that it provides virtual reality contexts, that support social interaction through role-play (Bai & Lavin, 2013; Jarmon et al., 2009). As a role-play actor, a virtual human can act out a role that teaches the student some aspect of human communication (Sims, 2007). Participants, in the form of avatars can log in to the same physical space at the same time to interact with each other. As pointed out by Finkelstein (2006) a variety of locations can be created in a VW to make the system user

friendly and detailed enough to keep students engaged while practicing the role-plays. In addition, being able to visualise instead of simply imagining the context for role-play can encourage a feeling of presence as learners experience the scenarios (Chodos, 2012). Furthermore, role-playing as an avatar has been associated with less anxiety and more involvement with the interactions than the traditional F2F role-play training (Vallance et al., 2014; Bailenson et al., 2006).

However, very few researchers have been studying VWs for assertiveness training to reduce sexual coercion, with the work of Jouriles et al. ,(2009) the exception. The authors examined whether the realism of role-plays in a VW could help College women resist sexual coercion. Participants were exposed to a simulation of a threatening sexual situation with a male actor. Univariate analysis was conducted to evaluate the difference between role-play scenarios conducted F2F versus the role-plays conducted in the VW. The researchers showed that compared with those in the control condition, those in the VW role-play condition reported more negative effects, (p=.05), perceived the role-play to be more real, (p=.05) and were observed to display more negative effect during the role-plays (p=.05). According to the researchers, a key element of the study was the illusion of realism in the VW that produced high levels of anxiety in the participants while enacting the role-play (Jouriles et al., 2009).

A more recent evaluation of the same program was conducted with adolescent females 14-17 years by (Rowe et al., 2015). The study used a randomised and wait-list control design. The participants were given a single 90-minute session with training in how to assertively resist unwanted sexual advances, followed by practice of the skills in the VW. Participants completed the Conflict in Adolescent Dating Relationships Inventory (a measure used to assess violence in adolescent relationships) on completion of the study and at a follow-up assessment at three months. The results indicated that "*My Voice, My Choice*" can reduce sexual coercion by focusing on self-protection skills and providing opportunities for learners to practice the skills in a plausible authentic context (Rowe et al., 2015).

2.6.3   Review of VWs

This section reviewed the literature that addressed current applications, benefits, and issues of VW in education. The literature suggests that a VW may provide a suitable medium to deliver assertiveness skills training to adolescents through role-play as they are representations of an authentic environment that can support students with situated meaningful learning experiences and thus bridge the gap in current interventions. The review

points to the importance of a user's psychological perception of presence and sense of realism experiences while in the VW, to contribute to successful outcomes in communication training. This is achieved through multiple layers of sensory information that helps the user feel the experience is real if they feel immersed in the VW. The believability of the VW produces a sense of learning by doing, and thus VWs can provide alternative spaces for experiential learning. For this reason a VW is relevant to this study as it can provide opportunities for learners to engage in behavioural practice of the skills they are to acquire versus simply discussing or viewing examples of the skills. In addition, the increasing popularity of VWs reflected in the user uptake in the 10-15 age group, makes them a suitable risk free environment to engage youth in learning. However, certain factors such as the steep learning curve and behaviour management of students in a VW are issues that need to be taken into account before a VW can be adapted for education. Based on the literature above, Table 2.2 summarises the affordances, capabilities and issues associated with teaching and learning in a VW.

Table 2.2 Summary of Affordances, Capabilities, and Issues with VWs •		Authors
Benefits	• **Fosters Social Interaction** • **Adaptable** • **Engaging for Youth** • **Collaborative Learning** • **Risk Free** • **Persistent Environment** • **Alternative Spaces for Teaching:** • **Simulation Training** • **Situated learning** • **Experiential Learning** • **Role-Play** • **Capable of Teaching Difficult Concepts** • **Suitable for Long-distance learning** • **Can Support Existing Curriculums**	• **(Wang et al., 2011)** • **(Falconer, 2013)** • **(Dede, 2009)** • **(Franceschi et al., 2009)** • **(Boulos et al., 2007)** • **(Parsons et al., 2006)** • **(Warburton, 2009)** • **(Richardson et al., 2011)** • **(Dawley & Dede, 2014)** • **(Jarmon et al., 2009)** • **(Bai & Lavin, 2013)** • **(Chen et al., 2007)** • **(De Freitas, 2008; Twining, 2009)** • **(Beltrán Sierra et al., 2012)**
Capabilities	• **Interactive** • **Simulates Real life** • **Multiple Layers of Sensory Information** • **Range of Synchronous and Asynchronous Communication Channels** • **Visualization** • **Users Can Create Content**	• **(Lee, 2013)** • **(Falconer, 2013)** • **(Blascovich & Bailenson, 2011)** • **(Minocha et al., 2010)** • **(Jarmon et al., 2009)** • **(Chodos, 2012)**
Experiences	• **Immersive** • **Unstructured** • **Realism** • **Creative Expression**	• **(Slater, 2009)** • **(Wang et al., 2011)** • **(Jouriles et al., 2009)** • **(Warburton & Perez Garcia, 2016)**
Issues	• **Steep Learning Curve** • **Broadband Capabilities** • **Safety and Security** • **Student Behaviour Management**	• **(Kluge & Riley, 2008)** • **(Warburton, 2009)** • **(Graves, 2008)** • **(Kluge & Riley, 2008)**

2.7   Discussion

The review of the literature above has provided an overview of sex education and its relevance to sexual coercion prevention efforts. The importance of tackling adolescent

sexual coercion is stressed due to its prevalence and the impact of the physical, psychological and emotional consequences for victims.

The review discussed three distinct approaches to prevention. The first based on feminist theory, the second on evolutionary theory and the third based on social cognitive theory.

For feminists, sexual coercion is inherently misogynistic and functions as a form of social control by denying women freedom and autonomy (Kelly, 2013). Feminist theory holds that prevention efforts should focus on changing attitudes and pay particular attention to myths and gender stereotypes. However, the effect of programs centred on changing attitudes has shown little evidence that such interventions have been effective (Fulu et al., 2014). In addition, while the majority of perpetration is committed by men against women, some feminists advocate for an alternative way of conceptualizing sexual coercion to take into account the sexual victimisation of both men and women (Turchik et al., 2016).

Creating an alternative to the dominant feminist discourse, evolutionary theory posits that sexually coercive behaviour is based on sexual motivation and efforts to reproduce, rather than men's' need to control women. Thus, sexually coercive tactics should be considered within a range of evolved strategies similar to those utilized by nonhuman animals. According to evolutionary theory, prevention efforts need to address males' sexual urges and how to control these urges (Thornhill & Palmer, 2001). Many feminist scholars have argued strongly against an evolutionary approach to understanding sexual coercion, pointing to the evidence that sexual coercion is perpetrated by many men who have active sex lives and are often married (Denmark et al., 2016). In addition, it has been argued that to provide an evolutionary explanation for sexual coercion reduces its weight as a crime and absolves perpetrators of responsibility for their behaviour (Ward & Siegert, 2002).

Self-efficacy beliefs have shown to correlate significantly with influencing motivation, choice of activities, level of effort, persistence, and emotional reactions (Zimmerman & Cleary, 2006). Following this line of thought, in the context of sexual coercion, self-efficacy may contribute to an individual's self-belief they can control a situation such as the confidence to refuse unwanted sexual activity (Jones et al., 2016). Adolescents' beliefs about their ability to manage a potentially negative sexual situation can influence them emotionally by reducing their stress and anxiety (Bandura, 1997). Thus, it may be particularly beneficial for educators to foster a sense of personal self-efficacy through

skill development and in the process, provide students with a sense of agency to motivate their use in personal contexts.

The review also looked at existing school-based programs to prevent adolescent sexual coercion. Unfortunately, while there appears to have been an improvement in gender norms and attitudes most of the research points to a lack of evidence that the programs were effective in reducing incidents of sexual victimisation or perpetration. However, evidence suggests including an assertive skills component may be effective in this area (De La Rue et al., 2014).

Many of the computer-based interventions have demonstrated that technology offers great potential to support learners in many areas of sexual health. However, they have mainly used passive technology such as videos, to demonstrate assertiveness skills. Few provided practice opportunities for personal mastery of the skills presented. It is evident from the research on skills acquisition that skills learned under conditions similar to those in which they are used are more likely to generalise to the "real world" than skills learned under dissimilar conditions (Rowe et al., 2015). Newer technologies such as VWs allow us to move beyond modelling for delivering communication skills training and suggest that this medium may provide an alternative environment for teaching assertiveness skills to adolescents.

Based on the findings from the literature, it appears that interventions informed by a feminist approach tend to focus on improving gender norms and attitudes inherent in the patriarchal construction of society. There is some support for the association of adherence to traditional sex roles and sexual coercion (Byers & Glenn, 2012). However, this approach may not be suitable for adolescents as unequal power is not as evident in adolescent relationships as in adults. Evidence from the literature suggests that a skills-based approach is an effective method for reducing adolescent sexual coercion. Therefore, it would make sense to suggest that increasing adolescent's self-efficacy to verbally respond in potentially coercive situations may help them to avoid such occurrences from happening. In order to do this, young people need to learn assertive verbal strategies and techniques to be able to resist pressure to engage in negative sexual behaviour. Self-efficacy could be enhanced by the mastery of assertive communication skills, appropriate modelling, and verbal persuasion. To be effective, instruction should engage students in direct experiences which are linked to real situations they may encounter. Proponents of experiential learning assert that students learn by being actively involved in the learning experience. Learning through role-play is especially

suited to experiential education as it is a method that promotes participation in the experience.

Therefore, the researcher designed a framework adapted from social cognitive theory and the experiential learning model, to support participants to acquire the skills to assertively respond to sexual coercion. An integration of Kolb's learning model and Bandura's model of self-efficacy is employed as it offers a holistic approach to learning that involves the "whole person' through thoughts, feelings and physical activity that is soundly based in the intellectual traditions of social psychology, philosophy and cognitive psychology" (Beard & Wilson, 2006, p. 24). Kolb's learning cycle is based on a circular process that begins with a concrete experience upon which a learner moves from experience to reflection to thinking and acting (Passarelli & Kolb, 2011). Kolb contends that "when a concrete experience is enriched by reflection, given meaning by thinking and transformed by action, the new experience created becomes richer, broader and deeper" (Passarelli & Kolb, 2011, p.1212). Increasing self-efficacy through such ways as mastery of experience and vicarious learning leads to increased confidence in perception of capability (Bandura, 1986).

The overlap of Kolb's cycle and Bandura's theory of self-efficacy can occur at several different stages (Leung et al., 2009) (Figure 2.2).

Kolb's (1984) reflective observation phase complements and overlaps with Bandura's (1994) vicarious learning, both emphasising that learning occurs through observation and reflection (Roessger, 2012). Demonstration or modelling occurs during the abstract conceptualisation stage. Finally, Bandura's mastery of experience phase naturally aligns with Kolb's active experiment phase, with both stressing the active process fundamental to learning (Figure 2.2).
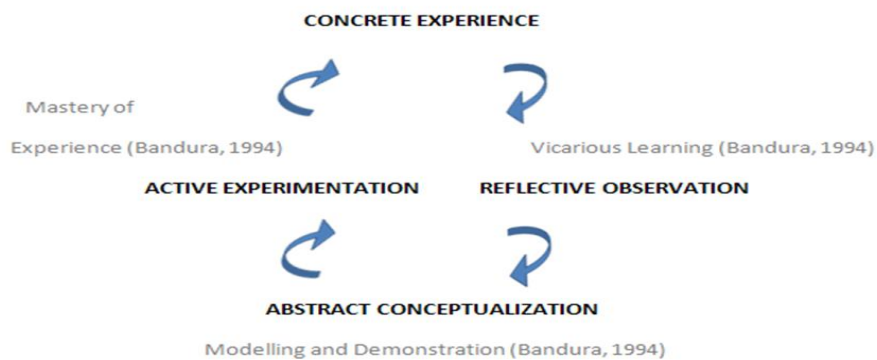
Figure 2.2 Kolb's Model of Experiential Learning & Bandura's Theory of Self-Efficacy (Leung et al., 2009)

In the next chapter the researcher presents CARE, the communication and relationship education, social cognitive primary intervention model, aimed at addressing the objectives of this study, which is to explore the effects of an intervention on the perceived assertiveness and self-efficacy of adolescents to respond verbally to sexual coercion.

CHAPTER 3: CARE (COMMUNICATION AND RELATIONSHIP EDUCATION)

3.1 Introduction

Findings from the literature highlight that adolescent sexual coercion is a major worldwide phenomenon that has important implications for the emotional, physical and mental well-being of young people. The literature emphasised the benefits of a skills-based program that includes verbal assertiveness training as an effective method for reducing sexual coercion. The research on role-play in VWs points to their benefits for teaching assertiveness skills to adolescents. The literature also provided information regarding requirements and activities to take into consideration to achieve the learning objectives. This chapter presents, describes and discusses CARE, the communication and relationship education primary intervention model designed, developed and implemented in this study.

3.2 CARE

CARE is a communication and relationship education, primary intervention social cognitive model aimed at developing the self-efficacy of adolescents to verbally respond to sexual coercion. As stated in chapter two, the framework for CARE was based on social cognitive theory and the experiential learning model. The model was used to provide a frame of reference to facilitate the design and delivery of an optimal learning model to promote the learners' self-efficacy as proposed in the literature.

Figure 3.1 illustrates the composition of concepts through which Banduras' theory of self-efficacy and Kolb's learning model may be integrated to promote learner self-efficacy. According to Bandura (1997) individuals form a concept or cognitive representations of behaviour from observing others. Observational learning occurs from a wealth of information such as observing a teacher modelling a skill or listening to verbal instructions. Applying Bandura's principles for communication training, it is therefore essential to promote skill acquisition that learners are provided with opportunities to increase their understanding and knowledge through demonstrations of the desired behaviour. In order to imitate the behaviour, the learner needs to be able to retain the information and this retention process can be accomplished through imagined internal representation such as forming a mental picture or through a verbal description of the behaviour. According to Kolb (1984) individuals can then learn by reflecting on the experience and integrate their observations with what they already know. However, the nature of the reflection and the quality of the experience is also important to the overall learning (Kolb, 1984). Hence, the

motivation to use the skills and provide a positive experience can be accomplished by providing the learner with verbal persuasion through feedback and coaching from facilitators on the accuracy of the desired behavioural skill. With incentives to use the skills, observation quickly becomes action and more attention is paid and retained by the learner (Bandura, 1997).

As the learner moves through the framework he or she is then required to make sense of and organise the experience through what Bandura calls 'mastery of experience' and Kolb refers to as 'active experimentation. For teaching communication skills, active hands-on experience can be accomplished through role-play scenarios of the desired skills. For Kolb, the active experimental stage is when the learner takes what is learned from the training and applies it to create a new concrete experience (Kolb, 1984). However, for the learning to be useful the scenarios must be realistic and relevant to the learner. Consequently, the training scenarios should be derived from authentic situations that allow the learner to relate the experience to real life. In addition, with group training learners can observe their peers and in this way gain an insight into their own performance, skills and abilities. According to Bandura the final source of self-efficacy is physiological state. For example, when an individual feels stressed or anxious in a sexual situation, they are less likely to initiate communication behaviours for which they lack confidence. Accordingly, Bandura (1977) proposes to promote self-efficacy the learner must be given multiple opportunities during the training course to practice the skills.
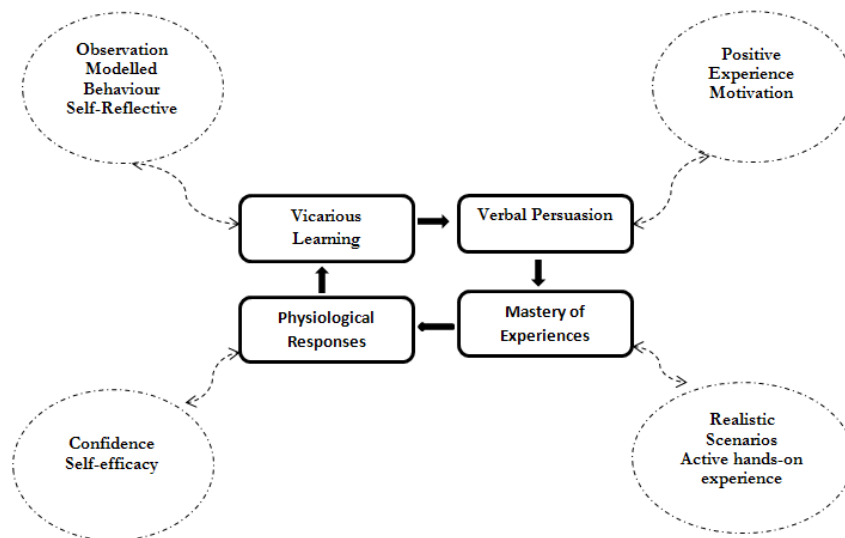
Figure 3.1: CARE Communication and Relationship Social Cognitive Model

The following sections describe the three components of the CARE model: a CARE pedagogy, a CARE training course and a CARE VW.

3.2.1 CARE Pedagogical Framework

The core concept of the CARE pedagogy is that the learner is an active participant in the learning process (Vasileiou, 2010). The learner is not taught how to behave, but he or she learns assertive behaviours and how to apply the knowledge and skills they learn in different contexts and situations (Anderson et al., 2009). These situations might range from having a private interaction with a friend or being part of a larger group at a party. The goal of this approach is to help participants to take control of their own lives and build healthy, positive relationships (De La Rue et al., 2014).

An effective framework design requires consideration of objectives, content and teaching as these elements greatly influences the success of the course. A supportive learner-centred curriculum fosters experiential learning (Kolb 2011). Knowledge and comprehension is achieved through teacher guidance and application of this knowledge is fostered through modelling, role-play, scaffolding and corrective feedback (Rowe et al., 2015).

The CARE pedagogical framework consisted of four phases identified in the literature on experiential learning as important phases in the learning process. These are **Phase 1**) induction/ awareness, **Phase 2**) modelling/demonstrations, **Phase 3**) motivation and **Phase 4**) mastery of the skills.

3.2.2 Phase 1: Induction

To provide a concrete experience and develop the learners' assertiveness skills and self-efficacy the first step was the induction phase which aimed to develop an awareness of the three main styles of communicating for instance, aggressive, passive, and assertive behaviour (Peneva & Mavrodiev, 2013). To help learners understand what assertiveness is, it is helpful to provide graphics to visually contrast it in relation to alternative ways of behaving such as being passive or aggressive (Kotzman & Kotzman, 2008).(Figure 3.2 and Table 3.1).

Figure 3.2 The Three Basic Styles of Communication

Table 3.1 Behaviour of the Main Communication Styles			
The Passive Person	**The Aggressive Person**	**The Assertive Person**	**Author** **(Hayman, 2011)**
Is afraid to speak up	Interrupts and talks over others	Speaks openly and honestly	
Speaks softly	Speaks loudly	Uses a conversational tone	
Avoids eye contact with people	Stares at other people	Makes good eye contact	
Slouches	Stands rigidly with arms crossed	Is relaxed with an open stance and expressions	
Agrees with what everyone else wants despite own feelings	Only thinks about what they want	Keeps to the point	
Hurts self to avoid hurting others	Hurts others	Tries to hurt no one including self	

In addition, the benefits of assertive behaviour and the relevance to their personal lives should be included in the training program (Zerubavel & Messman-Moore, 2013; Kolb, 1984). For example, if an individual is too passive and does not speak up for themselves in a clear confident tone of voice, the chances are they may be taken advantage of. This may lead to resentment and a sense of being helpless or having no control over your life.

Reflective observation occurs by observing events or reactions and thinking about their meaning from different perspectives. The use of video demonstration can provide opportunities for the learners to observe specific behaviour associated with different styles of communication (Wolfe et al., 2012). In the CARE model the learners were provided with a checklist that required them to observe the video role-plays and identify which ones

demonstrated aggressive, assertive or passive responses to the situations (Kotzman & Kotzman, 2008). In this way, they gained insight into what to look for when observing the behaviours and also an awareness of the speech patterns of each style of behaviour

To promote assertiveness in sexual situations, it is important to discuss the disempowering mental barriers that may exist that prevent individuals from asserting themselves (Katz et al., 2010). According to social cognitive theory, if inadequate thought patterns are overwhelming, skills training may fail to motivate people to adjust their behaviour. As Bandura (1989, p.3) notes "what people think, believe and feel affects how they behave"(Figure 3.3).
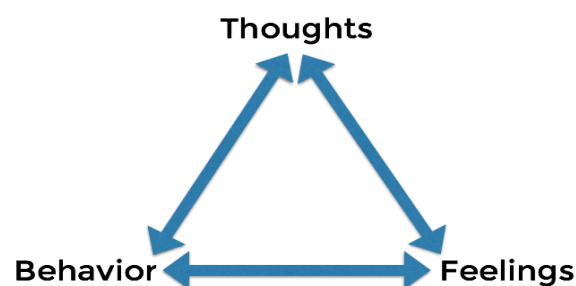
Figure 3.3 Cognitive Triangle

Examples of negative thinking that may need to be addressed include the following:

- *"If I assert myself I will upset the other person and ruin our relationship"*

- *"It will be terribly embarrassing if I say what I think"*

- *"I shouldn't have to say what I need or how I feel; people close to me should already know"*

- *"If someone says "no" to my request it is because they don't like or love me"*

The final step in phase one involved developing an awareness of personal rights (Rickert et al., 2002; Anderson et al., 2009). A Personal Rights Charter was included in the CARE model as it helped learners understand their own needs and wants are important and in recognising this, may make it easier to assert and express themselves when required.

Table 3.2 Personal Rights Charter **Source (Rickert et al., 2002)**
Personal Rights Charter
You have the right to say NO – It's your body and no one should pressure you when it comes to getting physical. It's also your right to say no to alcohol or drugs. if the other person ignores your "no", then they're disrespecting you
You have the right to open, honest communication – If something's going on in the relationship, you and the other person need to talk about it
You have the right to end a relationship. It doesn't matter what your reasons are. If you want out, get out. You don't have to justify or explain how you feel to anyone
It's your right to have feelings for anyone you choose. Your friends may have opinions worth listening to, but who you're friends with or who you love is YOUR choice.
You have the right to express your feelings or to keep them to yourself. Just because you have feelings for someone doesn't mean you have to tell anyone or do anything about it.
You have the right to feel safe – It's important to feel physically and emotionally safe at all times when you're with another person.

3.2.3   Phase 2: Modelling

It is proposed in the literature that vicarious learning occurs from observing others and that modelling desired behaviours is an effective strategy that aids in learning (Kolb, 2011; Bandura, 1986). Accordingly, to define and model the skills the facilitator first provided a verbal explanation of each step of the targeted skill before demonstration (Dowd & Tierney, 2005). This phase was then augmented with either fully scripted or semi-scripted scenarios in order that the students could practice a range of sexual situations where they may need to be assertive (Cho, 2015). Vocal practice also allowed the students to become aware of their speech patterns in terms of volume and projection, inflection and pacing, etc. and how this influences the way the message is heard by another (McWhirter et al., 2013).

An example of a scenario with which students could practice being assertive was the following situation. "*Amy*" and "*Caleb*" have been together for a while and Caleb wants to take their relationship to a further sexual level while Amy thinks things are moving too fast.

> Location: Couple on couch. Sitting close
> Caleb – "Have you thought about what we talked about? "
> Amy – "We talk all the time. What are you talking about?"
> Caleb –"Well, ye know…..we were talking about ways we can make our relationship………. more special "
> Amy –"Don't you think we are special?"
> Caleb – "Yeah………..I know we're special ……but I think we can make our relationship a lot more special if …….we had sex "
> Amy – "This is going too fast for me"
> Caleb – "But……………………Aren't you curious?"
> Amy – "Of Course I'm curious but………when the times right I'll be there."
> Caleb – "And when will that be?"
> Amy –"Let go of it Caleb….I'm not having sex yet"
> Caleb "ok as long as I still get to kiss you
> Amy – "That's a great idea"
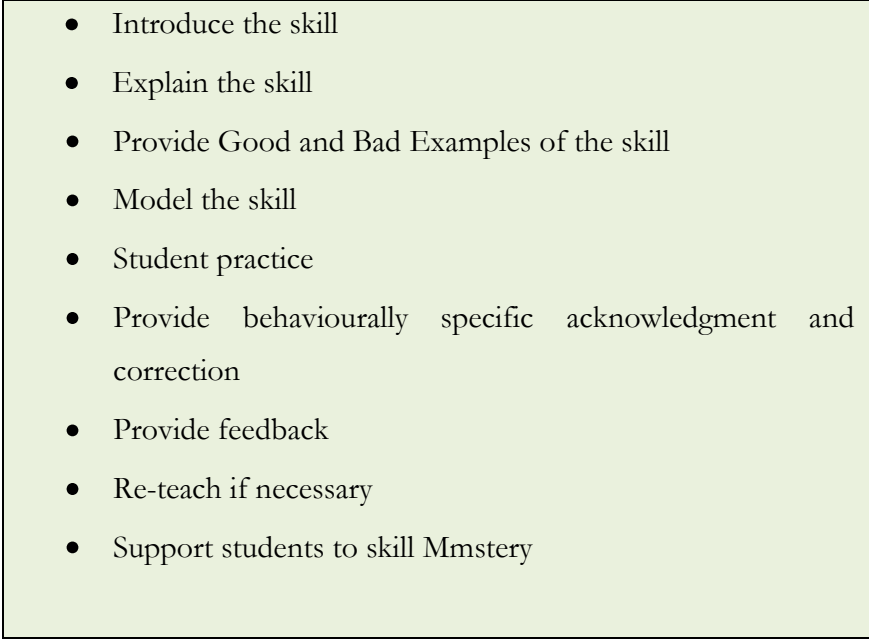
3.2.4   Phase 3: Motivation

Motivation refers to "the reasons underlying behaviour" (Guay et al., 2010, p. 712). The motivation phase is governed by an individual's perception of perceived ability to perform a task. Facilitators can influence self-efficacy beliefs in participants and encourage motivation by incorporating positive feedback to improve an individual's understanding of the skills (Bandura, 1994). The most effective type of feedback needs to provide information specifically relating to the task or process of learning that fills a gap between what is understood and what is aimed to be understood (Hattie & Timperley, 2007). It comes in a variety of types (e.g., verification of response accuracy, explanation of the correct answer, hints, worked examples) and can be administered at various times during the learning process (e.g., immediately following an answer, after some time has elapsed). The CARE model provided positive feedback immediately following the role-play performance with an explanation of how the response might be improved.

Another factor that may link to motivation is the participants' perceived usefulness of the skills (Zimmerman & Cleary, 2006). If the participant feels the skills could be used in a real life situation, then the likelihood of motivation may be higher. Therefore, the CARE model included social situations meaningful to the participants, such as dealing with peer pressure or being asked to a party where there will be drugs and alcohol.

3.2.5 Phase 4: Mastery of Experience

Finally, in addition to knowledge and motivation the intention has to be transformed into detailed instructions on how to perform the desired action related to a particular behaviour (Bandura, 1994). This may be particularly relevant to adolescents who may lack experience in using these types of skills. Accordingly, the fourth phase of the CARE model focused on behavioural practice in assertive communication through role-play, based on common situations in dating and sexual relationships. A number of scenarios were presented to the students that may arise in a dating or sexual situation such as refusing a request for a date, refusing to go back alone to someone's apartment or refusing to send explicit texts. Social reinforcement is provided when the assertive behaviour observed in the role-play becomes close (Dowd & Tierney, 2005). Figure 3.7 illustrates an overview of the sequence of teaching steps recommended by (Dowd & Tierney, 2005).

- Introduce the skill
- Explain the skill
- Provide Good and Bad Examples of the skill
- Model the skill
- Student practice
- Provide behaviourally specific acknowledgment and correction
- Provide feedback
- Re-teach if necessary
- Support students to skill Mmstery

Figure 3.4 Sequences of Teaching Skill
(Dowd & Tierney, 2005)

3.3 CARE Training Course

The CARE training course developed for the learners was intended to improve the self-efficacy of adolescents to assertively respond to sexual coercion. Teaching methods were based on the principle techniques recommended in the literature: Instruction, modelling, role-play, feedback, reinforcement and practice (Nangle et al., 2010). The aim of the course consisted of teaching and practising assertion skills so that participants could:

- Say clearly what they want and need

- Refuse unreasonable requests in an open and socially acceptable manner

- Respond in an assertive manner without being defensive or sarcastic

- Resist sexual overtures when they are not interested

- Uses verbal strategies (e.g. broken record, fogging, clouding) to handle awkward situations

- Make good eye contact when speaking to another

- Adopt an open relaxed body posture and expressions to match the message

3.3.1 CARE Training Course Content

The topics covered in the CARE training course followed a set sequence so that the skills could build upon one another as the course progressed. For example, class 2 covered the concepts of assertiveness and the barriers that may exist for an individual to become assertive. This was expanded upon in class 3 by discussions of the verbal and paralinguistic components of assertiveness, such as volume and projection, response latency, inflection, etc. Sessions 3-8 incorporated skills strategies that may be useful to avoid potentially negative sexual situations. The primary activities during the skills strategy classes were to discuss and model the skill and role-play either in pairs or small groups. Feedback and reinforcement were provided by the tutor. A home assignment after each class was to practice the skill the participants learned in each class session (Table 3.3)

Table 3.3 Activities and Topics Covered in Each Class	
Lesson	**Topics**
Lesson1	The participants completed the pre-study assertiveness and self-efficacy questionnaires
Lesson 2	• The main communication styles • Demonstration • Consequences of each communication style • Barriers to assertive communication • Everyone's Bill of Rights • Discussion
Lesson 3	• The verbal /paralinguistic components of assertiveness: • Modelling/Explanation • Role-play practice • Discussion
Lesson 4	• Verbal response strategies • Modelling/Explanation • Role-play practice • Feedback/Reinforcement • Discussion
Lesson 5	• Verbal response strategies • Modelling/Explanation • Role-play practice • Feedback /Reinforcement • Discussion
Lesson 6	• Verbal response strategies • Modelling/Explanation • Role-play practice • Feedback • Discussion
Lesson 7	• Verbal response strategies • Modelling/Explanation • Role-play practice • Feedback • Discussion
Lesson 8	The participants completed the post-study assertiveness and self-efficacy questionnaires

3.4   CARE VW

Care VW is a communication and relationship education, primary intervention social cognitive model aimed at developing the self-efficacy of adolescents to verbally respond to sexual coercion. The aim of the CARE VW was to facilitate assertiveness training with adolescents through role-play within an environment that mimicked the context where these skills may be useful (Rowe et al., 2015). CARE was developed in Open Simulator (OpenSim) an open-source, cross-platform, multi-user software application. OpenSim can be accessed through a variety of clients such as Imprudence or Firestorm.

The overall architecture of CARE was aimed at capturing the learners' attention and provoking a sense of immersion and a feeling of 'being there' in the environment. The immersive experience of 'being there' in the VW was accomplished by incorporating several design features into the environment. These included: a realistic environment with graphics and sound, ease of navigation, avatar personalization and a sense of belonging to the environment (Warburton & Perez Garcia, 2016). (Figures 3.5 and 3.6)
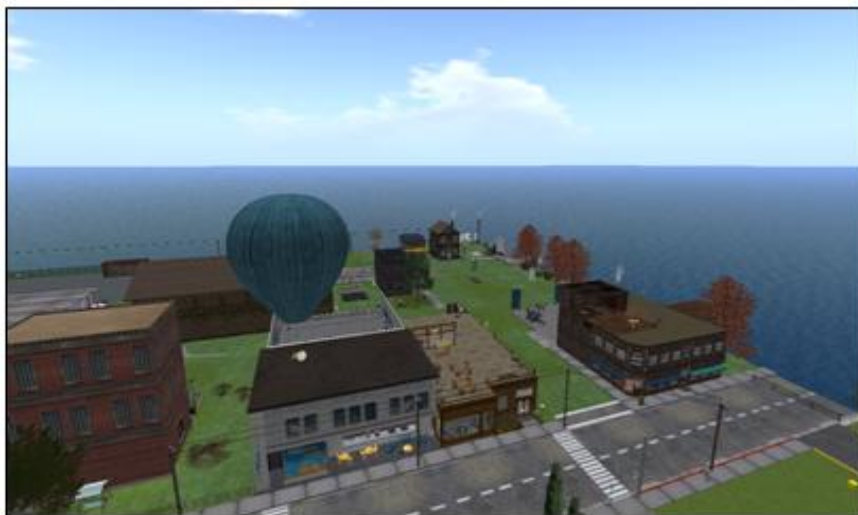
Figure 3.5 First Aerial View of CARE
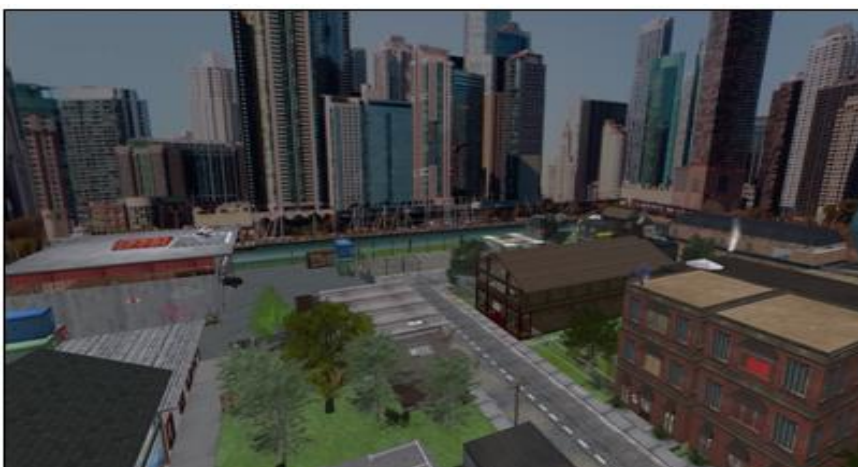
Figure 3.6 Second Aerial View of CARE

The following section deals with the description and the development of the VW and discusses in more depth the incorporation of the specific design features informed by the literature.

3.4.1 Preparatory Phase of the Development of CARE

Prior to the design decisions of CARE the researcher first had to make a choice of which VW to use for the study. There are currently hundreds of VWs that target diverse demographics, and they vary in the extent to which they facilitate user creativity and allow autonomous creation of content (de Freitas & Neumann, 2009). Second Life is the most popular 3D VW for educational purposes (Baker et al., 2009). Users may connect to Second Life free. However, if a researcher wants to develop a private space they need to rent a region from Linden Labs at a cost of $ 295 per month (Second Life, 2015). If an individual owns a region, then the user has a certain amount of control over the content that is put up there. But Second Life owners also have a great deal of control and it is they that decide what a user can and cannot put up in their region, how many scripts you can run and they can remove content at will (Korolov, 2013). In OpenSim, all the decisions about the regions are made by the region owner (Deeds, 2014). In consideration of the age of the cohort and the ability of the researcher to maintain strict control over access to the environment, OpenSim was chosen for the study.

All the technological objects and infrastructure were developed over a period of six months through extensive collaboration between the researcher and an experienced VW developer. A wide range of accessories, objects and pose balls for animation were located and obtained from the free resource repository in OpenSim and from websites such as www.hyperica.com/2015/04/linda-kellie-freebie-mall/.

Once the necessary artefacts (both functional and decorative) were assembled to support the study, the next step involved creating an authentic learning experience based on recommendations from the literature. The VW featured a number of very specific design characteristics that resulted from insights generated from the literature.

CARE Environment:

First, experiential learning emphasises the role of authentic contexts in order for learners to actively explore and build deep understanding (Kolb, 1984). As part of the experiential process, Jarmon (2009) emphasises the importance of providing an immersive experience to increase learners' engagement in the VW. To replicate the real world as naturally and realistically as possible CARE was designed with an appealing visual aesthetic

incorporating an array of landscape features such as, trees, fountains and outdoor seating with the intent of inviting the users to believe they were in the physical world rather than sitting in front of a computer (Warburton & Perez Garcia, 2016).(Figure 3.7).

Figure 3.7 Students Relaxing Around an Outdoor Fire

Other atmospheric cues included wind chimes, flying birds and butterflies and interactive elements such as workable swings and slides in the park (Figure 3.8). In addition, learners also encountered visual stimuli such as graffiti-marked buildings, and auditory stimuli such as the sounds of dogs barking. All the elements were intended to heighten the experience of perceptual presence and thus provide an environment in which learners could participate in experiential learning, practice assertive vocal skills and make mistakes without serious repercussions (Boulos et al., 2007; Jarmon et al., 2009).

Figure 3.8 Students Playing on Interactive Swing

In adhering to the recommendations made by Finkelstein (2006) the CARE VW offered enough variety in terms of scenes and objects so that the learners did not get bored

or frustrated during the course of the study. Familiar spatial creations also provided a context for reference that may facilitate improved verbal interaction among users (Dawley & Dede, 2014). In this vein, multiple places were created with designated areas for fun and enjoyment as well as learning. These included a meeting room, an art gallery, a gym, hairdressers, a tattoo parlour, a coffee shop, a bar, a nightclub and a number of social areas designed with careful attention to realism. For example, the gym had a workable treadmill and swings and slides in the park could be used by the learners in a similar way to the physical world.

Figure 3.9 Avatar Using the Treadmill in the Gym
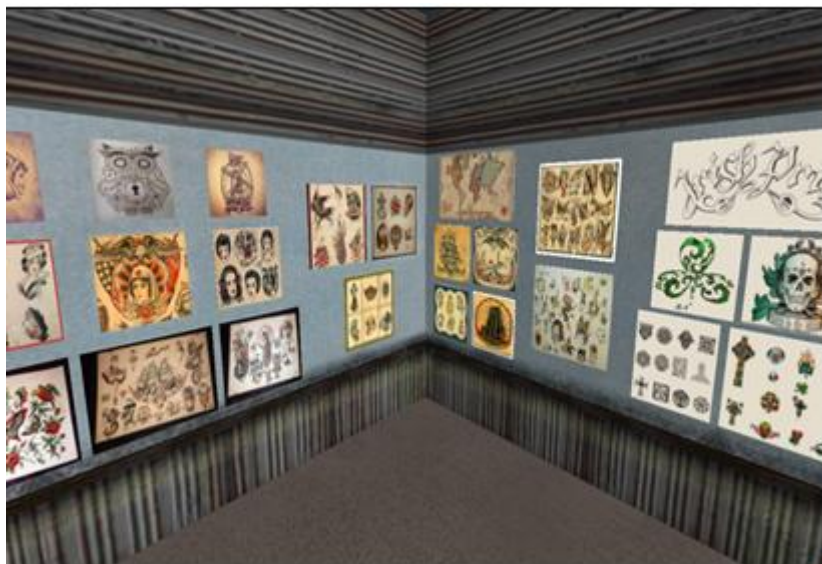
Figure 3.10 Tattoo Parlour

Figure 3.11 Art Gallery

Navigation

Navigation in a VW can be challenging for new learners as they have to learn how to walk, run, move, find their target destinations and locate other users. Therefore, it is important that the process is made as easy as possible in order to encourage self-efficacy and engagement with the environment (Minocha & Hardy, 2016).

The welcome area in CARE was created to provide three main functions. First, it provided a large space where students could practice their navigation skills and become accustomed to the virtual experience, as appropriate scaffolding of the students' exploration of the VW must be provided to aid the experiential activities (Minocha & Hardy, 2016). Secondly, upon arrival in the *Welcome Centre*, there were posters with clear instructions on how to navigate around the VW, including how to walk run, sit, fly and teleport, for example (Figure 3.12). Learners could walk around the welcome area and peruse the posters at will. Thirdly, this area was allocated to the students as their '*Home*' location and the students automatically arrived there when they logged on, providing a base from which to navigate to other areas within CARE.

Figure 3.12 CARE Welcome Centre

To further help with mastering the VW environment, it is important that the students are able to find their way easily to where the role-play activities would take place (Minocha & Hardy, 2016). Therefore, teleporting mechanisms were created for instantaneous movement from one destination to another. This enabled the learners to move through the environment with ease rather than having to try and work it out for themselves and in turn enhanced the learners' overall experiential involvement (Franceschi et al., 2009). This also reduced the need for detailed knowledge by the students of how to use the world map and landmark facilities built into the user interface by OpenSim to locate different areas of the environment (Figure 3.13).

Figure 3.13 Teleporting Assistance to Role-Play Locations

The Meeting Room

The meeting room was created to facilitate educational sessions and discussions. After initially considering making this area mirror a traditional classroom, the researcher decided that making the place less formal would encourage more student interaction (Salmon et al., 2010). (Figure 3.14). The meeting room comprised a number of seats and a screen for showing videos and for displaying educational posters (Figure 3.15)

Figure 3.14 Meeting Room

Figure 3.15 Video Screen and Educational Posters

Creating Settings for the Role-Plays

Based on the CARE pedagogical framework and according to Bandura (1997), to engage in mastery experiences it is important to provide students with opportunities to practice the skills they are learning. Accordingly, to provide context for the role-plays and

encourage verbal communication, a range of locations were created as social meeting places (where students of this age group would commonly socialise) in order to facilitate the role-play. These locations included a coffee bar, a pub, a disco, a barbecue and parks. Creating online spaces that students are familiar and comfortable with also contributes to a feeling of relaxation which, according to the communication literature is an important influence on speech patterns such as tone and pacing (Vallance et al., 2014). To encourage a feeling of presence as they experience the role-play scenarios the settings allowed the learners to engage in an immersive interactive way in the experience (Slater, 2009). For example, the dance/disco area consisted of an open area centred on an interactive dance ball which when animated allowed the participants to choose from a selection of dancing styles (Figure 3.16).

Figure 3.16 Students Dancing in Nightclub

Figure 3.17 Students having a 'drink' in a Virtual Bar

Avatar Personalisation

Each participant in a VW interacts with each other and with the environment as an avatar. The use of avatars is an integral aspect of the success of VWs as they provide users with the means to project their identity through their avatar's appearance (Ducheneaut et al., 2009; Dodds et al., 2011; Kim et al., 2012; Yee et al., 2009).

Several avatars can be selected to represent the gender and ethnicity of the students from the default avatars provided by OpenSim. However, the default avatars are functional with limited movement ability. (Figure 3.18)
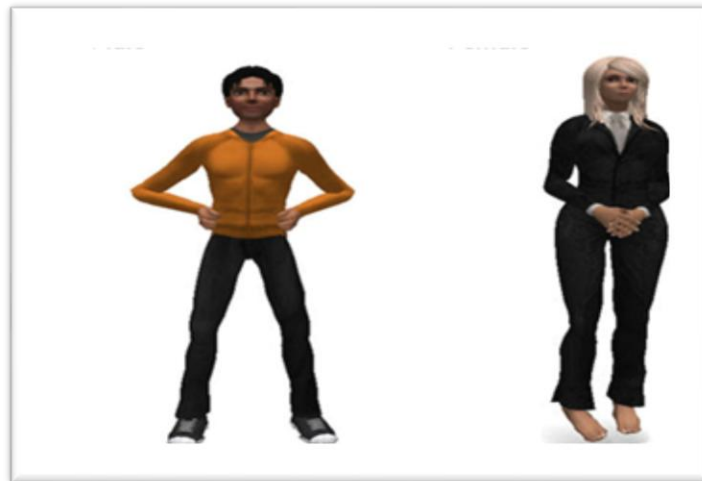
Figure 3.18 OpenSim Default Avatars

According to Bandura (1997) an individual's appearance is an important influence on their motivation and attitude through directly impacting message acceptance and self-efficacy (Baylor, 2009). Consequently, to maximise the avatar experience and increase self-efficacy, an avatar shopping area was created to provide new avatar models with AOs (animation overrides) and clothing. (Figure 3.19).

Figure 3.19 Selections of Avatar Choices

Avatar Shop

Within the shopping area the users were presented with a number of avatar models they could select from. The users could choose from a selection of clothing and also edit their appearance and make a selection from a menu of physical attributes such as skin, tone, hair colour and style, and facial features. To increase a sense of realism, a public radio station was set to stream music similar to what one would find in a physical world shopping centre (Slater, 2009). Because the students could accidently or on purpose remove all their clothes from their avatars, a special changing room was created in the Avatar shopping area where this could be done in privacy and avoided the disruption and hilarity that may have ensued when this occurs and interfere with the learning experience (Figure3.20).

Figure 3.20 Avatar Dressing Rooms

Establishing a Sense of Belonging

Providing users with a feeling of belonging and connection to the environment plays an important role in supporting users' credibility in the environment (Tapsis & Tsolakidis, 2015). To establish a sense of belonging, homes were created for each of the avatars within the VW. The homes were voice isolated, meaning that conversations between the learners could not be heard outside by others. This enabled the learners to focus on their verbal interactions away from the distraction of others, thus, allowing them to practice the role-plays and contribute to a sense of mastery as proposed by (Bandura 1997). As visual identity of familiar objects is reported to encourages a sense of belonging, each home was equipped with features similar to what users would find in the physical world such as kitchens, dining rooms, bedrooms, pictures and plants (Franceschi et al., 2009). (Figures 3.21 and 3.22)

Figure 3.21 Avatar Home 1

Figure 3.22 Avatar Home 2

Other Considerations

Security and Access

Access and security of participants within the VW is a paramount consideration (Graves, 2008). To achieve this, creating a group that restricts access to everyone except those in the designated group eliminates any issues of security. The virtual land parcels can be easily changed to "*Group Access Only*" by adding avatar names in advance to a group. Each avatar was invited to join the group in order to participate in the study. In this way access could be restricted to the members. The students should not have any authorization to build or move objects while in the VW to ensure there could be no change to the environment either intentionally or accidently (Kluge & Riley, 2008).

3.5   Summary

This chapter presented the design and development of the CARE social cognitive model to support adolescents to respond verbally to sexual coercion. The chapter described the practical approaches taken to move from design to development to facilitate the experiential learning activities in the technology component of this study. It described the design decisions taken regarding the variety of role-play locations to ensure the participants had opportunities to develop self-efficacy through enactive mastery experiences. It also described the level of control and security measures employed to ensure the VW was a safe and secure environment for the learners.

CHAPTER 4: RESEARCH METHODOLOGY

4.1   Introduction

The purpose of this chapter is to describe the rationale and theoretical underpinning for the research approach chosen for this study. It begins by giving an overview of the paradigms that are currently prominent within educational research and links these to potential methodological choices. Issues of validity and reliability in relation to the chosen research design are also discussed. This is followed by detailed rationales and descriptions of the research instruments used in this study and the procedures concerning them.

4.2   Research Paradigms in Educational Research

In order to decide an appropriate methodology for the study, it was first deemed important to consider the different paradigms that are available in order to adopt an approach compatible with the aims of the current research. In the context of research methodology, paradigms are often discussed in terms of philosophical assumptions or the beliefs underpinning the nature of the world and reality (ontology). From a philosophical perspective, this refers to "how we view our worlds, what we take understanding to be, and what we see as the purpose of understanding" (Cohen et al., 2007, p.3). While it has been argued that no particular research paradigm is superior (Taylor & Medina, 2013), "how one aligns oneself in this particular debate profoundly affects how one will go about uncovering knowledge of social behaviour" (Cohen et al., 2007, p.7).

The following sections examine four dominant paradigms within educational research.

4.2.1   The Positivist Paradigm

Positivism is seen as a historical form of research and "reflects a deterministic philosophy in which causes probably determine effects or outcomes" (Creswell, 2003, p.7). Generally, its focus is on the objectivity of the research process and the researcher neither influences nor is influenced by the research (Creswell, 2003). For positivists, the researcher is external to the research site and is the controller of the research process (Taylor & Medina, 2013). Positivist research is often formulated as hypothesis and the purpose of research using this paradigm is to either reject or provisionally accept hypotheses and the '*facts*' are considered to be value-free (Robson, 2007).

According to Cohen et al., (2011) the main strengths of positivist research include:

- Data can be generalised to the main population

- Useful for obtaining data that allows quantitative predictions to be made

- Useful for studying large groups of people and therefore saves time

A major criticism of the positivist approach is that it cannot be completely objective as "we are all part of what we are observing and reality is at least in part constructed by us and by our observations" (Muijs & Reynolds, 2013,p.78). Opponents also argue that research methods associated with this approach delivers limited information that can only provide a shallow view of the phenomenon under investigation (Cohen et al., 2011).

4.2.2 The Post-Positivist Paradigm

Post-positivism follows the same principles as positivism, but holds that observation is fallible and that multiple measures and observations must be correlated in order to better understand reality (Mertens, 2010). "Rather than finding the truth, the post-positivist will try and represent reality as best as he or she can" (Muijs & Reynolds, 2013, p.5). Post-positivists accept that bias can be introduced into enquiries, for example through the influence of the researcher and that whilst reality does exist, "it can only be known imperfectly and probabilistically because of the researchers' limitations" (Robson, 2007, p.27).

This approach uses additional methods such as survey research and qualitative methods such as interviewing and participant observation.

The main strengths of post-positivism is that it emphasises the importance of multiple measures and observations and "is a desirable way of studying a small sample in depth over time that can establish warranted assertibility as opposed to absolute truth" (Crossan, 2003, p.54).

The limitations of the post-positivist approaches generally relates to the criticism that the approach does not offer a prescribed well-defined format to conduct research and this makes it challenging to replicate sound practice in further studies (Crossan, 2003).

4.2.3 The Interpretive/Constructivism Paradigm

In contrast to the view that reality can be objectively measured, the interpretive approach strives to understand the world through the perception of the individuals who are part of the action under investigation (Cohen et al., 2011). This approach believes that knowledge is socially constructed by interaction between the researcher and the participant active in the research process (Schwandt, 2000). Therefore, the role of the scientist in the

interpretivist paradigm is to "understand, explain and demystify social reality through the eyes of different participants" (Cohen et al., 2007, p.19). Interpretive knowledge of the other is arrived at through predominantly qualitative approaches such as interviews, case studies, ethnographic research and participant observation (Taylor & Medina, 2013).

According to Maree (2007) there are several strengths of the Interpretivist approach and these include:

- Issues can be addressed in detail and depth

- In-depth understanding of participants' experiences and perceptions

The main criticism of the interpretivist paradigm is the subjective nature of the approach and the potential for results being affected by the researchers' personal biases (Mack, 2010). Another criticism of the interpretivist approach is that by omitting scientific procedures of verification, findings cannot be generalized to other people or other contexts (Cohen et al., 2007).

4.2.4   The Pragmatic Paradigm

The pragmatic paradigm as a set of beliefs arose as a response to the debate surrounding the "*paradigm wars*" and the emergence of mixed method and mixed models approaches (Creswell, 2003). The central tenet of pragmatism suggests that '*what works*' to answer the research question is the most useful approach to the investigation, and in keeping with these beliefs, pragmatists use whatever methodology works, be it a combination of experiments, case studies, surveys or whatever such combinations enhance the quality of the research (Suter & Cormier, 2013).

The strengths of the pragmatic approach to research lie in its ability for the researcher to be flexible in their investigative techniques. As such, "researchers are free to choose the methods, techniques and procedures of research that best meets their needs and purposes" (Creswell, 2003, p.12). Pragmatic researchers can employ mixed methodologies within the same inquiry and thus delve further into a dataset to understand its meaning (Onwuegbuzie & Leech, 2005**)**.

Criticisms of the mixed method approach are generally related to practical consideration such as the costs of conducting such research and the unrealistic expectations regarding the researcher's competence in both qualitative and quantitative methodologies (Teddlie & Tashakkori, 2010).

Below is a summary of the Ontology, Epistemology and Methodology of the paradigms discussed in this study.

Table 4.1 Summary Ontology, Epistemology &Methodology of Research Paradigms				
	Positivism	**Post-Positivism**	**Interpretivist**	**Pragmatism**
Ontological Assumptions	Reality is external to the researcher	Reality exists but can only be known imperfectly	Multiple realities interpreted by the individual	Reality is the practical effects of ideas
Epistemological Assumptions	Knowledge is generated deductively from a theory or hypothesis	Knowledge not neutral. Modified by bias if not controlled for	Knowledge is gained inductively to create a theory	Any way of thinking/doing that leads to pragmatic solutions
Methodology	Mainly quantitative	Quasi experimental. May include qualitative	Mainly qualitative	Matched to the purpose of the research

4.2.5 The Adoption of a Pragmatic Approach

The rationale for the researcher adopting a pragmatic approach to this study is based on three main factors. The first is based on considerations of the strengths and weaknesses of each philosophical approach. The second motive is the researcher's own personal view that multiple realities exist and thirdly, the researcher's choice of paradigm is dependent on the research question the study is trying to solve (Saunders et al., 2009). The pragmatic approach provides for the use of both quantitative and qualitative research methodologies to gather information which opens the opportunity to be objective and subjective in analysing the points of views of the participants (Saunders et al., 2009).

In addition, the need for making oppositional distinctions between qualitative and quantitative research has been questioned. It has been pointed out that "it is highly questionable whether such a distinction is any longer meaningful for helping us understand the purpose and means of human inquiry" (Schwandt, 2000, p. 210). The author also stated the following: "All research is interpretive, and we face a multiplicity of methods that are suitable for different kinds of understandings. So the traditional means of coming to grips with one's identity as a researcher by aligning oneself with a particular set of methods (or being defined in one's department as a student of "qualitative" or "quantitative" methods) is no longer very useful. If we are to go forward, we need to get rid of that distinction." (Schwandt, 2000, p.210).

Most importantly, it is the belief of this researcher that all research, irrespective of the method chosen to carry it out, should be conducted according to the highest standards of integrity, recognising and addressing biases and limitations in a thoughtful and thorough manner.

4.3   Research Design

The current research employed a quasi-experimental pre-test, post-test control group design. Quasi-experimental research designs, like experimental designs, test causal hypotheses.   However, unlike experimental designs, a quasi-experimental design lacks random assignment of participants to experimental or control groups. Because randomisation eliminates concerns towards bias, they are often regarded as the 'gold standard' for evaluating the effectiveness of interventions of evaluation research (Robson, 2007).

However, while randomisation is believed to have advantages over other designs, it is acknowledged that it is not always possible to put into practice in educational settings (Muijs, 2010). For example, a common problem is that students are assigned to intact groups in schools and therefore every student does not have an equal chance of being selected to take part in the study. In addition, for practical purposes, organising timetables, the timing of the academic year and classes, etc. to facilitate the experimental design may also be challenging. "Because of these problems, educational interventions in schools are typically evaluated using quasi-experiential designs" (Muijs, 2010, p.26).

4.3.1   Limitations of Quasi-Experimental Designs

The main limitations of quasi-experimental designs are that participants are not randomised into conditions and therefore do not have as high a credibility level as randomized experiments in terms of demonstrating causation (Robson, 2007). The researcher could not randomly assign classes to conditions and participants were allocated to experimental and control conditions based on a convenience sample of those who were available at the time and were willing to take part.

However, the obvious disadvantage of convenience sampling is that it is likely to be biased (Mackey & Gass, 2005). To address the shortcoming of this approach, the researcher first put all the names of the students from the selected class into a box and randomly selected and allocated individuals to experimental and control treatments. The second step was to obtain the mean and standard deviations from the pre-test scores and compare the differences, if any. If the groups were substantially different the researcher had the option of

excluding the data from subjects whose scores were not within the range of homogeneity. Issues of group equivalency, (more thoroughly discussed in section 6.3.1) were addressed. Other measures the researcher took to minimise bias in group selection was to ensure that members of the target groups matched as much as possible in age, sex, race, and socioeconomic status.

4.3.2   Validity and Reliability

4.3.3   Validity

Validity can be separated into two aspects: internal validity and external validity. Internal validity seeks to demonstrate whether changes can be attributed to the effect of the experimental treatment. "Internal validity means that the changes observed in the dependent variable are due to the effect of the independent variable, and not attributable to alternative causes"(Mertens, 2010, p.126). External validity, on the other hand, "refers to the degree to which the results can be generalised to the wider population" (Cohen et al., 2007, p.136).

4.3.4   Threats to Internal Validity within Experimental Research

The following has been identified as threats to internal validity(Cohen et al., 2007).

- History – refers to events in the school other than the experimental treatments which may occur during the time between pre-test and post-test measurement that may alter the outcome of the study

- Maturation – individuals change over time and such change can produce differences that are independent of the experimental treatments

- Statistical Regression (or regression toward the mean) – can be a threat to internal validity when participants are chosen on the basis of extreme scores or characteristics

- Testing effects – participants may become familiar with the objective of the study from the pre-test. As a result, participants may, for example, alter performance on the post-test

- Instrumentation – is concerned with the outcomes of a study if the instrument to measure changes during the duration of the study

- Experimental Mortality – refers to the loss of subjects through to drop out or withdrawal from the study

- Selection – refers to the possibility there may be biases in the selection of participants which may affect the results

4.3.5 Increasing Confidence in Quasi-Experimental Designs

In this study the following measures have been used to reduce the threat to internal validity. Table 4.2 presents the ways in which these threats have been addressed in this study.

Table 4.2 Measures to Address Threats to Internal Validity	
History	The researcher used a control group from the same population as the experimental group. Both the control and experimental groups' training were run simultaneously at the same time and day of the week
Maturation	The study was conducted over a relatively short period of time (10 weeks) which means that the effect of maturation was likely to be minimised
Statistical Regression	Regression was controlled by the use of appropriate statistical techniques to ensure the groups were equivalent prior to analysis
Testing Effects	To minimise testing effect, the participants were told there were no right or wrong answers to the questions and were encouraged to answer the questionnaires as honestly as possible
Instrumentation	Instrumentation was controlled by giving the same questionnaires to both groups, pre-test and post-test
Experimental Mortality	Both the experimental and control groups were required to attend the classes as part of their school curriculum. Therefore, there was little drop out from the study
Selection	While classes were not randomly selected, groups were randomly selected to either experimental or control

4.3.6 Threats to External Validity

Threats to external validity are related to whether the results of a study can be generalised to other contexts. Threats to external validity include any factors that impinge on the generalizability of results, for example, people, time and place. Control of threats to external validity in the current research was minimised by conducting the study in a school setting where other interventions may be repeated by other researchers with similar age groups in the future.

4.4 Measures Used

In order to ascertain the major results and conclusions of the study, the researcher incorporated a combination of quantitative and qualitative measures. Qualitative and quantitative measures tend to be characterised by the different methods they use for data collection. Quantitative techniques include questionnaires, polls and surveys and provide the researcher with a systematic means of analysis. Qualitative methods provide useful non-numerical information and can include interviews, participant observations, focus group work and discussions. The rational for using both qualitative and quantitative measures was based on the researcher's believe that this approach would provide a depth of understanding than either approach alone (Creswell, 2013). The following table (4.3) shows the data collection tools used for this study.

Table 4.3 Data Collection Tools				
Measures	**Subjects**			
	Experimental Group	Control Group	F2F Training Facilitator	Researcher
Pre-Test Assertiveness Questionnaire	x	x		
Post-Test Assertiveness Questionnaire	x	x		
Pre-Test Self-Efficacy Questionnaire	x	x		
Post-Test Self-Efficacy Questionnaire	x	x		
Post-Study Presence Evaluation Questionnaire	x			
Interviews	x	x	x	
Role-Play Assessment	x	x		
Class Record			x	
Observations			x	x
Journal				x

The quantitative measures involved administering a survey to the student's pre and post-study. The selection of a questionnaire to assess the participants' perceptions of their assertiveness and self-efficacy in sexual situations was based on several factors. First, the anonymity of the surveys allowed the participants to be as honest as possible with their answers on a very sensitive and personal topic. Second, they provided a benchmark from which to gather data from pre-test to post-test. Third, as all the participants in the study were provided with the same standardized questionnaire, the researcher's own biases and

subjective evaluation were reduced. Fourth, statistical analysis can be applied to questionnaires, thereby providing data which can be organised into ranking-level categories and ensuring greater precision in terms of measuring the data. The development of the questionnaires and the initial piloting with a representative sample to ensure the questions were appropriate and unambiguous, took place prior to the study.

However, while questionnaires are valuable instruments to collect data, they cannot capture intangible factors, such as the meaning of the experience to the participants. While validity in quantitative methods usually refers to an instrument measuring what it is supposed to be measuring, it has been proposed that in qualitative data, validity might be addressed through the extent to which the findings represent reality (Cohen et al., 2011). The researcher believed that asking the participants to verbalise their thoughts and give an account of their experience and perspectives, would provide richer information as to what represented reality for them. Hence, qualitative measures such as interviews and classroom observations were included in the analysis to provide as full an interpretive picture as possible.

In addition to the questionnaires and interviews, role-play assessments were conducted to assess whether there was a difference in assertiveness scores between those participants who undertook training in the VW and participants who undertook F2F training. The rationale behind this approach was to provide an objective measurement of the targeted behaviours that would otherwise be accessible only through self-report.

This study also measured the participants' perceptions of how the special characteristics of VWs namely, *presence*, impacted on the quality of the participants' verbal assertiveness (volume, and projection, tone, response latency, inflection, pacing) while performing the role-plays. The intent was to provide insight and explanation about any relationship found that may contribute to understanding of learning in VW environments and shed light on teaching approaches that instructors could use that may be of benefit to other learners.

In addition, the researcher gathered evidence from the control group teacher as evidence from previous studies suggests that the resulting information can contribute to greater understanding regarding implementation and suitability of the material and the extent to which a program achieved its objectives (Hallam et al., 2007).

4.4.1   Data Analysis Procedure

For the purpose of this research a concurrent triangulation strategy was adopted to gather the data. The defining feature of this model is that it uses separate quantitative and qualitative methods as a means to "offset the weaknesses within one method with the strengths of the other" (Creswell 2003, p.217). It is primarily used for confirmation, corroboration or cross-validation within a single study. Interpretation notes either a lack of convergence or convergence that strengthens knowledge claims (Creswell, 2003). The steps of this strategy are illustrated in Figure 4.1
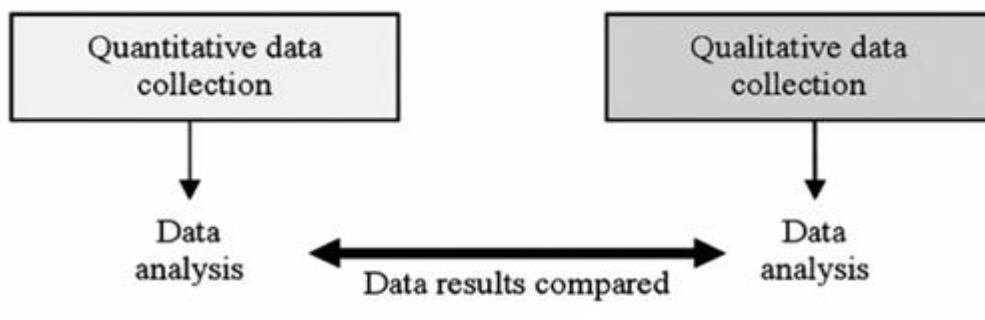
Figure 4 .1.ConcurrentTriangulation Strategy
(Creswell, 2003)

4.4.2   Data Collection Tools

The quantitative data collection tools employed in this study were designed to tap into the participants' behavioural and attitudinal qualities related to assertiveness and self-efficacy. Prior to beginning the study, both the experimental group and the control group were administered two assessment measures: a self-report assertiveness scale and a self-report self-efficacy scale (this is further discussed in section 4.4.3). Upon completion of the eight week assertiveness course, the participants in both the experimental and control group were again administered the self-report assertiveness scale and self-efficacy scale. The experimental group who took part in the VW component of the study were given an additional questionnaire to evaluate their experience relating to their perceptions of presence, realism and immersion on their verbal performance while enacting the role-plays.

In response to calls to evaluate intervention efficacy with alternatives to self-report measures (DiClemente et al., 2009; DeGue et al., 2014) a number of participants from the experimental and control group were assessed on their assertive performance while enacting sexual coercion role-plays.

Supplementary qualitative methods were employed in order to explore the students and facilitators' perceptions following their experience of the learning program. To interpret the qualitative data a thematic approach was adopted. Thematic analysis is a "form of pattern recognition within the data where emerging themes become the categories for analysis" (Fereday & Muir-Cochrane, 2006, p.4). Thematic analysis allows the researcher to highlight the differences and similarities that take place within the data set in order to construct meaning from the participants' opinions and feedback in relation to the study (Creswell, 2013).

4.4.3 Quantitative Data

Quantitative data was collected in the form of questionnaires and administered to the participants pre-test and post-test. As a review of questionnaires used previously in other studies did not cover specific aspects of assertiveness and self-efficacy in relation to sexual attraction and appropriate for young adolescents, the decision was made to design a questionnaire adapted from prior research instruments pertaining to the same concepts. However, it should be noted that the measures of assertiveness and self-efficacy employed in this study may not have covered the possible range of responses and therefore, it is possible that future studies using a qualitative approach (such as focus groups) may better explore the territory.

Practical procedures for developing the questionnaires were based on guidelines provided by (Cohen et al., 2011). Some key principles should guide the design of questionnaires. They include the following:

- Avoid leading questions

- Avoid jargon

- Questions should not be unnecessarily long

- Avoid vague language

- Consider the readability levels of the questionnaire and the reading abilities of the respondents

- Keep statements in the present tense whenever possible

- Decide on the most appropriate type of question – e.g. multiple choices, rating scales

- Pilot the questionnaire with a group of respondents drawn from the possible sample, but who will not receive the final version

The next step in the process was to have an initial pool of items reviewed by a panel of experts in the field of adolescent development. Examples of these items included kissing, performing oral sex, and use of contraception. The researcher asked two psychologists, a guidance counsellor and a person experienced in questionnaire design to review the items in terms of its relevance, applicability for female and male adolescents and developmental appropriateness for this age group. Based on the opinions of the professionals, some items were rephrased or removed and replaced with others. For example, the item "*performing oral sex*" was replaced with the more general term "*sexual activity*" and the content of the questionnaires were adjusted to include areas, such as sexting (the sending and receiving of explicit photos, generally by text) which they indicated was important to include with this particular age group.

In addition, as the nature of adolescent romantic relationships are often of short duration, do not always lead to full sexual activity and may involve interactions with same or opposite sex peers, it was decided to keep the questionnaire gender neutral and focus on sexual attraction rather than boyfriend/girlfriend scenarios. For example, the scale contains such items as "*if someone you feel sexually attracted to makes you feel uncomfortable by trying to kiss you, for example, do you tell them?*"

Following the subsequent adjustments, the next phase in the questionnaire preparation involved setting out the questionnaire in a format that would enable the data to be processed and statistics to be calculated (Cohen et al., 2011).

4.4.4   Likert Scales

The use of Likert scales which allows for a graded response to select a level of agreement with a series of statements was considered suitable for this study as they are generally regarded as reliable and valid instruments for the measurement of a range of attitudes, settings and populations in which children and adolescents have been the focus of the study (Mellor & Moore, 2014). While Likert scales used with very young children typically use a 3 -point scale because of the potential for literacy difficulties, in consideration of the age group participating in this study (14-15) and the cognitive capacity of the participants to respond, a 5 -point scale was employed.

4.5. Assertiveness Scale Development

The self-reported assertiveness scale was designed to assess the participants' evaluation of the effectiveness of their assertiveness in specific situations with a person they were sexually attracted to. The scale was guided by the definition of assertiveness in sexual situations put forward in the literature as situation specific, standing up for oneself in interpersonal situations and comfort with expressing negative feelings.

As a suitable questionnaire covering the concept of assertiveness mentioned above was not available from the literature, the researcher began with several items from the most widely referenced measure for adults adapted for adolescents (i.e. The Rathus Inventory Schedule) as indicated by having been cited on PsycInfo more often than any other assertiveness instrument (Thompson & Berenbaum, 2011) and several items adapted from the Adolescent Sexual Coercion Risk Scale (Bramsen et al., 2012). Several of the items were reworded to be more appropriate and relevant to adolescents. Following this rewording the scale was then shown again to the expert panel referred to above, for their perusal and advice.

4.5.1 Description of the Assertiveness Scale

The final assertiveness scale was composed of 23 items consisting of interpersonal situations where an individual might be assertive (See Appendix II for complete scale). Each item was answered with a 5-point Likert continuum with responses ranging from "*Never*" to "*Always*". The responses were coded so that higher scores indicated greater assertiveness.

4.5.2 Reliability

Reliability in statistical measurement refers to the stability or consistency with which we measure something (Robson, 2007). To determine reliability, Cronbach's internal consistency coefficient was applied to the scale. Scores from this administration yielded an adequate result at baseline (alpha = .78)

4.5.3 Minimising Response Bias

A number of safeguards were put in place by the researcher to minimise response bias and the risk of socially desirable answers in the questionnaires. All the questionnaires were identified by number rather than by name. Participants were informed that their answers were confidential and only known to the researcher. To encourage trustworthy

responses, the researcher explained the importance of the participants' contribution to research.

4.5.4   Piloting the Assertiveness Scale

A sample of 28 students representative of the type of respondents to be interviewed in the main study were asked to assess the assertiveness and the self-efficacy scale (Discussed below) for clarity and understanding, the length of time required to answer the questionnaires and content. Participation was not required and the students had the opportunity to refuse to be involved. None of the students refused. The participants were approximately evenly split by gender (55% female), and ranged in age from 14 to 15.

4.5.5   Self-Efficacy Scale

The purpose of the self-efficacy scale was to evaluate the perception of the participants' degree of self-confidence towards their communication competence associated with assertiveness (volume and projection, tone, response latency, inflection, pacing) while verbally interacting with someone they were sexually attracted to.

Self-efficacy is an individual's belief about his/her ability to perform a particular behaviour in a given situation (Bandura, 1986). In the area of sexual health, self-efficacy refers to a belief in one's ability to control key aspects of a sexual situation or interaction (Rostosky et al., 2008). The majority of studies measuring self-efficacy tend to do so in relation to sexual risk taking, condom and contraceptive use. Few instruments have examined verbal self-efficacy in sexual situations. However, "the idea that self-efficacy measures should be tailored to the subject of research and adjusted to the specific population under study has generally been accepted" (Baele et al., 2001, p.421).

Hence, as there was not a suitable questionnaire examining verbal self-efficacy in sexual situations, the decision was made to compile a self-efficacy questionnaire specific to this research.

The self-efficacy scale consisted of 5 items relating to the participants' perceived ability to verbally respond to someone they were sexually attracted to in various situations. For example, "*How sure are you that you can respond in a confident tone of voice with someone you feel sexually attracted to who tries to persuade you to do something you do not want to do*?"(See Appendix III for complete scale)

Cronbach's alpha was used to assess the internal consistency of the five self-efficacy instruments. Cronbach's alpha for the 5 items was .87 indicating that the scale had a good level of internal reliability.

4.5.6   Presence Evaluation Scale

It has been proposed that a sense of *presence* can be influenced by a number of factors. For example, physical *presence* has been defined as the subjective experience of being '*physically there*' in the environment (Witmer & Singer, 1998). An individual's sense of *presence* is also associated with the extent an individual's attention shifts from the physical environment to the VW and determines the extent of their immersion in the VW (Slater, 1999).

To evaluate the students' perceptions of the impact of *presence* on their assertive verbal interactions while in the VW, an 18 item questionnaire was adapted from (Witmer & Singer, 1998) seminal work in this area and related to the specific research questions pertaining to this study. For example, *"When you were in the virtual world, to what extent did you experience a sense of "really being there" inside the virtual world* and *"when you were in the virtual world, to what extent did the experience of "really being there" help you to speak with confidence during the role-plays"? (*See Appendix IV for complete scale)

The response categories were '*Not Much*', *A Little*', '*Somewhat*', *Much* and '*Very Much*' and the students were requested to select one option from each category.

Scale reliability was performed on the three sections separately. Cronbach's alpha for the 6 items relating to '*Presence*' was .81, for the 6 items relating to '*Realism*' it was .89 and for '*a sense of Immersion*' Cronbach's alpha was.83, indicating the scales had a good level of internal consistency.

4.5.7   Role-Play Assessment

The students were assessed by direct observation by two external speech and drama teachers using their professional training and experience to consider whether students were able to express themselves assertively during the role-plays.

Using a set of guidelines on assertive communication suggested by Hargie (2011) the raters were given an assessment rubric consisting of a 5 point Likert scale and students were marked according to how accurately the item described their performance. Coding categories included components of speech strongly correlated with judgements of assertion (Hargie, 2011). These were: Volume & Projection, Tone, Response Latency, Inflection and Pacing.

4.5.8   Data Collection Schedule

Data was collected at two time-points, pre and post-intervention. The instructions for each questionnaire were read aloud by the researcher in the case of the experimental group and by the class teacher in the case of the control group. Both questionnaires were administered to the students as a group, with an extra member of staff available, should any student require support for literacy difficulties.

4.6   Qualitative Data

As outlined above, these questionnaires were further supplemented by data collected from a random sample made up of a voluntary sub-set of participants. The purpose of the interviews was to elicit information about the participants' overall perception of the assertiveness training both in the standard classroom and the VW. In this way, the participants "Speak in their own voice and express their own thoughts and feeling" (Berg, 2007, p.96).

The researcher adopted a semi-structured approach using open-ended questions rather than a structured approach with closed-ended questions as "it allows depth to be achieved by providing the opportunity on the part of the interviewer to probe and expand the interviewees' responses" (Rubin & Rubin, 2005, p.88). To control for reliability, a list of guiding questions was compiled to ensure that information from the same general areas was collected from all participants. For example,

- What did you think of the assertiveness training?

- How did you feel taking part in the role-plays?

- How relevant was the content of the role-plays to you?

(See Appendix V for full copy of guiding questions)

To conduct and set up the interviews the researcher adopted the recommendations for conducting interviews provided by (Cohen et al., 2007).

Establishing Rapport

In order to reduce any anxiety or inhibitions that might have occurred, the participants were first provided with a range of options about how they would like to be interviewed, for example as individuals, with friends or in small groups. This ensured that the participants would feel as comfortable and relaxed as possible and encourage conversation.

Interview's Venue

The participants were given a choice of venue for the interviews and a range of venues were suggested by the researcher. The school library was selected by the participants as the preferred location. This location was chosen as the room was quiet and away from the classrooms, so there was little chance of disruption.

Interview Ethics

The participants were made aware that the discussions were recorded and consent was agreed on each occasion. For further discussion on ethical considerations, please see (Section 6.3).

4.6.1 Qualitative Measures-Facilitator

Gathering the views from the facilitator of the control group assertiveness training was deemed important as the facilitator was an integral part of the study and her observations would contribute to the overall understanding of the research.

The researcher met with the facilitator on several occasions during the course of the study to ascertain her overall views of how the course was going. Example questions asked of the facilitator:

- Did you think the assertiveness training was effective?

- What did you think contributed to the outcomes?

- Would you make any changes?

4.6.2 Qualitative Measures - Researcher

During the course of the study, the researcher kept a journal describing the events as they happened in the classroom. The purpose of this was to help increase researcher understanding of the phenomena under study (DeWalt & DeWalt, 2002). For example, the researcher made a note of how well the class progressed, what worked and what didn't and whether there was any off-task activity while students were in the VW.

However, it is acknowledged that observational data is not researcher neutral and what is chosen as a matter of interest, notice or recall are representative of the researcher. To minimise bias the researcher wrote up notes immediately following each class to ensure as much accuracy as possible and critically read and re-read the notes to check for any bias.

4.7 Summary

This chapter presented and discussed a brief outline of the paradigms currently employed in educational research and argued for the theoretical rationale for the research

methodology chosen for this study. The chapter described the research design adopted for this study and issues of validity and reliability to be taken into consideration. The analysis procedure, data collection tools and data collection tools were also outlined. The chapter presented the measures and assessment scale development adopted for the study. Finally, the chapter described the qualitative procedures adopted in this research.

CHAPTER 5: PILOT STUDY

5.1 Introduction

The review of the literature in chapter two established that three dimensional VWs may be a feasible approach to teaching assertiveness skills to adolescents through role-play. Although the utility of VWs is well-founded, three areas of concern emerged from the literature for its adoption as a teaching and learning tool in second level schools. These are: the steep learning curve in using 3D immersive technologies, pedagogical implementation and technical and accessibility difficulties.

5.1.1 Steep Learning Curve

The steep learning curve required to navigate in a VW is also identified as an issue of concern for students (Baker et al., 2009). This learning curve can be attributed to several factors, including: difficulty with using the interface, technical issues, and expectations of VWS (Sanchez, 2009). This is particularly true if the student is not familiar with a VW environment. Activities such as creating and personalizing avatars and learning to control their movements can take time to master.

5.1.2 Pedagogical Implementation

Concerning pedagogical implementation, using the traditional teaching method of 'sage on the stage' in a new medium such as a VW is unproductive (Stoerger, 2010). In addition, teachers must be able to multi-task and split their time between the real-world classroom setting and the virtual world (Parson & Bignell, 2011). Furthermore, students may find the world so engaging they get distracted from the goals of the course, to the detriment of the rest of the group. "At the extreme this may result in lack of participation or inappropriate behaviour"(Kluge & Riley, 2008, p.131). Facilitators may be required to spend significant time correcting off-task behaviour in the VW to enable students to concentrate and complete their work.

5.1.3 Technical and Accessibility Barriers

VWs are rapidly becoming part of the educational technology landscape (Wiecha et al., 2010). "Virtual worlds are inherently stimulating for "digital natives" because they immerse students in an explorative, fun and interactive learning environment" (Dreher et al., 2009, p.212). However, the use of VW in second level schools is far from widely accepted. Barriers such as inadequate facilities, lack of up-to-date hardware and software requirements and Internet connectivity coupled with the normal problems associated with computer

maintenance technical problems are well-known problems for schools (Inman et al., 2010). For example, Second Life requires a cable or DSL connection, at least 800 MHZ processor (1.5 GHz recommended), and at least 512MB of memory (1GB recommended). If school computers do not have these requirements, then there may be problems encountered with the software freezing and software crashes. If technology does not work as anticipated, then learning will not easily take place in a VW (Campbell & Jones, 2008).

5.2   Statement of Purpose Guiding the Pilot Study

The main objectives of the pilot study were to (1) develop a more in-depth understanding of how the notable features of VWs namely a sense of physical presence, a sense of realism and a sense of immersion while in the VW, were perceived by students to influence their verbal performance while enacting the role-plays (2) explore the potential of the VW for delivering assertiveness training through role-play.

Other issues concerning this first phase:

To help identify any challenges that may arise in the process of implementing the pilot and develop understanding of how these can be addressed to enhance the final study

The following strategies and actions were taken by the researcher to achieve those objectives:

5.2.1   Supporting the Learners

To support the steep learning curve associated with using the VW, the researcher employed both pedagogical and instructional design measures while the students were gaining experience in the VW. For example, in addition to the researcher's verbal instructions, the students were provided with detailed written help documents should they require more assistance (Tynan, 2010).(See Appendix V). As discussed in chapter 3, instructional design features were incorporated in the VW to aid navigation (Minocha & Hardy, 2016). For example, when students arrived in CARE there were arrows and signposts directing them to posters that displayed information on how to walk, run, fly and teleport etc.

Because VWS are persistent and therefore always available, the researcher also encouraged the students to explore the VW outside of the study classes in order to master the controls.

5.2.2 Pedagogical Implementation

Pedagogical challenges in VWs include ensuring that students are focusing on what they are supposed to be doing as the freedom of the environment may encourage students to wander off task (Kluge & Riley, 2008). In an effort to address this issue and ensure the VW teaching practice as effective as possible, the first step in this process was to plan the classes in advance. For example, a lesson plan was created for each class outlining the objectives and outcomes for each session (Figure 5.2). Having the lessons planned in advance has the benefit of freeing up time during the class so that the researcher could concentrate on monitoring the students (Warburton & Perez Garcia, 2016).

Table 5.1 Example Lesson Plan				
Class 1	**Objectives**	**Materials**	**Method**	**Outcomes**
	To teach students how to navigate	Notes	Didactic Instruction Demonstration Practice	After this lesson students will be able to: • Walk • Run • Fly • Teleport • Use camera controls

Another strategy used by the researcher to monitor the students and make sure they were in the right location was to employ the use of a mini-map. The mini map displays '*green dots*' that indicates where students are at any one time and place. The mini-map was permanently visible on the researcher's screen and in this way the researcher could '*teleport*' them back should any student decide to explore the environment rather than stay on task (Figure 5.1).
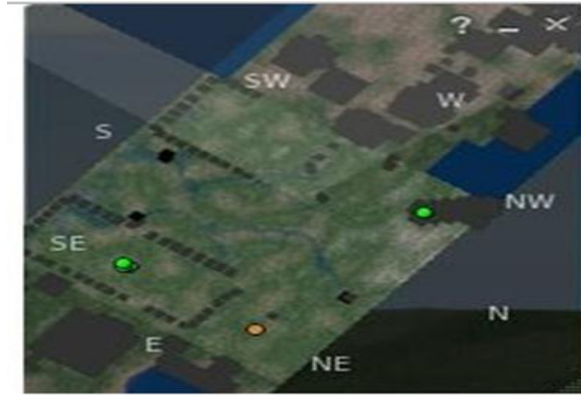
Figure 5.1 Mini Map Indicating Students' Location

Further efforts to assist with pedagogical implementation included having the students use headsets to minimise distraction and to keep the general noise level down in the classroom. The researcher also set ground rules for student behaviour while in the VW and students were asked to sign a '*Code of Conduct*' explaining clearly what was required of them (Appendix VI).

5.2.3   Addressing Technical Issues

The researcher employed several strategies to address the technical problems such as lagging, which can be very disruptive to teaching and learning (Parson & Bignell, 2011). To enhance the experience, the researcher fined tuned the settings in the VW for each of the students in advance of the classes. The settings in a VW can have a dramatic impact on the overall navigation experience. For example, by setting the 'draw distance' at which the objects will be visible in the VW, the frame rate can be increased to allow for a smoother rendering of the images. Other adjustments included setting the graphical performance and audio setup.
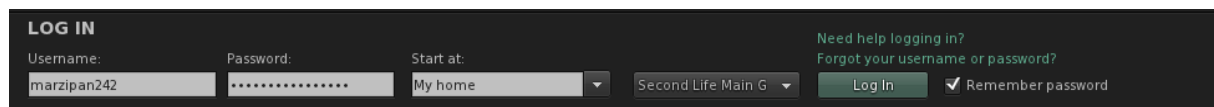
To minimise student effort and time, the camera controls and navigation icons were displayed on each students' laptop prior to each class. In addition, the students were given a written set of step by step instructions (Appendix VII) to refer to when logging in to the VW. (Figure 5.2)

Logging in Instructions

On your computer desktop find the icon labelled

"Firestorm" and double-click it. When the viewer opens, type in the first name, last name, and password that has been given to you. This will bring you online to your **Home Location**.

The default point of view is from directly behind and above your Avatar.

Figure 5.2 Logging in Instructions

5.3 Pilot Study

5.3.1 Context and Participants

All participants were students attending an SPHE class at a suburban Dublin second level school where the researcher is currently employed. A convenience sampling technique was used to recruit participants as the students were from the researcher's own SPHE class. Students were invited to take part in the pilot study with adequate time given to consider whether they wished to participate. Those who wished to participate were given an Information Form and a Consent Form for both themselves and their parents to sign. 17 students aged 14/15 participated in the study (10 males and 7 females). The study was conducted over January, February and March of 2015. None of the students had prior experience of a VW.

As the school computers did not have the required technical specifications for the initial phase of this study, an alternative approach had to be adopted in order to facilitate the study. The researcher hired 17 laptops from a local I.T. supplier with the system requirements necessary to allow the students to successfully participate. This involved the supplier delivering and collecting the laptops each week at a specified time and collecting them at the end of the day.

5.4 VW Description

Two VWs were created for this study, the first in Second Life and the second in OpenSim. Second Life was chosen for the pilot implementation as the researcher already leased a small private space from Linden lab, the owners of Second Life. However, the decision was made to conduct the main part of the study in OpenSim (further discussion in section 5.5.1).

As stated in chapter three, the researcher created several realistic environments as contexts for the role-plays to encourage a feeling of presence and engage the participants in the environment (Slater, 2009). These included the type of locations where users of this age group would typically socialize with their peers such as a coffee shop, a bar, a nightclub and a bedroom as contexts where participants could practice the role-play scenarios.

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Figure 5.3 Male and Female Avatars Dancing in Virtual Nightclub

Figure 5.4 Group of Avatars in a Bar

Figure 5.5 Avatars having a Coffee

5.4.1   Procedure for Pilot Study

Based on the CARE social cognitive model described in chapter three, the participants completed a four week assertiveness training course with two components: a) Theory: covering the concepts of assertiveness, aggressiveness and passiveness; and b)

Practical: focused on role-play to teach assertive strategies to resist pressure to engage in negative sexual behaviours. For example, verbal skills included training and practice in speaking clearly and confidently without hesitancy. The students were provided with several scripted role-plays (Cho, 2015) and various role-play scenarios to practice the role-plays.(See Appendix VIII for example role-plays).

5.4.2 Pilot Study Classroom Activities

For the pilot study, the first three classes were conducted in the normal classroom as the timetabling schedule for the school computer lab prevented using it for the complete study. Each class lasted 40 minutes. Teaching methods included PowerPoint demonstrations, video demonstrations, modelling and practice.

Assertive strategies covered included: assertive responses (speaking clearly, honestly and confidently, saying no, making requests and dealing with aggression). To support the students, an actor of similar age to the participants assisted by demonstrating the skills. Students were provided with written examples of verbal strategies and asked to respond with what they would say in a similar situation using the communication strategies they observed (See Appendix IX for examples). Skill prompts in the form of sentence starters were also provided. Examples include:

"No, I don't want to because…………….

"No, I have a problem with that

"No, I'm not ready"

On completion of the assertiveness course the students participated in the VW component of the study.

5.4.3 Pilot Study VW Activities

The VW sessions took place in the computer lab in the school over 6 weeks and each session lasted 40 minutes. During the first session, the students learnt how to navigate the VW and customised the appearance of their avatars as research indicates identifying closely with one's avatar is a significant element in how an individual interacts with others (Ducheneaut et al., 2009).

Once acquainted with the VW, the following five classes focused on participants role-playing the assertiveness techniques learnt, in pairs or groups of three or four. The scenarios were the same as they had encountered in the F2F training and were representative

of plausible situations they may encounter in the physical world. For instance, a scenario for two required students to assertively refuse to kiss somebody they had just met at a party, while a group activity asked participants to convince an individual to send an explicit image of themselves on their mobile phone. The students took turns being the persuader and the person being persuaded. The aim of these scenarios was to practice assertive refusal skills which refers to the ability to effectively communicate through the components of speech associated with assertiveness (volume and projection, tone of voice, inflection, response latency and pacing)

5.4.4 Measures

After completion of the study the group were asked to complete an 18 item questionnaire on their perceptions of how the three main features of VWs (presence, realism and immersion) contributed to the quality of their verbal interactions. The questions were grouped into 6 questions in each of the three areas and the scale was adapted from (Witmer & Singer, 1998) framework, commonly used to measure feelings of presence in VW spaces. Each question asked the participants to rate statements on a five-point Likert scale. (Table 1). Examples of the questions included "*when you were in the virtual world, to what extent did you experience a sense of 'really being there' inside the virtual world*" and "*when you were in the virtual world, to what extent did you feel immersed (involved) in the experience*".

5.4.5 Results

Descriptive analysis of the questionnaire Means and standard deviation of the participants' responses to the section on '*Presence*' are presented in Table 5.2

Table 5.2 Students Means and Standard Deviations from 'Presence' Questionnaire			
Question	**N**	**Mean**	**Std. Deviation**
1.Sense of presence	17	2.88	1.11
2.Speak with confidence	17	3.29	.98
3. Express yourself well	17	3.53	1.17
4. Quicker response	17	3.64	1.16
5. Vary tone of voice	17	3.70	1.40
6. Volume of voice	17	3.70	1.21

The results show that the overall perceptions of students were similar with responses, mostly in the medium-range. The standard deviation result for 5 of the six questions indicated there was a wide range in the responses of students to these questions. Table 5.3 shows the results expressed as a percentage.

Table 5.3 Results from Presence Questionnaire by Percentage					
Questions on Presence	**Not Much**	**A Little**	**Somewhat**	**Much**	**Very Much**
1. Sense of presence	9.1	6.1	18.2	18.2	
2. Speak with Confidence		12.1	18.2	15.2	6.1
3. Express yourself well	3	6.1	15.2	15.2	12.1
4. Quicker Response	3	6.1	9.1	21.2	12.1
5. Vary tone of voice	6.1	3	12.1	9.1	21.2
6. Volume of voice		12.1	9.1	12.1	18.2

Presence: Overall, regarding the sense of Presence, the questionnaire results indicated that (*n*=6) students felt *Much* physically present while in the VW and a similar number *Somewhat* physically present, while (*n*=2) students reported they felt *A Little* and (*n*=3) responded *Not Much*. Concerning how a sense of presence helped them speak with confidence during the role-plays, no participant indicated '*Not Much*' and (*n*=2) participants indicated a sense of presence helped them speak '*Very Much*' with confidence. For the third question on how well a sense of presence helped the participants express themselves, there was a wider variation with (*n*=1) students reported '*Not Much*', (n=2) '*A Little*', and (*n*=5) for '*Somewhat*' and '*Much*' respectively, while (*n*=4) reported '*Very Much* to this question. Being in the VW helped several of the students (*n*=7) to respond '*Much*' quicker during the role-plays with (*n*=4) participants indicating '*Very Much*'. This may be due to several factors: students could practice as often as they felt necessary, having plenty of time to work out how to respond during the role-plays. Also, F2F discussions can present pressures on individuals to respond that perhaps can be managed better in a VW.

Concerning how presence influenced tone of voice, (*n*=7) students reported a sense of presence helped them '*Very Much*' vary their tone of voice during the role-plays. Communication experts point to the role that anxiety can have on our speech patterns so it may be the case as has been suggested by (Vallance et al., 2014) that role-playing as an avatar reduces the anxiety experienced in F2F role-playing. However, the notion that the

employment of avatars in role-plays influences an individual's involvement in the interaction (Bailenson et al; 2006) may also be a contributing factor, as speech patterns such as tone of voice are influenced by how engaged individuals are in the conversation. For the question on volume, there was quite a bit of variation with (*n*=6) reporting '*Very Much*' in this category, (*n*=4) '*Much*', (*n*=3), '*Somewhat*' and (*n*=4) '*A Little'*.

Realism: The mean and standard deviation results of the participants to the questions on their perception of the effect of a sense of realism on their verbal interactions while in the VW are displayed in Table 5.4.

Table 5.4 Students Means and Standard Deviations from 'Realism Questionnaire			
Questions on Realism	N	Mean	Std. Deviation
1.Sense of Realism	17	2.70	.91
2. Speak with confidence	17	3.29	.98
3. Express yourself well	17	3.35	.60
4. Quicker response	17	3.35	.60
5. Vary tone of voice	17	3.11	1.05
6. Volume of voice	17	3.35	1.05

The results show that the overall perceptions of students with a sense of realism while in the VW were mostly in the low/medium-range for all six questions. Table 5.5 shows the results expressed as a percentage.

Table 5.5 Results from Realism Questionnaire by Percentage					
Questions on Realism	**Not Much**	**A Little**	**Somewhat**	**Much**	**Very Much**
1. Sense of realism	6.1	12.1	24.2	9.1	
2. Speak with Confidence	3	6.1	18.2	21.2	3
3. Express yourself well		3	27.3	21.2	
4. Quicker Response		3	27.3	21.2	
5. Vary tone of voice		18.2	15.2	12.1	6.1
6. Volume of voice	3	6.1	18.2	18.2	6.1

The findings of the study relating to the participants' sense of realism while in the VW revealed that several students (*n*=8) felt the environment was '*Somewhat*' real, (*n*=3) thought it was '*Much*' (*n*=4), '*A Little*' and (*n*=2) reported '*Not Much*'. Regarding how a sense of realism influenced their verbal confidence the highest figure (*n*=7) answered positively in the '*Much*' category, while (*n*=1) responded '*Not Much*' and (*n*=1) responded '*Very Much*'. A sense of realism had a closer result among the participants on their perception of how the realism of the VW helped them express themselves, with (*n*=7) indicating '*Much*' and (*n*=9) indicating '*Somewhat*'. A sense of realism helped (*n*=7) respond '*Much*' quicker during the role-plays, while (*n*=9) felt it '*Somewhat*' helped, and (*n*=1) replied '*Not Much*' to this question.

The result for the influence of realism on variation of tone did not have the same influence as reported with the same question in the Presence section with only (*n*-2) students reporting *Very Much* compared to (*n*=7) students in the Presence section. Similarly, a sense of realism helped only (*n*=2) students use a moderate tone of voice compared to (*n*=6) students in the presence section.

Immersion: The responses of the students to the questions on their perception of the effect of a sense of immersion on their verbal interactions while in the VW are displayed in Table 5.6.

Table 5.6 Students Means and Standard Deviations 'Immersion' Questionnaire			
Questions on Immersion	N	Mean	Std. Deviation
1.Sense of Immersion	17	3.82	1.23
2.Speak with confidence	17	3.70	1.15
3. Express yourself well	17	3.47	1.12
4. Quicker response	17	3.47	.71
5. Vary tone of voice	17	3.35	1.05
6. Volume of voice	17	3.58	1.00

The results show that the overall perceptions of students of a sense of immersion while in the VW were mostly in the high medium-range for all six questions. Table 5.7 shows the results expressed as a percentage.

Table 5.7 Results from Immersion Questionnaire by Percentage					
Questions on Immersion	Not Much	A Little	Somewhat	Much	Very Much
1. Sense of Immersion	3	6.1	6.1	18.2	18.2
2. Speak with Confidence		12.1	6.1	18.2	15.2
3. Express yourself well		12.1	15.2	12.1	12.1
4. Quicker Response		3	24.2	21.2	3
5. Vary tone of voice		15.2	9.1	21.2	6.1
6. Volume of voice		9.1	12.1	21.2	9.1

Most of the students reported feeling immersed in the VW to varying degrees, with the exception of (n=1). Feeling immersed helped (n=5) of the participants speak 'Very Much' with confidence, while (n=6) reported 'Much' for this question. The response to the question on how well feeling immersed helped the participants express themselves revealed a similar result with (n=5) reporting 'Very Much' and (n=6) reporting 'Much'. There was a wider range of responses to the question on whether a sense of immersion helped to respond quicker with (n=1) reporting 'A little', (n=8) 'Somewhat', (n=7) 'Much' and (n=1) 'Very Much'.

Regarding a sense of immersion and variation of tone of voice (n=5) indicated 'A Little, (n=3) 'Somewhat' (n=7) 'Much' and (n=2) reported 'Very Much'. The results for the final

question relating to moderation of tone of voice revealed that (n=3) reported 'Very Much' (n=7) 'Much' while (n=4) and (n=3) reported '*Somewhat*' and '*A Little*' respectively.

Overall, the results show promise for the potential of a VW to support the delivery of an assertiveness training course for young adolescents. While some participants did not report any influence of the VW on their verbal interactions, this appeared to be counterbalanced by those who perceived it '*Very Much*' had an influence. It may be that some participants needed more time to acquire the skills to navigate in the VW and this impacted on their experience. This indicates that it is important to ensure that all participants receive adequate training to become accustomed to the VW interface.

5.5   Lessons Learned for Main Study

The pilot study provided key insights into important factors for the main part of the study.

The CARE social cognitive model discussed in chapter three provided an effective instrument for the training of assertiveness skills for the students. As a result, the main study continued to employ the same model.

Regarding technical issues, the participants found little difficulty navigating around the VW. However, the group found it very challenging to manoeuvre their avatar's gestures while role-playing. As a result, this impacted on their interaction and distracted from their experience of the role-plays. Another factor that impacted on their concentration was that they could also hear one another in the classroom.

Student feedback revealed that all of them enjoyed the experience and thought that the VW might be a viable way to role-play the scenarios. However, they indicated that several aspects of the VW could be improved to provide a stronger sense of '*being there*' in the environment. For example, the students felt there was an insufficient range of locations associated with the role-plays to retain their interest. They also encountered sound quality problems with the laptops.

5.5.1   Observation of Activities

Through observing student activities as they went through the role-plays, the researcher noted several areas for improvement:

It was noticed that instead of focusing on the navigation and camera control instructions provided by the researcher in SL, several of the students kept '*flying*' off to other areas in the environment. As a consequence, these students had more difficulty with learning

how to navigate and they required more assistance, which caused interruptions and delays during class time. Another issue in relation to navigation was that students had difficulty finding their way to the locations for the role-plays which impacted on their experience.

While the venues for the role-play activities were private and access limited to the participants and the researcher, some of the students got distracted by trying to access other areas in SL instead of focusing on what they were supposed to be doing.

Motivated by the challenges described in the pilot study, prior to implementing the main study, the researcher made several decisions relating to the VW. These included:

- Moving the study to OpenSim. OpenSim is a VW server and provides an opportunity to create a completely private on-line space for educational purposes. It produces a world that appears similar to Second Life and has the same interface.

- Providing a platform suspended above the region isolating where the participants could practice navigation and camera controls without being able to access other areas in the environment until these skills were learnt.

- Providing teleports to all locations.

- Designing and developing a wider range of settings in which the role-plays could take place.

- As the participants found controlling the gestures of their avatars difficult, the researcher decided to omit instruction on their use in the main study and instead focus more on the verbal components of assertiveness.

- To reduce distraction for the participants at hearing one another, both computer labs in the school were used for the main study.

- Regarding technical issues, fortunately the school had new computers installed prior to implementation of the main study

- To ensure the researcher could focus on the student learning, the I.T teacher was asked to assist the students with any technical issues.

To achieve these goals between May and September 2015 the researcher worked on implementing these changes. The final design product is described and discussed in chapter three.

5.6   Summary

This chapter described three main areas of concern that may impact on the adoption of a VW as a learning tool and explained the strategies and actions taken by the researcher to address these issues in the current study. The chapter then described the implementation of the first phase and presented the results. The researcher described the actions taken before implementation of the main study, based on insights gained from the first phase.

The aim of the pilot study was to identify whether the basic premise of the study that using a VW for assertiveness training was feasible and whether the main feature characterised in the literature on communication competence in VWs, namely a perception of a sense of 'presence' had an effect on the verbal performance of the participants while enacting the role-plays. The results provided preliminary support for the efficacy of the adoption of a 3D VW for role-play exercises for teaching assertiveness skills to adolescents.

The pilot study was also an opportunity to identify any particular issues that would be valuable to take on board that would improve the experience for the participants in the main study.

CHAPTER 6 MAIN STUDY

6.1 Introduction

Chapter 5 described the pilot study of CARE, a social cognitive primary intervention model conducted in a VW to facilitate verbal response training to sexual coercion and based on insights gained, outlined the steps taken by the researcher to provide an improved experience for future learners. This chapter provides an account of the delivery and implementation of the CARE cognitive social model in relation to the main study.

6.2 CARE Participants and Context

The participants were recruited from a mixed second level, urban school in a large city on the eastern coast of Ireland that caters for students 12-18. The students attending this school could be characterised as coming from a middle-high social economic background. The school was an English speaking and ethnically mixed school, with many students from European, African and Asian backgrounds. The sample for this study was predominantly Caucasian (74%), with (13%) African and (13%) Asian participants. 46 students participated in the study (m=26, f 20). Participant age ranged from 14-15 (m=14.54% years). The participants were chosen as they attended a Social, Health and Personal Education class as part of the school curriculum. All of the students said they would like to participate in the research. None of the participants had received prior training in assertiveness in the past. All of the participants had basic computer skills, but none had experience of VWs.

The participating classes were selected opportunistically, meaning that the choice of which class participated was determined by the school computer room timetable. If the computer rooms were available for teaching and coincided with an SPHE class, then this class was asked to partake in the study.

Following this, the students were asked to take part in the study. Parental consent for involvement was sought as the students were less than 18 years.

The study was conducted with two groups. The *experimental* group were the participants who were provided with the assertiveness training in the VW consisting of ten 40 minute sessions over 10 weeks. There were 12 boys and 9 girls in the experimental group. As stated above, the experimental group received two extra classes in the computer lab to allow the participants to become familiar with the VW.

The *Control* Group were the participants who were provided with the F2F assertiveness training, consisting of eight 40 minute sessions over 8 weeks. The control group had 14 boys and 11 girls.

The study was conducted during the academic year 2015/2016.

6.3   Ethical Considerations of the Study Continued

The design and implementation of this study adhered to the ethical standards required of educational researchers as recommended by (Cohen et al., 2011). To ensure the research was carried out to the highest ethical standards, the researcher established a process whereby consideration was given to enhance and protect the rights and well-being of the participants.

In the first instance, these standards included ensuring that all participants and their parents/guardians were informed of the purpose of the research (Appendix X). Participants/parents/guardians were also provided with an outline of the activities that would take place during the study. To ensure consent was informed, the researcher made a presentation of the aims of the research to the groups. They were advised that they would be required to complete several questionnaires and some of the research would be observational. However, they were assured that their consent would be needed for permission to be observed. They were also informed that any recording of interviews could be stopped at their behest at any time, and should they request, any recordings would be destroyed subsequent to their participation.

In addition, participants were given an outline of how ethical procedures would be adhered to throughout the study. For example, it was made clear to the participants that their involvement was completely voluntary and any information disclosed, or omitted at any point throughout the study, was at the discretion of the respondent and that they could withdraw from the research at any stage without prejudice. In the event that they withdrew from the study, the researcher undertook to delete any information relating to them from the study.

Other mechanisms to ensure ethical standards were adhered to included making it clear to the participants that all information and data pertaining to the study would remain confidential and anonymity would be ensured in any data produced from the study. To ensure the participants felt confident their anonymity would be respected, all data collected for the study was kept in individual envelopes with numerical identification rather than students' names. All documents related to the study were kept in an off-school location to

maintain security. Participants were also informed that, as a result of the study, there might be conference presentations, journal articles and PhD theses written and published. However, they were made aware that there would be no information identifying them as participants, disclosed in any publications.

Participants were informed that the researcher would be obliged to report any illegal activity that occurred during the study to the appropriate authorities. They were also advised that on request, they would be provided with a brief outline of the outcomes/findings. They were also made aware that the researcher had no conflict of interest in either the project or the participation of individual people.

After fully informing the participants of the nature and purpose of the research, each participant was required to sign a consent form.

6.4   Delivery of the Training course

The member of staff responsible for delivering the F2F training was a female SPHE teacher with eleven years teaching experience. The researcher delivered the VW component of the study. The researcher is also an SPHE teacher with nine years teaching experience.

6.4.1 Integrity of Implementation

The assertiveness training program for both groups was conducted on a weekly basis at the same time and in the same place, with the VW class receiving two extra classes at the beginning of the program to allow the participants to become comfortable with the technology.

The running of the assertiveness course for both groups was supported by a file containing full lesson plans, and role-play activity suggestions and resources. Samples of the activities are given in Appendix XI. Full details of each session are given in Appendix XI. The researcher took care to make sure the content of the course was identical for both groups to ensure treatment integrity. To ensure that the classroom experience was as closely matched as possible, the researcher had weekly meetings with the teacher to discuss the topics covered and review progress of the sessions. This also provided an opportunity for the teacher to comment on the materials or raise any issues or concerns.

The teacher delivering the F2F classes was asked to keep a weekly diary to form a record of what topics were covered and how the classes were progressing (Appendix XII).

The teacher was also asked to keep a record attendance of each class to ensure that all data analysed would be from students who attended the majority of the classes.

Students in both classes completed identical questionnaires pre and post-study.

6.4.2 Location of the Study

The VW sessions took place in the two school computer labs which had all the equipment required for running the course and was large enough for the students to be separated to ensure they would not disturb one another. The participants in the control group attended the training in their normal classroom.

6.5 Objectives of the Assertiveness Course

As discussed in chapter three, the CARE model developed for the participants was based on a combination of social cognitive theory and experiential learning. As such, the course was intended to support the participants' self-efficacy to respond assertively to sexual coercion. Teaching methods were based on the principle techniques recommended in the literature: Instruction, modelling, role-play, feedback, reinforcement and practice (Nangle et al., 2010). The lessons for the study were developed based on the key elements proposed in Chapter 3, for the effective implementation of the CARE model. These included providing specific instructional strategies and utilizing a number of elements directly related to sources of self-efficacy: verbal and written instruction and information, observations of others as models, verbal persuasion through feedback and coaching and mastery of experience through enactive role-play (Bandura, 1994).

First, as the students needed to acquire information about the skills they would be learning. The CARE model provided a verbal explanation and a rational for the skill to be learned. By exposing students to the skills they were to acquire through vicarious learning, they were provided with an opportunity to make connections between prior knowledge, reflect on events, make connections to other experiences and what was being presented (Kolb, 1984). Verbal information was provided in an organised, structured fashion with the emphasis on developing self-efficacy by breaking down the new behaviour to be learned.

The students were then asked to observe the teacher modelling the skills as this has an important influence on learners' self-efficacy during skill acquisition (Bandura, 1994). Within the CARE model, the teacher's explanations combined with modelling of the skill, was an important aspect in the initial stages of skill instruction to increase the students' awareness of the experience.

As acquiring skills can require support and guidance for effective student learning, the CARE model incorporated scaffolding strategies in the form of scripted role-plays, to provide a supportive and empowering learning experience for the students.

According to Bandura (2012) and Kolb (1984), the learners need to engage in active application of the required skills and receive corrective feedback. Within the CARE model, the active experimentation and mastery of experience stage was entered when the students were provided with opportunities to actively construct knowledge through direct experience of role-playing meaningful, authentic situations. Since acquiring such skills requires practice across a range of contexts, there was a need to incorporate a variety of role-play scenarios to help the students relate the knowledge and skills learned to beyond the classroom.

Motivation and feedback was a very important part of the CARE model. Following Bandura's (1977) suggestion that verbal persuasion may play a major role in developing self-efficacy beliefs and motivation, the CARE model included constructive feedback to encourage the students to employ the skills they were learning. The emphasis in the CARE model was on positive rather than critical feedback, as it was considered particularly salient when dealing with young adolescents to avoid, where possible, negative comments that would induce a sense of embarrassment and contribute to reduced levels of motivation.

6.5.1   General Structure of the Classes

- The trainer clearly defines and describes the targeted skill

- The trainer models the skill

- The trainer provides scenarios for the role-plays

- The participants role-play the scenarios

- The trainer provides feedback and positive reinforcement

- The participants practice the role-plays again.

6.5.2   Implementation of the VW Classes

Class 1

The first class in the VW focused on giving the participants direct experience of the VW to allow them to become accustomed to the interface. To support them, the participants were provided with written hand-outs, with clear instructions on how to use the controls, navigate and customise their appearance while in the VW. As stated previously in chapter

three, on logging in to Care the students were automatically brought to their 'home' base where further assistance was provided in the form of poster displays. This class was also used to clarify the expected rules of conduct while in the VW.

Class 2

The main objective of the second VW class was to teach the participants how to use voice in the VW. Headsets were provided to reduce distraction from other students. The students were also taught how to teleport to the meeting room where the educational sessions would be held. The researcher and an assistant provided both verbal and practical support where necessary.

Class 3

The participants completed the pre-study assertiveness and self-efficacy questionnaires. The rationale for delivering the questionnaires in class three was to ensure that the classroom experience was as closely matched as possible for both the control and experimental group. Consequently, both groups completed the questionnaires at the same time.

Following the introductory classes in the VW and the completion of the questionnaires, the following VW classes focused on behavioural practice of assertiveness skills. Table 6.1 shows the breakdown of the activities

Table 6.1 Breakdown of VW Activities
- Introduction to the targeted skill   - Modelling of the targeted skill   - Provide participants with role- play scenarios and scripts   - Teleport to 'Meeting Room' in CARE   - Researcher chooses role-play partners and locations of role-plays   - Participants teleport to locations to practice the role-plays   - Researcher teleports to participants' role-play locations to provide feedback and reinforcement   - Researcher and participants return to 'Meeting Room' for summing up discussion

The same structure was adopted for all the classes. In the last class, a post-test Assertiveness/Self-efficacy questionnaire and Presence evaluation questionnaire was administered.

6.6   Description of the Control Group Classes

The control group was given the same number of classes of the same duration as the experimental group. It consisted of eight 40 minute classes once a week. The facilitator of the control group classes followed the same format and structure of the assertiveness course as the experimental group. As stated above, in order to ascertain the consistency of the implementation of the assertiveness course and reduce the potential threat to integrity, the researcher had weekly meetings with the control group teacher to ensure the same topics were covered by both groups.

The participants completed the pre-and post-test assertiveness and self-efficacy questionnaires.

6.7   Summary

This chapter provided a description of the implementation of the assertiveness training course to both the experimental and control groups. The chapter provided an account of the objectives of the assertiveness course and described the content and delivery

of the course to both groups. The chapter also outlined the actions taken to ensure the delivery of the course adhered to the highest standard of integrity for educational research.

CHAPTER 7: ANALYSIS

7.1 Introduction

This chapter presents a summary of the results of the statistical and qualitative analysis of data obtained at pre-and post-intervention. The chapter is organised according to the measures used: measures of assertiveness, measures of self-efficacy, evaluation of presence in the VW, role-play assessments and the results of the students' and staffs' experience of the study. The research questions and hypotheses are specified and appraised in the light of the data analysis. The section concludes with a summary of the key findings of the study.

7.1.2 Approach to Data Analysis

This study has used a quasi-experimental design and a control-experimental, pre-post approach. The analysis of the data was based upon conventional statistical techniques to determine whether a difference between groups is statistically significant at .05 level, (i.e. a 5% probability or less that results have been obtained by chance). The theoretical basis behind this statistical procedure is known as hypotheses testing. If the tests show $>.05$ then the null hypothesis must be rejected. Conversely, where a result is $<.05$, then the hypothesis is not rejected. Thus, researchers can conclude that there is very little chance of obtaining the sample results found if the null hypothesis is true in the larger population from which the sample was drawn (Harlow, 2010). Data was analysed using the Statistical Package for Social Sciences (Version 23, 2015).

7.1.3 Sample

The total sample consisted of 46 participants. As 3 participants in the control group did not take the post-test, the results presented below are based on a sample size of 43. Table 7.1 displays the number of participants who completed measures at pre-test and post-test in each setting.

Table 7.1 Sample Size and Gender				
	No. of participants at pre-test	M/F	No. of participants at post-test	M/F
Experimental Group	21	12/9	21	12/9
Control Group	25	9/13	22	9/13
Total	46	22/24	42	21/22

7.1.4   Selection of Statistical Procedures

Appropriate statistical procedures are essential to obtain accurate results from the data. The choice of procedures depends on the hypothesis being tested and the nature of the data with which one is working (Cohen et al., 2011). For statistical processing it is also necessary to complete assumption testing, by means of parametric (the data follows a normal distribution, and there is homogeneity of variance) (Field, 2006) or non-parametric procedures (the test does not assume a regular bell-shaped curve of distribution in the wider population). Non parametric tests do not depend on the type of data or the statistical distribution of that data (Hedges & Olkin, 2014). However, non-parametric tests are considered less powerful than parametric ones, as they may "fail to detect differences between groups that actually exist" (Pallant, 2007, p.210).

In this study, the following statistical procedures were conducted on the data:

The Shapiro-Wilk test for normality was completed for all pre-data sets, along with visual checking of box plots and histograms. Although there were two tests available in SPSS to consider (Kolmogorov-Smirnov, and Shapiro-Wilk), the Shapiro-Wilk's test has been reported as being the most the most powerful for all kinds of distributions and sample sizes (Razali & Wal, 2011) and was therefore selected.

To determine whether there was a statistically significant difference between the experimental and control groups at pre and post-test a *t*-test was used. This test has been designed to test whether the means of two samples differ.

To establish whether the scores from the questionnaires varied across conditions an analysis of variance (ANOVA) was used. Using the SPSS package, it is also possible to determine whether all necessary assumptions of the ANOVA were met. This included assumptions of homogeneity of variance which relates to the fact that data from different

groups should not have variances that are significantly different. Data can be checked for this using Levene's test of Equality of Error Variances (Brace et al., 2012).

To test those assumptions within this study, the data was analysed in SPSS. It should be noted that SPSS does not include missing values when a participant does not complete every item on the questionnaires. Hence, the analysis of the data included only those participants who completed the questionnaires fully.

7.2 Research Questions and Hypotheses

Research Question 1

Is there a difference in assertiveness scores between students who undertook training in a VW and students who undertook F2F training?

Hypothesis 1:

There will be a statistically significant difference in 'assertiveness' scores for the experimental and control group between pre-and post-test.

Null Hypothesis 1:

There will be no significant difference between 'assertiveness' scores for the experimental and control group between pre- and post-test.

7.2.1 Descriptive Statistics for Assertiveness Scale

Table 7.2 displays an overview of the means and standard deviation of both groups at pre and post-test for assertiveness.

Table 7.2 Descriptive Statistics for Assertiveness				
Time	**Group**	**N**	**Mean**	**Std Deviation**
Pre-Test	Experimental Group	19	83.84	10.95
	Control Group	20	83.05	12.61
	Total	**39**	**83.43**	**11.68**
Post-Test	Experimental Group	21	89.14	10.41
	Control Group	22	86.59	13.65
	Total	**43**	**87.83**	**12.10**

The pre-test data for the Assertiveness scale was checked for normality using visual checks of histograms and box plots. The Shapiro-Wilk test for normality was also completed,

with results shown in Table 7.3. As the outcome was not statistically significant it can be concluded the data was normally distributed and parametric measures were appropriate for this study.

Table 7.3 Shapiro-Wilk Test for Normality (Assertiveness)		
Statistic	Degrees of freedom	Significance
.970	43	.314

7.2.2 Testing for Equivalent Groups (Assertiveness)

To test there was no bias in the assignment of individuals to groups, an independent t-test was conducted to examine whether the groups were equivalent prior to the intervention. Levene's test for equality of variance tests the assumption that the variances for each variable are equal across groups. If the Levene's test shows a significant difference ($p <$ 05), it means that the variances between the groups are significantly different from one another and therefore not equal (Foster, 2001). In this case, this test found there was an equal variance (t=-.209, df =37, p=.836 two tailed, (equal variances assumed) between the two groups.

Figure 7.1 provides a graphical description of the results.
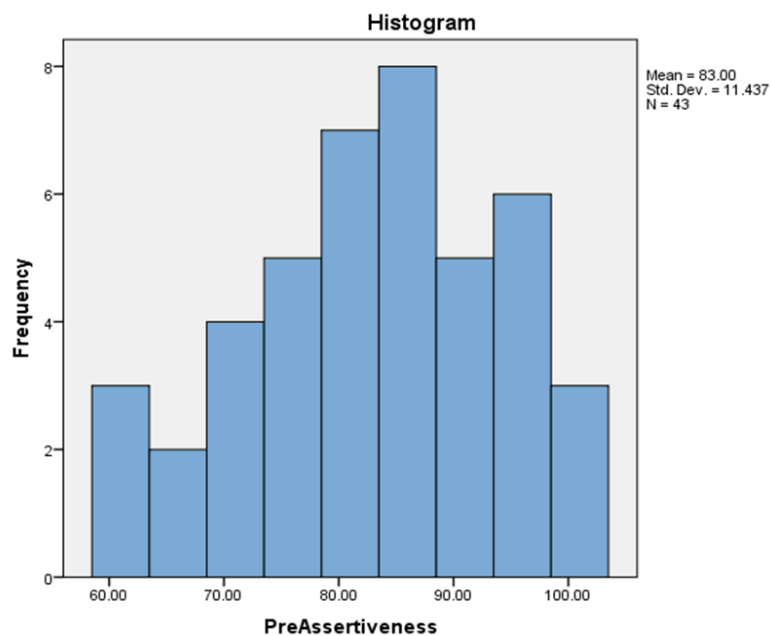
Figure 7.1 Histogram of Students' Assertiveness Scores Pre-Test

7.2.3 Outcome from Pre-Test Assertiveness Questionnaire

The scores from the pre-assertiveness questionnaire suggest that the students (*n*=43) rated themselves as having medium to high levels of assertiveness for 18 of the 23 questions. The only question that received a low score was question 8 with a score of (*m* = 1.88), while questions 1, 7, 9 and 12 received low to medium assertiveness scores. The pre-test total assertiveness score was (*m* = 83). As the possible range was 23 to 115, the total mean figure suggests that the groups' self-reported assertiveness level was quite high before they began the intervention. Regarding the questions with low assertiveness scores, question 1 refers to feelings of shyness which is reasonable to expect from adolescents in this age group, while questions 7, 8, 9 and 12 refer to avoidance of conflict and may indicate the students' lack of experience with relationships or their difficulty when it comes to interacting negatively with peers. Page 177 provides a graphical representation of the summed scores pre-test. See figure 7.1

7.2.4 Outcome from Post-Test Assertiveness Questionnaire

The post-test descriptive data revealed that both groups' summed scores appear higher from pre-test to post-test for all of the 23 questions with a mean score of 89 out of a possible 115. When compared to one another, the data revealed that the experimental group reported higher levels of scores for 15 out of the 23 questions than the control group. This related to questions, 1,2,3,4,5,6,7,14,15,17,18,19,20,22, and 23. The control group reported higher levels of assertiveness when compared to the experimental group for 8 of the 23 questions – 8, 9, 10, 11,12,13,16, and 21. Below is a graphical representation of the scores post-test. See figure 7.2.
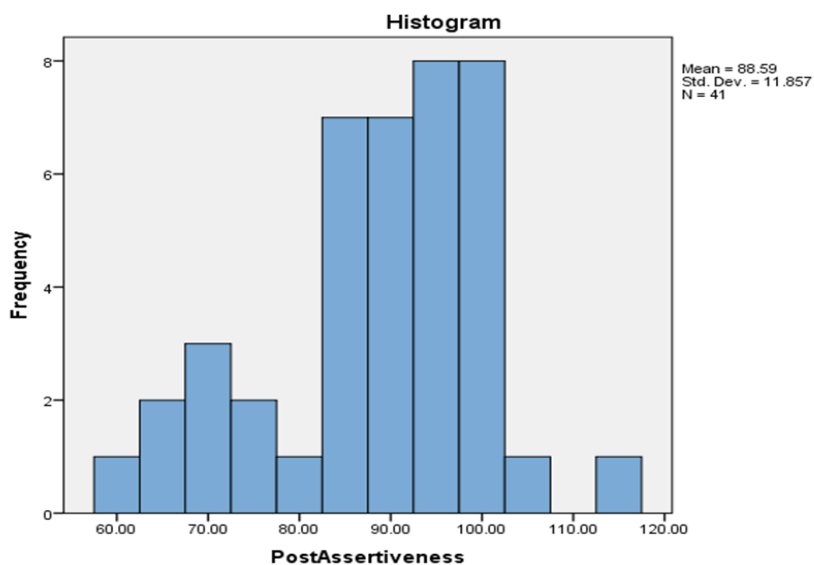
Figure 7.2 Histogram of Students' Assertiveness Scores Post-Test

7.2.5   Repeated Measures ANOVA

An ANOVA with repeated measures was employed as this allowed the researcher to perform an analysis that looked at the effect of a between subjects variable (i.e. treatment) and in combination look at the effect of repeated measures within subjects variable (i.e. time). The combination of looking at these two independent variables allowed the researcher to look at the effect of the treatment by itself and the effect of time by itself and the potential interaction between those two. As stated above, part of the process of using a repeated measures ANOVA involves analysing the data to check that it passes a number of assumptions in order to give a valid result (Foster, 2001).

Box's Test of Equality of Covariance Matrices

Box's test of equality of variance is a measure that examines the assumption of homogeneity of covariance across groups. According to Foster (2001) the p value should be greater than .001 as Box's test is very sensitive to departure from normality and therefore a less stringent approach is allowed to test there is equal covariance. Box's M (3.64) was not significant p, (.331) > α (.001) – indicating that there were no significant differences between the covariance matrices.

Multivariate Analysis

Multivariate analysis was conducted to test whether there was an interaction effect between the groups (Foster, 2001). In other words, was there the same change in scores over time for the two different groups (i.e. the VW training versus the traditional class training)? Using an alpha level of .05 the interaction effect between groups was not statistically significant (Table 7.4).

Table 7.4 Multivariate Analysis (Assertiveness)

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Time	Wilks' Lambda	.762	10.950	1.000	35.000	.002	.238
Time * Group	Wilks' Lambda	.987	.452	1.000	35.000	.506	.013

The second multivariate (Time Group) analysis tests whether the scores changed in a statistically different way over the two time points, pre and post-test. The Wilks' Lambda significance value was <.05, therefore it can be concluded there was a significant main effect

for time. This suggests there was a definite change in assertiveness scores across the two time points.

Because there was a significant effect for time, the effect size can be tested from the value provided by the Partial Eta Squared (the default effect size). According to Cohen (1988) suggestions regarding the magnitude of effect size for Partial Eta Squared, anything greater than .14 is considered a large effect. In this case the test showed the value is .984 and therefore is considered a large effect size.

A between subject effects test indicated the significance value was not >.05 which suggests there was no statistically significant difference between the two groups. Therefore, the type of training (i.e. in a VW or in a traditional class) did not have significance as far as it affected assertiveness. The effect size for group (i.e. Partial Eta Squared) was >.001 and is considered to be very small (Cohen, 1988).
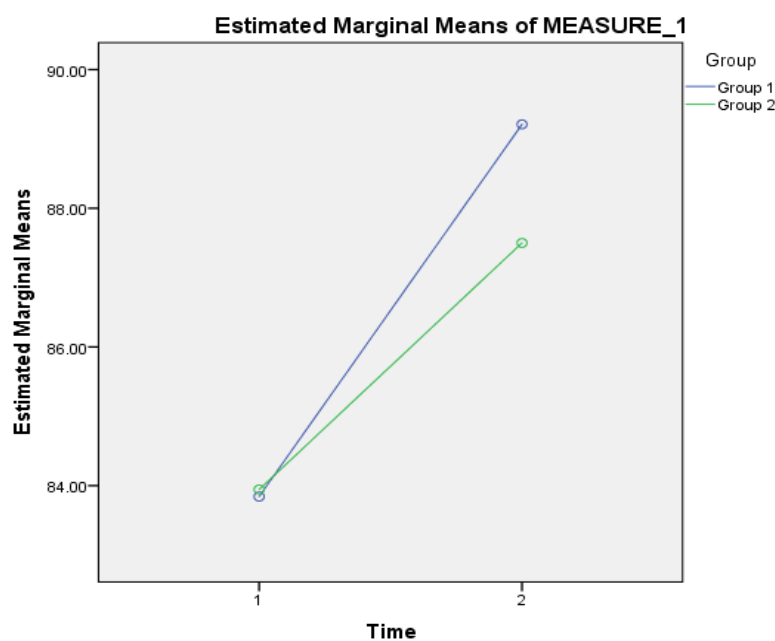
Figure 7.3 Profile Plot (Assertiveness)

Figure 7.3 shows a graphical representation of the group means based on the passage of time as well as by group. The x axis shows the two time points 1 and 2. The two lines represent the two groups. It appears the two groups started out fairly equally and the amount of change that occurred was very similar.

7.2.6   Summary of Results from the Assertiveness Questionnaire

In summary, testing between groups found that both groups began with medium to high assertiveness levels prior to the intervention. Overall, the biggest finding was that a

statistically significant change was observed in assertiveness scores for both experimental and control groups, from pre-test to post-test over time. There was no significant difference between experimental and control group scores. In other words, the type of intervention did not affect the outcome.

The experimental hypothesis that there would be no significant difference between 'assertiveness' scores for the experimental and control group between pre- and post-test indicates that the null hypothesis must be accepted.

7.3   Research Question 2

Is there a difference in self-efficacy scores between students who undertook training in a VW and students who undertook F2Ftraining?

Hypotheses 2:

There will be a statistically significant difference in participants' perceived self-efficacy scores for the experimental group and the control group between pre-and post-test.

Null Hypothesis 2:

There will be no significant difference in participants' perceived self-efficacy scores for the experimental and control group between pre- and post-test.

7.3.1   Descriptive Statistics for the Self-Efficacy Scale

Table 7.5 displays an overview of the means and standard deviation of both groups at pre and post-test for self-efficacy.

Table 7.5 Descriptive Statistics for Self-Efficacy				
Time	Group	N	Mean	Std Deviation
Pre-test	Experimental Group	21	19.09	4.26
	Control Group	22	16.81	5.59
	Total	43	17.93	5.06
Post-test	Experimental Group	21	20.80	3.32
	Control Group	22	18.90	4.56
	Total	43	19.83	4.07

Table 7.6 displays the Shapiro-Wilk test for normality on the pre-test data for self-efficacy. The test showed the data was normally distributed.

To test whether there was equivalence between the groups' self-efficacy prior to the intervention, Levene's test for equality of variance was conducted. This test showed that there was an equal variance (t=1.19, df=41, p=.281) between the two groups

Table 7.6 Shapiro-Wilk Test (Self-Efficacy)			
	Statistic	Degrees of freedom	Significance
Experimental Group	.133	21	.266
Control Group	.125	22	.253
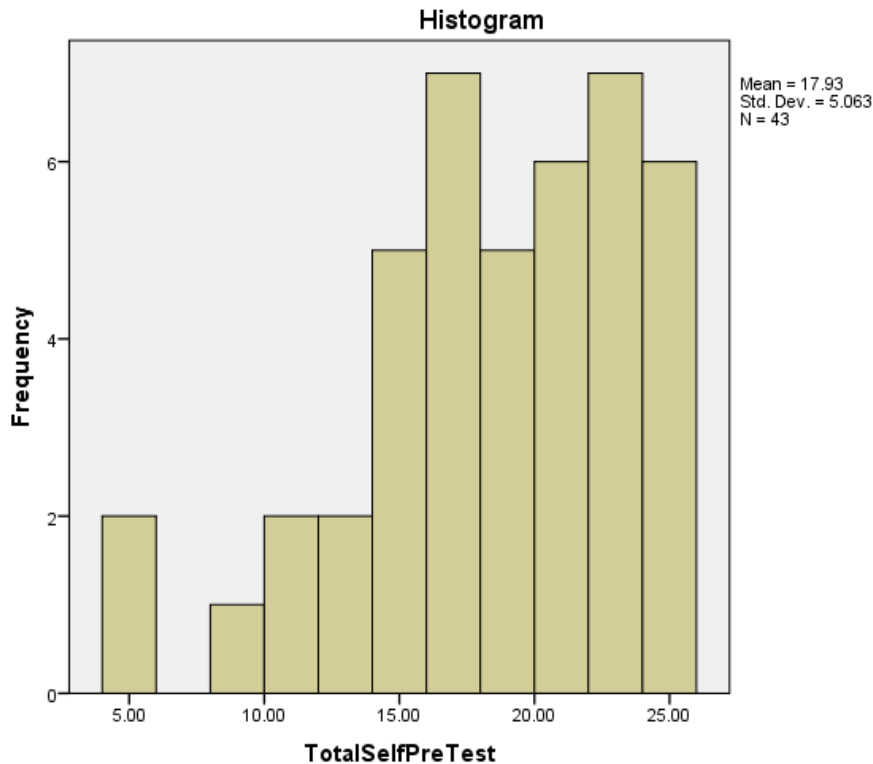
Figure 7.4 Histogram of Student's Self-Efficacy Scores Pre-Test

7.3.2 Outcome from Pre-Test Self-Efficacy Questionnaire

Analysis of the pre-test self-efficacy scores showed that the students rated themselves as possessing medium to high levels of self-efficacy on the 5 point Likert scale. This indicates that as a whole, the sample of 43 students tended to hold a good sense of self-efficacy across each of the five measures. Analysis of individual scores showed the experimental group reported slightly higher levels of self-efficacy pre-test than the control group on all 5 questions. The pre-test total self-efficacy score was ($m = 18$). As the possible range was 5 to 25, the total mean figure suggests that the groups' self-reported self-efficacy level was quite high before they began the intervention. (Figure 7.4)

7.3.3 Outcome from Post-Test Self-Efficacy Questionnaire

The post-test descriptive data revealed that both groups' scores appear similar or higher from pre-test to post-test for all of the 5 questions with a score of 20 out of a possible 25. When compared to one another, the data revealed that the experimental group reported higher levels of scores for all five questions than the control group. The pattern of higher scores for the experimental group was to be expected as the control group reported lower levels of self-efficacy than the experimental group at pre-test. See Table 7.5.
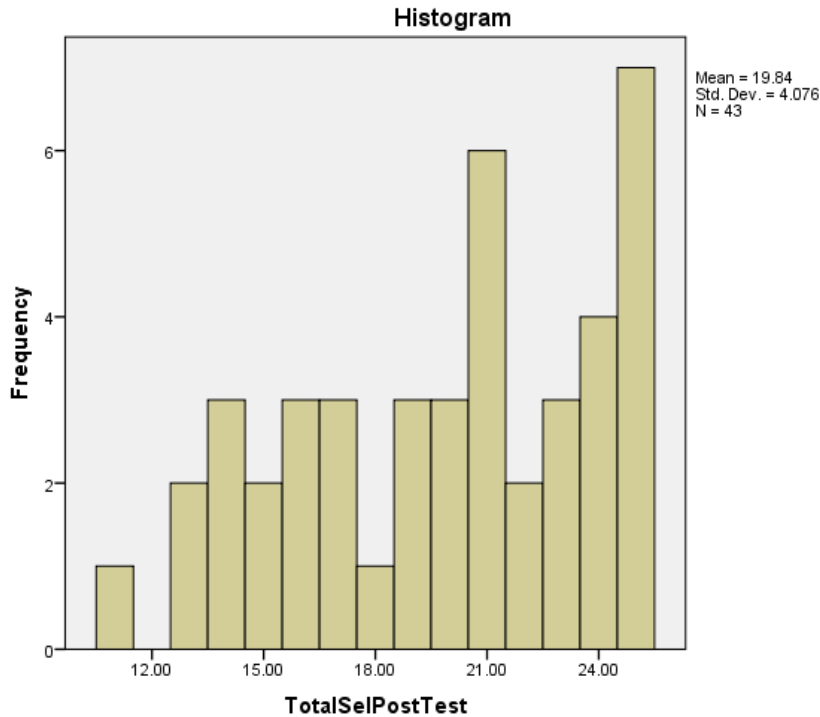
Figure 7.5 Histogram of Student's Self-Efficacy Scores Post-Test

7.3.4 Repeated Measures ANOVA

A similar set of analysis was conducted to examine the self-efficacy scores from pre-test to post-test between the two groups at the two different time points, pre-test and post-test.

Box's Test of Equality of Covariance Matrices

Box's Test of Equality of Covariance Matrices was checked for homogeneity of covariance using a p value of >.001 as a criterion. Box's M (4.106) was not significant, p, (.274) > α (.001), indicating that there were no significant differences between the covariance matrices.

The results of the multivariate tests (Table 7.12) were checked to observe whether there was an interaction effect (i.e. was there the same change in scores over time for the two different groups). The effect for interaction was >.05 so therefore, it can be concluded that the interaction effect was not significantly significant. However, the time group analysis shows that the significant factor for time was < .05 which suggests there was a definite change in the self-efficacy scores between pre and post-test over time.

Table 7.7 Multivariate Analysis (Self-Efficacy)							
Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Time	Wilks' Lambda	.880	5.595	1.000	41.000	.023	.120
Time * Group	Wilks' Lambda	.999	.055	1.000	41.000	.816	.001

The results from the between subjects effect showed the value was not >.05 and therefore it can be concluded there was not a statistically significant difference between the groups. So the two types of training (i.e. VW training and standard training) did not have statistical significance as far as they affected the participants' self-efficacy.

7.3.5 Summary of Results from the Self-Efficacy Questionnaire

Results from the self-efficacy scores from pre-test to post-test followed a similar pattern of results from the assertiveness scores. In this case there was no evidence to suggest that the groups were any more different than they would be by chance. In other words, the independent variable, the type of training did not affect the outcome. The biggest finding was that a statistically significant change was observed in self-efficacy scores for both experimental and control groups from pre-test to post-test over time.

Therefore, the null hypothesis that there will be no significant difference in participants' perceived self-efficacy scores for the experimental and control group between pre- and post-test must be accepted.

7.4   Research Question Three

Is there a difference in assertiveness role-play scores between students who undertook training in a VW and students who undertook F2F training?

Hypotheses 3:

There will be a statistically significant difference in role-play assertiveness scores between the experimental and control group post-test.

Null Hypothesis 3:

There will be no statistically significant difference in role-play assertiveness scores between the experimental and control group post-test.

Prior to the assessment of the role-plays, students from both the experimental and control groups were asked if they wished to be assessed. 7 students from each group agreed to participate – a total of 14. This consisted of 8 boys and 6 girls. The role-plays were carried out in an ordinary classroom and each student was tested alone. It was decided that assessing the students in the same way and with the same role play would facilitate a fair assessment.

The students had no access to the role-play scenarios in advance, but they were told it would be very similar to the role-plays they had already practiced in class. There was no time limit for the role-plays, but generally, they lasted no more than 5 minutes. A male and female student from another class with experience of acting was asked to play the role of 'aggressor' in each scenario. The raters were not made aware of the type of training the individual students had received prior to assessing the role-plays.

Table 7.8 Grading Rubric for the Role-Plays

	Student Number	Volume & Projection	Tone	Response latency	Inflection	Pacing	Total Mark
Score Values: 5=Excellent, Very Good = 4, Good=3, Fair=2. Unacceptable =1							
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							

To test the hypothesis that the experimental group and the control group were associated with statistically significant different mean role-play scores, an independent *t*-test was performed. First, the standard tests of normality were conducted in SPSS to check whether the distributions were appropriately normal for the purposes of conducting a *t*-test (i.e. Skew <2.0 and Kurtosis <9.0 (Schmider et al., 2010). Additionally, the assumption of homogeneity of variance was checked and fulfilled by means of Levene's F test, $F (.98) =.17$, $p =.212$. Based on the assumptions being satisfied the *t*-test was conducted. The results were

associated with a non-statistical significant effect, t (12) =.99, p =.212. Thus, the null hypothesis there will be no statistically significant difference in role-play assertiveness scores between the experimental and control group post-test must be accepted.

7.4.1 Summary of Results from Role-Play Assessments

In summary, testing of participants from both groups found there were no statistical significant differences in the students' performance of the 'assertive' role plays. It may be that as the students volunteered for the role plays, as a combined group they may have felt equally confident with performing, a factor that may have contributed to the result.

The experimental null hypothesis that there would be no significant difference between 'role-play' scores for the experimental and control group post-test indicates that the null hypothesis must be accepted.

Table 7.9 Role-Play Assessment Results						
Group		Volume & Projection	Tone	Response Latency	Inflection	Pacing
Experimental Group	Mean	4.14	4.00	4.00	4.14	3.85
	N	7	7	7	7	7
	SD	1.06	1.15	.81	.89	.69
Control Group	Mean	3.72	3.71	3.28	3.28	3.7
	N	7	7	7	7	7
	SD	1.11	1.11	1.11	1.11	1.11

7.5   Research Question Four

To what extent does a sense of presence while in the VW contribute to the participants' perceptions of the quality of their verbal interactions (volume and projection, tone of voice, inflection, response latency, pacing) while performing the role-plays?

To answer research question four, after completion of the study the experimental group were asked to complete an 18 item survey on their perceptions of how the three main features of VWs (presence, realism and immersion) contributed to the quality of their verbal interactions. The questions were grouped into 6 questions in each of the three areas and the

scale was adapted from Witmer and Singer's (1998) framework, commonly used to measure feelings of presence in VW spaces.

7.5.1   Results from Questions on Presence

The responses of students to the questions on their perception of the effect of presence on their verbal interactions while in the VW are presented in Table 7.10. The results are displayed as they responded in that section to a 5 point Likert scale, the mean of responses and the standard deviation. The results show that the overall perceptions of students were similar with responses, mostly in the higher mid-range. The standard deviation indicated that the students' responses were close for 5 of the 6 questions. There was a wider range in the responses of students to question 1 which related to the extent that students experienced a sense of presence of 'really being there' inside the VW.

Table 7.10 Means and Standard from 'Presence' Questionnaire			
Question	N	Mean	Std. Deviation
1	21	3.47	1.12
2	21	3.95	.80
3	21	3.90	.62
4	21	3.90	.62
5	21	4.09	.99
6	21	3.85	.72

Individual results showed that (m=2) of the participants reported '*Not Much*' to question 1 on whether they felt physically present while in the VW, while (m=1) reported "*A 'Little*'. Six participants (m=4, f=2) responded '*Somewhat*'. Nine participants (m=4, f=5) reported '*Much*' for this question and (m=1, f=2) responded '*Very Much*'.

For question 2, relating to the question on whether feeling physically present while interacting in the VW helped the participants to speak with more confidence, (f=1) responded '*A Little*', (m=3,f=1) responded '*Somewhat*' and (m=7,f=4) responded '*Much*'. Five participants (m=2, f=3) responded '*Very Much*'

The results for question three, relating to whether feeling physically present while in the VW helped the participants express themselves well while enacting the role-plays, showed that (m=3,f=2) felt it helped '*Somewhat*', while (m=8,f=5) responded '*Much*' and (m=1,f=2) reported feeling physically present help '*Very Much*'.

Individual results for question four, which referred to how a feeling of presence influenced how quickly they responded while enacting the role-plays, showed that ($m=5$) thought '*Somewhat*', ($m=5,f=8$) thought '*Much*' and ($m=2,f=1$) thought '*Very Much*'.

Concerning how a sense of presence while in the VW helped the participants vary their tone of voice, ($m=2$) reported '*A Little*, ($m=3$) reported '*Somewhat*', ($m=3, f=4$) reported '*Much*' and ($m=4, f=5$) reported '*Very Much*'.

For the sixth question on presence relating to the influence of presence on their tone of voice, the participants reported ($m=6, f=1$), '*Somewhat*', ($m=3, f=7$), reported '*Much*' and ($m=3, f=1$) reported '*Very Much*'. Results are presented in Figure 7.6
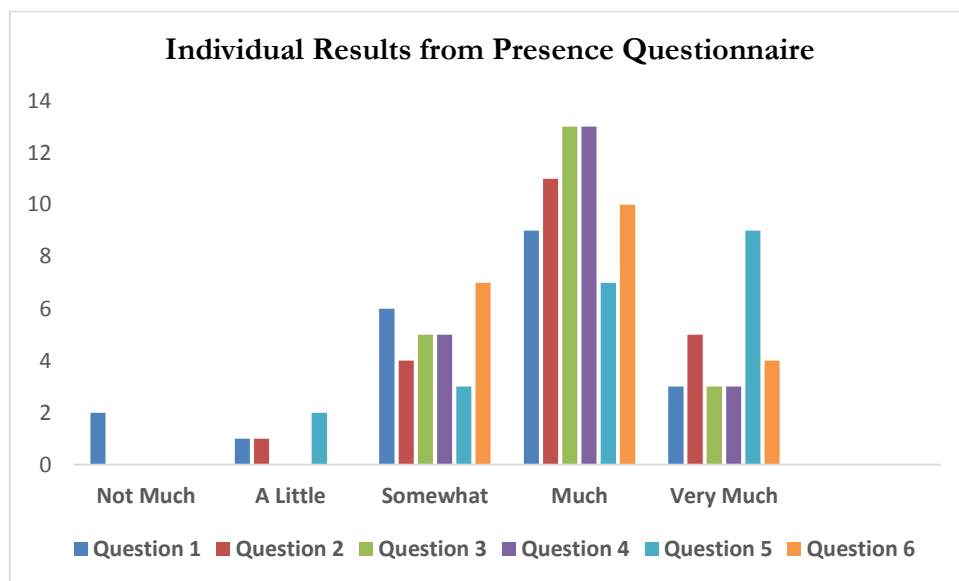
Figure 7.6 Histogram of Students' Presence Scores

7.5.2 Results from Questions on Realism

The response of the students to the questions on their perception of the effect of a sense of realism on their verbal interactions while in the VW is displayed in Table 7.11. The results indicate similar results in Table 7.10 with responses mostly in the high middle range for all 6 questions. The standard deviations were close for 5 of the six questions; with a wider range for Question 1 which related to what extent did the students feel they were in a different place than the classroom while in the VW.

Table 7.11 Means and Standard Deviation from 'Realism' Questionnaire			
Question	N	Mean	Std. Deviation
1	21	3.19	1.03
2	21	3.90	.70
3	21	3.71	.90
4	21	3.76	.70
5	21	3.66	.91
6	21	3.90	.88

Individual results from the questionnaire on realism showed that (m=1) reported '*Not Much*' to question 1 on whether they felt a sense of realism while in the VW, (m=2, f=1) reported a '*Little*'. 11 participants (m=6, f=5) responded '*Somewhat*'. Three participants (m=1, f=2) reported '*Much*' for this question and (m=2, f=1) responded '*Very Much*'.

For question 2, relating to the question on whether a sense of realism while interacting in the VW helped the participants to speak with more confidence, (m=4,f=2) responded '*Somewhat*' and (m=6,f=5) responded '*Much*' and four participants (m=2,f=2) responded '*Very Much*'

The results for question three, relating to whether feeling a sense of realism while in the VW helped the participants express themselves well while enacting the role-plays, showed that (m=1) responded '*A Little,*' (6=3, f=3) felt it helped '*Somewhat*', while (m=1, f=5) responded '*Much*' and (m=4, f=1) said feeling a sense of realism helped '*Very Much*'.

Individual results for question four, which referred to how a sense of realism influenced how quickly they responded while enacting the role-plays, showed that (m=1) thought it helped '*A Little*', (m=3,f=2) thought '*Somewhat*', (m=6,f=7) thought '*Much*' and (m=2) thought '*Very Much*'.

Concerning how a sense of realism while in the VW helped the participants vary their tone of voice, (m=2) reported '*A Little*, (m=6, f=1) reported '*Somewhat*', (m=2, f=6) reported '*Much*' and (m=2, f=2) reported '*Very Much*'.

For the sixth question on realism, concerning the influence of realism on their tone of voice, (m=2) said '*A Little*', (m=2, f=1) said '*Somewhat*', (m=6, f=5) said '*Much*' and (m=2, f=3) said '*Very Much*'. Results are presented in Figure 7.7.
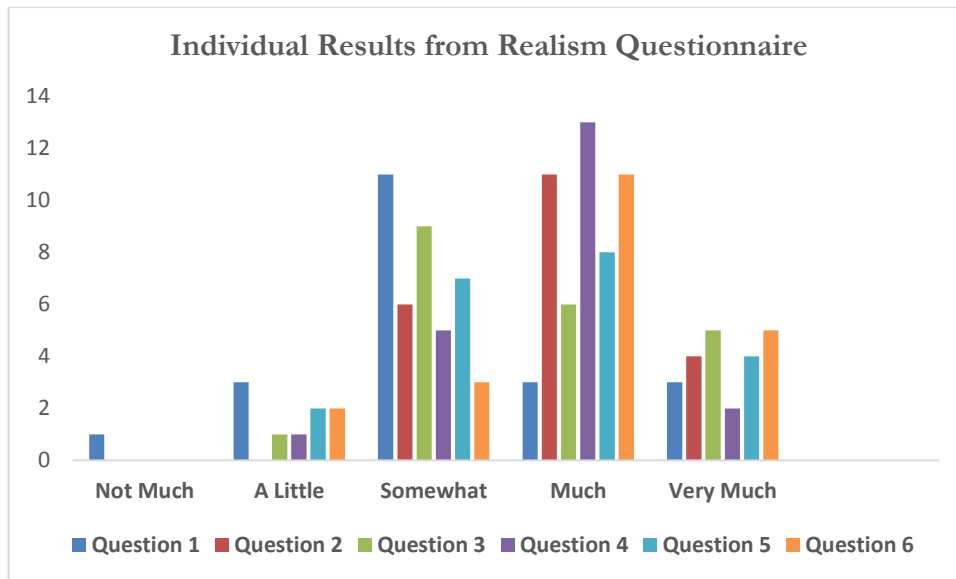
Figure 7.7 Histogram of Students' Realism Scores

7.5.3 Results from Questions on Immersion

The response of the students to the questions on their perception of the effect of a sense of immersion on their verbal interactions while in the VW is displayed in Table 7.12. The results indicate that responses were mostly in the high middle range for 5 of the six questions. Question 4, which related to the extent that feeling immersed in the VW helped the participants respond immediately, while enacting the role-plays, received a higher ($m=$ 4.09) response.

Table 7.12 Means and Standard Deviation from 'Immersion' Questionnaire			
Question	N	Mean	Std. Deviation
1	21	3.80	.92
2	21	4.09	.75
3	21	3.61	.66
4	21	3.61	.74
5	21	3.90	.83
6	21	3.90	.70

Individual results from the questionnaire on a sense of immersion while in the VW showed that ($m=2$) reported '*A Little*' to question 1*, ($m=3$, $f=2$) reported '*Somewhat*'. Nine participants ($m=5$, $f=4$) reported '*Much*' for this question and ($m=2$, $f=3$) responded '*Very Much*'.

For question 2, relating to the question on whether a sense of immersion while interacting in the VW helped the participants to speak with more confidence (m=1) reported '*A Little*', (m=1, f=1)) reported '*Somewhat*' and (m=7, f=5) responded '*Much*'. Six participants (m=3, f=3) responded '*Very Much*'

The results for question three, relating to whether feeling a sense of immersion while in the VW helped the participants express themselves well while enacting the role-plays, showed that (m=1) said '*A Little*,' (m=6, f=1) said it helped '*Somewhat*', while (m=4, f=8) said '*Much*' and (m=1) said feeling a sense of realism helped '*Very Much*'.

Individual results for question four, which referred to how a sense of immersion influenced how quickly they responded while enacting the role-plays, showed that (m=2) thought it helped '*A Little*', (m=1,f=4) thought '*Somewhat*', (m=8,f=5) thought '*Much*' and (m=1) thought '*Very Much*'.

Concerning how a sense of immersion while in the VW helped the participants vary their tone of voice, (m=1) reported '*A Little*, (m=4, f=1) reported '*Somewhat*', (m=4, f=6) reported '*Much*' and (m=3, f=2) reported '*Very Much*'.

For the sixth question on immersion, relating to the influence of a sense of immersion on their tone of voice, (m=4, f=2) said '*Somewhat*', (m=6, f=5) said '*Much*' and (m=2, f=2) said '*Very Much*'. Results are presented in Figure 7.8
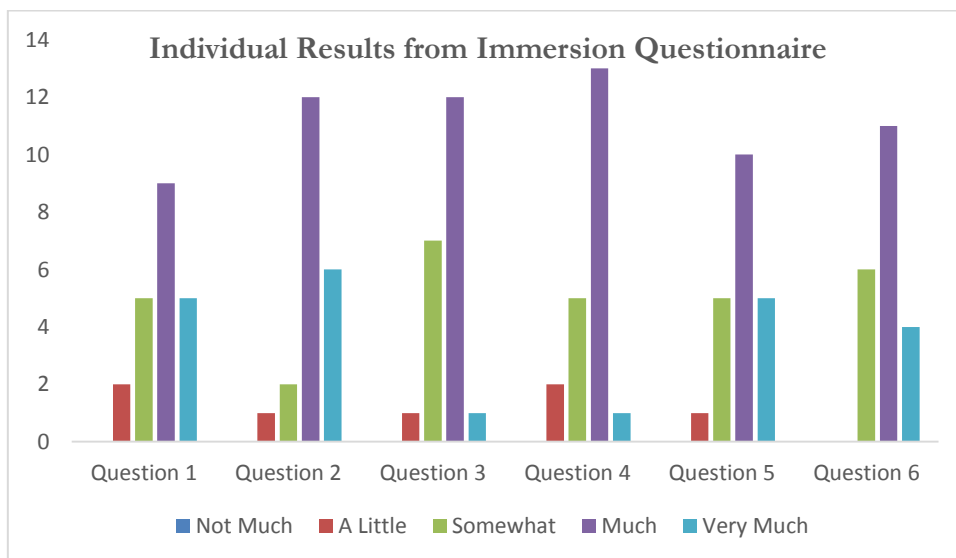
Figure 7.8 Histogram of Students' Immersion Scores

7.5.4 Summary of Results

Overall, the experimental group had a relatively positive response to their perception of how the features of the VW contributed to the quality of their verbal interactions while enacting the role-plays in the VW. Results indicated that the scores for the group across the three features of VWs under examination, *Presence*, *Realism* and *Immersion*, were similar in the subjective experiences of the participants.

7.6 Qualitative Data Analysis

In order to further understand the overall experience of all those involved in the study, additional subsidiary questions were explored as part of the current research:

- What are the perceptions of the participants in the experimental group, in relation to programme implementation, contents and effectiveness?

- What are the perceptions of the participants in the control group, in relation to programme implementation, contents and effectiveness?

- What are the perceptions of the teacher in relation to programme implementation, contents and effectiveness?

7.6.1 Student Interviews

Data was collected from a random selection of 15 participants from both groups (8 from the experimental group and 7 from the control group) through semi-structured interviews, after completion of the training and role-play activities. The students in the experimental group were interviewed in order to collect their perceptions of the role-play activities in the VW and similarly, the control group were interviewed to gather their perceptions of the standard training in the classroom. Thematic analyses were carried out separately for the two groups.

The interviews were semi-structured, allowing the participants the freedom to express themselves in their own way. The interviews were recorded by the researcher and then transcribed from the recordings.

To interpret the qualitative results a thematic analysis process was undertaken in accordance with procedures provided by (Braun & Clarke, 2006).

7.6.2 Process of Thematic Analysis

Thematic analysis involves a number of choices which need to be considered before analysis can begin (Braun & Clarke, 2006). The end result of a thematic analysis should

highlight the most salient constellations of meanings present in the dataset (Joffe, 2012). The process adopted in this research is illustrated in Figure 7.6
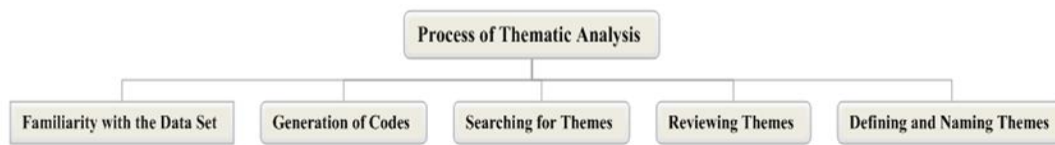
Figure 7.9 Process of Thematic Analysis

Familiarity with the Data Set

The first phase of thematic analysis requires the researcher to immerse themselves in the data by reading and re-reading the data in order to familiarise themselves with the content (Braun & Clarke, 2006). Therefore, to become familiar with the data set, the researcher first read and re-read the transcripts line by line in order to identify the main patterns and key ideas that were occurring within the data.

Generation of Codes

Generation of codes involved reviewing every sentence for concepts and ideas that occurred. Words from the texts were highlighted/ underlined and notes made in the margins of the text according to how many times that particular word, phrase, topic or issue arose. The sentences were then categorised with at least one code and some were categorised more than once where they overlapped with another concept. For instance, the comment from one student that "*I really enjoyed the course…….. I talked to people I never mixed with before*, was coded as 'enjoyment' and 'friendships'.

Searching for Themes

Having identified a set of codes, the next stage involved sorting the codes into themes and identifying their significance. According to Joffe (2012) a theme refers to a specific pattern of meaning found in the data. Therefore, the codes first were considered in relation to one another. To aid with this step the researcher used a mind map to generate a visual representation of the codes.
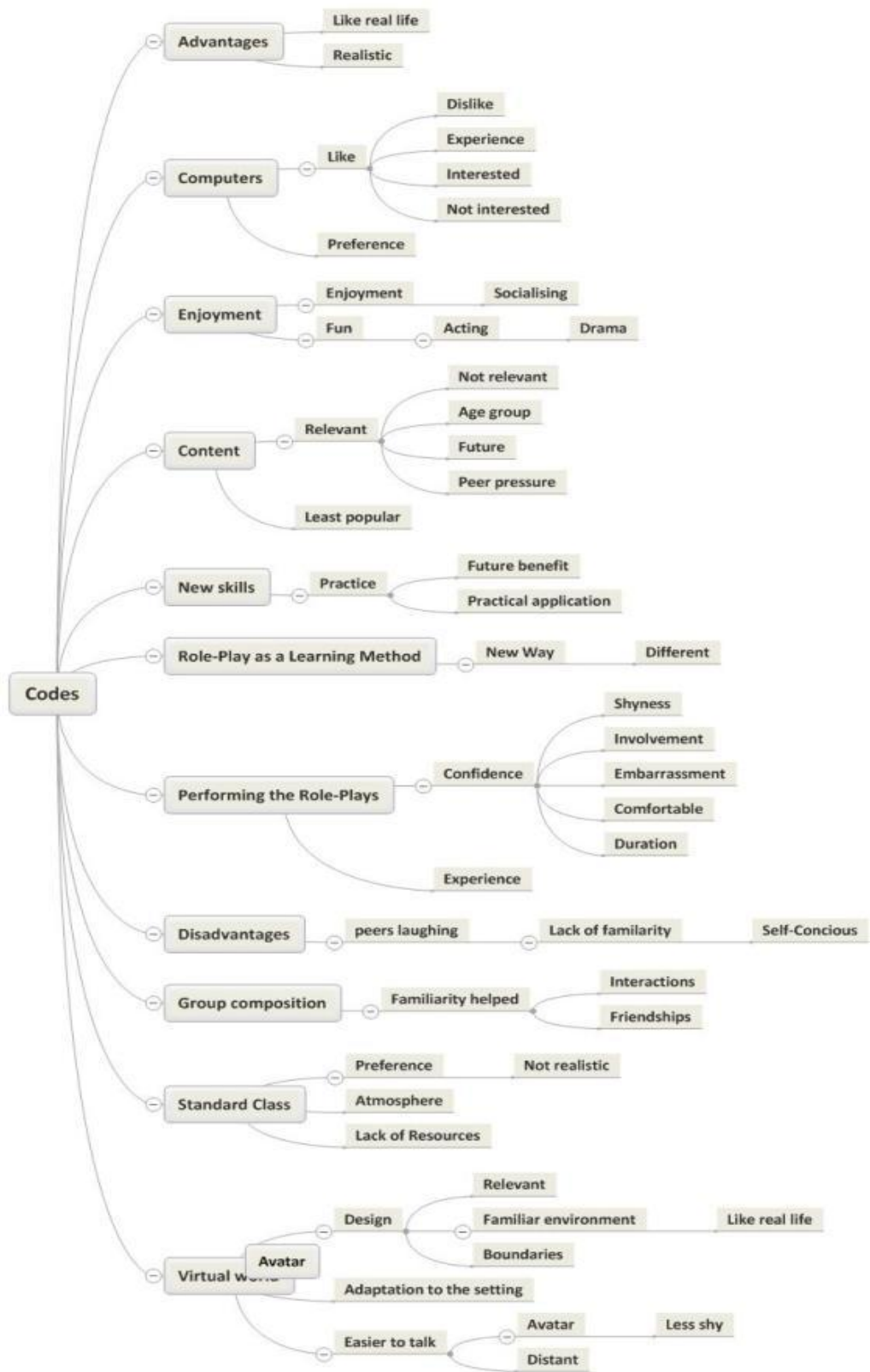
Figure 7.10 Visual Representations of the Codes

Codes were re-read and related codes were grouped together. Several codes overlapped and in these cases the codes were combined into one or removed. Where patterns, similarities and differences emerged; these went on to become the main themes depending on their ability to accurately describe the experiences of the participants.

Reviewing Themes

This phase involves checking the themes in relation to the patterns and codes to determine whether the themes represented the overall meaning of the data (Braun & Clarke, 2006). As themes should represent "the most salient constellations of meaning present in the data set" (Joffe, 2012, p.209), themes where they were only represented by a single utterance from a single participant were removed from the analysis. For example, only one student referred to the boundaries imposed in the VW as a disadvantage, so therefore this reference was removed from the analysis.

Defining and Naming Themes

This phase involved developing a detailed analysis of each theme and labelling them with a descriptive title. Following this, a thematic map was created for each of the data sets.

Themes Created from Control Group Data

Seven overarching themes were identified from the interview data with the control group members (Figure 7.8). In the following section these themes are discussed in more detail.

Figure 7.11 Visual Representations of Control Group Themes

Enjoyment

All the participants described the experience of role-play as enjoyable. Several participants made reference to the fact they had never experienced learning through role-play before and found it different but interesting. For example, one participant stated that "*It was great fun the way everybody joined in in the end once you got used to it*". Several of the participants noted that it took a while to adapt, but once they did they felt comfortable and enjoyed it more. Relating their experience of learning through role-play, the participants demonstrated that while they found it an enjoyable method of learning, they were cognisant of the fact that

such learning requires time and effort on the part of the whole class to make it work. One participant commented *"Yeah, loads of people were laughing an stuff……….at the beginning……an there was loads of shouting………….I think cos they didn't know what to do or too shy……… an stuff, but then it was ok".*

Relevance

Most of the participants agreed that the content of the role-plays was relevant to their age group. This highlights the importance of relevance and content as a critical component to learning, in spite of the fact that some did not find it applicable at this stage of their lives. For instance, one participant pointed out that *"It probably won't be relevant for a while, but I'll know in the future what to say."* This comment suggests that the participant was able to make a connection between the knowledge gained and identify its value for potential usage. This comment can also be associated with one of the key tenets of the experiential learning model, when the individual reflects on an experience, engages with the process and thinks more deeply about a topic.

New Skills

Some of the participants referred to how they actively processed the new information and indicated that they learned things they did not know at the beginning. For example, participants described how they felt they had gained skills that they had not been taught before and they were keen to use them. However, it is likely that some students were not able to process the information in relation to previous knowledge and therefore had more difficulty with the creation of new information. For example, one participant said *"I didn't really understand at the beginning what being assertive was………but the more it went on, I learnt how to use it."* As this comment suggests, it is very important for a teacher to provide several opportunities and activities for a student to make sense of the information being presented.

Engagement

The experiential nature of the teaching and learning method appears to support the notion that encouraging students to actively engage with the content of the course material helps them to apply the material in abstract, loosely defined situations that they may encounter in the future. For example, all of the participants stated they had taken part in the role-plays and were fully engaged with the experience, with one participant commenting *"I liked it cos showed you….what to do if you're ever in that situation."*

Confidence

In terms of development of their self-efficacy to respond verbally to sexual coercion, most of the participants felt a lot more confident in their ability to be assertive, particularly when it came to peer pressure. One participant said "*I worry about peer pressure…..a lot……… and what to say when it comes to…….ye know……….but now I know how to handle it………….. or at least I hope I do.*"

Disadvantages

Some of the participants found performing the role-plays in the classroom without being physically in the locations, to be difficult. One participant noted "*I found it hard to try and imagine the situations like cos when you're in a classroom with tables and desks, it's hard to pretend you're someplace else.*" For this participant, learning the content out of context and in an artificial setting affected his ability to relate to the learning materials. However, a participant with some experience of drama had a different opinion, indicating as Kolb (1984) has suggested that individuals bring their own knowledge and meaning to bear on their experiences. He said "*I didn't find it difficult to imagine because I do drama and it's a bit like that*". Thus, it appears that the relevance of the experience for this participant was related to his existing knowledge and experience.

Personal Benefit

Some of the participants felt the course helped them at a personal level. One participant suggested that interacting in a VW gave her more confidence to express herself, demonstrating the participant's perceptions of what was meaningful to her. She said "*I'm normally very quiet; I'm more of a listener type of person, so it was good to be able to practice speaking up*." This also implies that what a participant takes away from a particular experience is often unique to that individual. For example, others saw it as a way to show off their acting skills. "*I've been doing drama for years, so I really enjoyed showing the class what I can do.*"

7.6.3   Themes Created from Experimental Group Interviews

Nine overarching themes were identified from the interviews with the experimental group (Figure 7.9). These are discussed in more detail below.

Figure 7.12 Visual Representations of Experimental Group Themes

Enjoyment

When asked how they felt taking part in the VW component of the study, most of the participants said they enjoyed the experience. The creation of their avatars provided the most enjoyment and creativity. Some commented "*I thought it was great fun, I loved the way you could change how you look. I made my avatar short and fat, it was great.*" another said, "*I loved the "eye shop", I made my eyes purple and I changed the colour of my skin*". One participant thought there should have been more choices in the clothing. "*I wish there had been different styles; I'd never wear anything like that in real life*". This suggests that the time spent modifying their avatars to their personal requirements was very important to the students and should be borne in mind by educators who may be tempted to intervene in this process. For example, the importance of one's avatar in the enjoyment of the experience was highlighted by one student. She described an occasion when her avatar failed to download fully due to a technical glitch "*I was so annoyed in that class when my avatar looked just like a blob for the whole class, I just couldn't concentrate on what I was supposed to be saying.*" As Ducheneaut et al., (2009) point out, an individual's avatar is crucial to understanding how users interact and engage with the learning while in a VW.

Another factor that contributes to participant enjoyment was the interactivity of some of the features in the VW. For example, the boys were particularly excited that the cars in the virtual could be driven. One remarked "*Yeah, the cars were cool, I really enjoyed that.*" Responding to the researcher's elicitation of what would make it more exciting, one student suggested being able to "*travel to other VWs.*"

Adaptation

Adapting to the environment was mentioned by some of the participants as a problem at the beginning. As one participant noted "*I found it very strange at first as I am an outgoing person and don't spend much time on computers*". Another participant found that the lack of experience in using a VW increased his anxiety levels and impacted greatly on his engagement with the experience. This participant said, "*I felt a bit stupid at the beginning cos I didn't look like myself and couldn't relate to it, but once I got used to it, it was ok*". These comments illustrate that a VW can be a demanding endeavour for some users, particularly those with no experience of VWs. As such users might benefit from personal one-to-one training to provide further support and assistance to fully participate in the virtual learning environment.

Relevance

Similar to the control group, all of the participants in the experimental group interviews agreed the content was relevant to their age group, although one participant pointed out that "*I don't think it would be appropriate for any younger than us and maybe it would be more relevant to the older classes. In fact………. I know it would*". As Kolb (1984) has pointed out, students apply prior and newly created knowledge based on personal experience in a way that they can gauge their own understanding. Student engagement with the content of the role-plays can also be influenced by prior experience and knowledge. For example, two of the participants said they had been in the situations presented in the role-plays and so the content was very relevant to them.

Realistic

The participants' views of being "*really there*" in the VW were greatly enhanced by the sense that it was a believable, realistic space that they were able to connect to specific real-world contexts. For example, one participant compared one of the locations in the VW to a coffee shop he frequents. "*It was just like being in Starbucks, I go to Starbucks all the time, so it was just like that……..it was great*". Another student said "*I thought it looked like McDonald's*". This suggests that users' engagement with VWs can be influenced by mental models based on their real life experiences.

New Skills

All of the participants in the interviews felt they benefited from the role-playing exercises. One student commented "*even though I haven't been in those situations before, I feel more confident that I'd be able to deal with peer pressure in the future*." Another said "*Yeah, I know what I would say now.*" These clear declarations of certainty such as, '*I feel more confident*' and '*I know*' would appear to indicate a certainty of intention and a self-efficacy to be able to apply the skills they have learned.

Engagement

The active learning techniques encouraged the participants to become very involved and engaged in the activities. The girls in particular found having their own homes in the VW exciting and helped them become more involved in the experience. One said "*I loved my house, cos it had the biggest couch and everybody could come over.* Another student thought that the disco bar was the best location for the role-plays. "*Yeah, I thought that place was cool….with the music an all*"

New Friends

Making new friends emerged as another benefit. In referring to the role-plays, some participants mentioned that they really enjoyed performing them with people they were not normally friendly with but had since become friends since taking part in the study. One student remarked "*It was nice to chat with people I don't usually………….ye know…..hang out with.*"

Avatars

Some of the themes corresponded with the affordances of VW learning identified by Ducheneaut (2009) namely avatar representation. For example, on role-playing as an avatar some of the students commented on how it had helped them overcome shyness. One participant said "*Yeah, I thought it helped, cos I could pretend to be someone else and normally I would be ……..too shy.* The similarity to avatar representation in gaming was pointed out as another motivating factor to become immersed in the role-playing. Another participant said "*I like gaming, so I found it easy to get into the role-playing part and say things I wouldn't normally say*"

Popularity of the VW for Learning

Most students found the VW for learning "*very interesting*" although three of the students stated that they didn't really like computers in general. One student remarked "*I'm not really into computers; I don't spend that much time online.*" Two other students also stated they were "*not much*" into computers. When asked why they took part in the study, they replied "*It was something different and something I had never done before*" and "*It was fun as well*". Thus, it appeared that learning in a new and exciting way was motivation enough for some of the students to participate.

7.6.4   Themes From Facilitator's Interviews
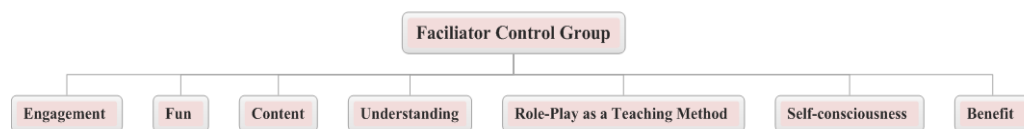
Figure 7.13 Visual Representations of Facilitator Themes

Seven overarching themes were identified from the interviews with the control group facilitator (Figure 7.10). These are discussed in more detail below.

Engagement

Kolb (1984) has made the point that experiential learning exists when it is characterised by high levels of active involvement. In this study, the facilitator noted that most students in the class were fully engaged in the role-plays, although one or two were

"very quiet for the first few classes". *"I don't think one or two know what's going on, but most of them do"*. She noted that two of the students, one girl and one boy *"were very quiet and preferred not to involve themselves really"*.

Fun

Setting the education in a context that encouraged good humour and enjoyment appeared to have a positive effect on the students. The facilitator thought that the students were really enjoying the course and stated after one class *"there was a great atmosphere in the classroom today"*.

Content of the role-plays

The facilitator was very keen to stress the importance of teaching the students about assertiveness in potential sexual situations. She thought the content of the role-plays was very relevant to this age group. She raised an interesting point in relation to the content, by suggesting that all students would benefit from the course. She proclaimed *"As a Houseperson in the school, I see these problems cropping up all the time, so it's good that students are learning how to deal with them. We should really do it with all year groups"*.

Understanding of the concepts

In relation to student understanding of the concepts being taught, the facilitator noted that *"the students were really able to understand what was required of them and they also showed some of their own examples"*. This comment suggests that engaging the participants in thinking processes to deepen their level of understanding encouraged them to use their own knowledge and apply it to what they were learning. Bandura's model provides indicators why this may be the case. As Bandura (1986) noted, individuals learn by internalizing information, retaining that information and through their capacity to engage in reflective thought, generate new ideas in innovative ways.

Role-play as a teaching method

Lack of control over the classroom environment can be the most challenging barrier to teaching through role-play, as it does not present information to students in the standard didactic fashion. Rather, role-play activities allow students to interact and actively engage with the learning materials. In this study, the facilitator had mixed views regarding role-play as a teaching method. *" I have done role-play work before ……and I enjoy it………and it is a very different way of teaching as you need to have a lot of control as there can be a lot of noise and some people can be very disruptive…………having a laugh"*. The teacher expanded on this, suggesting that group

numbers were an important element in teaching through role-play. "*I think that having only half the class helped……….any more and I think it might have got out of hand*"

Self-Consciousness

A challenge existed in getting some of the students to overcome their self-consciousness to perform the role-plays in front of their peers. The facilitator commented that introducing role-play to the group was met with apprehension from some of the students. She felt several students were very self-conscious and preferred to perform the role-plays sitting at their desk rather than in front of the class. "*but as the weeks went on they got more into it. I think modelling what they were supposed to do worked really well. Then again, it was no bother to some of them*".

Benefit

Overall, the facilitator felt the students benefited from the course and noticed how she was surprised by some of the students. She noted that "*It was amazing really, some students started the course saying very little and I expected that because I wouldn't have thought they were assertive to begin with…..and then when they observed the others they participated more. Yes, I think they benefited from the course…..some more than others*" She also commented on the length of the course and suggested some improvements "*I think it may have been a bit too long. By the end, I felt they had lost a bit of enthusiasm. Maybe have it a little shorter*"

7.6.5 Summary of Findings from the Qualitative Data

Overall, the qualitative feedback from both the control and experimental group were positive towards the role-play training. They enjoyed this different style of teaching and were enthusiastic about the whole learning experience.

7.6.6 Overall Summary of Quantitative and Qualitative Data

In summary, testing between the experimental and control groups showed that in terms of assertiveness, while there was a statistically significant change observed from pre-test to post-test over time, there was no significant difference between the groups, indicating the type of intervention did not affect the outcome. Similarly, the results of the self-efficacy evaluation showed that there was a statistically significant change from pre-test to post-test over time for both groups. However, there was no statistically significant change between the groups.

Role-play assessment of participants from the experimental and control groups found there was no statistical significant difference in the role-play performance of the 'assertive' role-plays between the groups

The experimental group who undertook training in the VW were asked to evaluate their experience of *presence*, *realism* and *immersion* on their verbal interactions while in the VW. Overall, the results showed that the participants had a similar positive response to the three features of VWs under examination.

Qualitative data was gathered through interviews with participants from both the experimental group, the control group and the facilitator of the F2F training. The results from the interviews with the experimental group who undertook training in the VW would suggest that overall, the participants reported favourably on their experience with the creation of their avatars, providing the most enjoyment and creativity, although it was noted that some experienced some difficulty in adapting to the environment. For both the control group and the experimental group, the content of the role-plays was considered to be of benefit to them in developing their self-efficacy to verbally respond to sexual coercion, particularly when it came to peer pressure. The facilitator also pointed out the importance of teaching assertiveness skills in potentially sexual situations to this age group and felt that the students really benefited from the course.

CHAPTER 8: DISCUSSION

8.1 Introduction

This chapter examines the study's findings in light of the literature and research questions. It also examines the implications of these findings for future implementation with adolescents. Limitations of the research and implications for future research are also discussed.

8.2 Research Findings

This section summarises the research questions and hypotheses arising from the literature and links to previous research evidence and literature where relevant.

8.2.1 Summary of Outcomes

Research Question 1:

Is there a difference in students' perceived assertiveness scores for both groups between pre-and post-test?

8.2.2 Effects on Assertiveness Skills

The results of the study suggest that for Assertiveness measures, there were improvements in the scores for both the experimental and control groups over time. However, there were no statistically significant differences between the experimental and control scores over time. This suggests that neither method of delivery was superior to the other.

A factor to take into consideration when interpreting results was the instrument used to measure assertiveness. Many instruments measure assertiveness by asking participants to rate their assertiveness in general situations. In the present study, assertiveness was measured within the context of sexual attraction and represents a unique contribution of the present research. As such, high scores on the assertiveness measure represent the participants' ability to be assertive in specific situations. However, there is a possibility that participants who aspire to be assertive in such situations stated they would be, rather than disclose how they might actually behave, leading to higher assertiveness scores.

Other possible explanations for similar outcomes from both groups may be that participating in the study affected all the students taking part in 'something different' and therefore were susceptible to the "*Hawthorne effect*". Those students who participated in the study may have felt they were being 'singled out' and may have responded accordingly. This

was pointed out by the comments of some of the students in the interviews. For instance, several students referred in the interviews to the reason they took part in the study was because it was "*different*" and "*exciting*".

There may have been other factors that contributed to similar results between the groups. For instance, students in both groups rated their level of assertiveness as quite high prior to the intervention, so it is likely that subjects who participated were thus more inherently self-confident and assertive. It is also possible that eight 40 minute class sessions were too brief to produce superior assertiveness scores in the experimental group as opposed to the control group. For example, while most of the experimental group grasped the navigation quite easily, several required more assistance than others and this may have contributed to less time spent on the role-plays. Notes from the researchers' observations in class two included the following "*some of the students rely too much on me and not on the instructions in the VW. As a result, I am spending more time with these students, trying to get them up to speed*".

The use of self-reported measures also merits consideration. There may have been some participants who responded in a socially desirable way to present themselves in a positive light (Eskin, 2003). It is also possible that the participants in this study did not reflect the typical assumptions of early adolescents, whereby they are considered to be less assertive when compared to older adolescents or young adults (Eskin, 2003).

A further factor that may have contributed towards equivalent results was that the training materials were identical for both groups. This is in contrast to other studies reviewed in the literature (Chapter two) that employed either no education for the control group (Rijsdijk et al., 2011; Yom & Eun, 2005) or standard education (Peskin et al., 2015; Arnab et al., 2013).

Furthermore, it has also been reported in the literature that parental education and socioeconomic status are found to be related to children's communication styles and advanced vocabulary development (Sohr-Preston et al., 2013). This finding is consistent with Bandura's (1986) premise that social behaviour is shaped through observational and direct learning experiences. Thus, for example, a child exposed to parents who demonstrates more clear and responsive communication styles with their children will interact with others in a similar fashion. Therefore, it is likely that this particular group of students fell into this category.

Research Question 2:

Is there a difference in participants' perceived self-efficacy scores for both groups pre- and post?

8.2.3 Effects on Self-Efficacy

Results from participants' scores on self-efficacy showed significant improvements in both groups over time, but no significant differences were observed between groups. It was therefore concluded that the VW training and the F2F training were equally effective in impacting the self-efficacy of the participants.

Bandura (1986) has argued that self-efficacy is enhanced through modelling and role-play practice. In keeping with this premise, it is possible that in addition to the benefits of the assertiveness training, as both groups engaged in the role-plays they gained more confidence and experience. This was particularly noticeable when the researcher invited the participants to improvise their own role-plays rather than rely on the scripts provided by the researcher. The participants demonstrated an eagerness to use their own knowledge and execute their own understanding, as distinct from the researcher's.

Similar to the pre-assertiveness results, both groups held high self-perception regarding their self-efficacy pre-test. While self-efficacy does not reflect actual ability, but rather an individual's subjective perception of their ability, it is possible that the participants may have an inflated view of their capabilities in this regard. However, perceived self-efficacy has been shown to affect performance regardless of actual ability levels (Schwarzer, 2014). It is also the case that "no amount of self-efficacy will produce a competent performance if the requisite knowledge and skills are lacking" (Schunk & Meece, 2005, p 73). Therefore, it is reasonable to assume that the training may have contributed to the students' sense of self-efficacy.

Research Question 3:

Is there a difference in verbal assertiveness role-play test scores between the experimental and control group post-test?

8.2.4 Role-Play Assessment

Assessment of the students' performance of the role-plays was included in this study to provide a measure that would be examined by individuals other than the researcher.

While the results showed that the mean scores for the experimental group were numerically higher than for the control group on all variables examined, the results were not statistically significant. This suggests that the VW training and the F2F training were equally

effective in influencing the role-play performance of the participants. These results add to the research that direct observation of role-play demonstrating assertiveness skills could be reliably rated on specific components (Lawson et al., 2010; Borbely et al., 2005).

However, role play does not precisely represent reality and therefore it does not necessarily follow that participants will behave in the same way if the situations are real. For example, the knowledge that participants are not in any danger from their role-play partner may influence their performance. In this study effort was made to make the role-plays as valid as possible and provided effective strategies on how to respond to negative situations. It could be argued that this might increase the likelihood that participants will use the skills they learnt should they be in these situations.

In addition, the success of the role-play performances may lie with the characteristics of the participants who participated in the role-plays. For example, students who volunteered to take part may have been more confident and extrovert than those students who did not. Alternatively, it may be that adolescents engage in higher levels of skilled behaviour when interacting with their own age group. This possibility is supported by other studies on adolescent role-play assessment (Borbely et al., 2005).

Research Question 4:

To what extent does a sense of presence while in the VW contribute to the participants' perceptions of the assertive quality of their verbal interactions (volume, and projection, tone, response latency, inflection, pacing) while performing the role-plays?

8.2.5   Student Evaluation of the VW

The results of the participants' perception on the effect of 'presence' on their assertive verbal performance while enacting the role-plays in the VW were generally positive. Most of the participants reported experiencing '*presence*' while in the VW, although this varied widely from a '*very much*' to '*not much*.'' Those students who reported a negative response to the experience of '*presence*' tended to have an overall negative perception of how '*presence*' impacted on the quality of their verbal performance.

Possible reasons for this variation in the students' experiences are that some students found it more difficult than others to adjust to the environment and learn how to navigate. This appeared to have an impact on their confidence when they observed other students navigating without difficulty. One student in particular, was overheard to say several times "*Hey, how did you do that*" or "*why can't I get it to do that*" Referring to the avatar with the impersonal pronoun '*it*' was a clear indication this participant failed to engage with the

experience, despite efforts to help him. Discussions with this participant revealed he felt "*a bit stupid*" and thought it "*was kinda pointless*" and thus failed to engage with the process.

The questions relating to students' sense of realism provided a similar wide variation in responses. According to the participants' interviews, those who felt the most sense of realism while in the VW were connected to what they perceived to be familiar surroundings, such as the coffee shops and parks. This association helped them feel they were somewhere else other than the classroom. This finding suggests that a sense of realism is not only related to the VW environment, but also to the psychological associations a participant brings to the environment.

Pertaining to the questions on perceptions of immersion while in the VW, the results for this section reported higher mean averages than the previous two categories for presence. It is notable that the highest value *(m=4.09)* was given to the question of whether the VW "*helped you to speak with confidence during the role-plays*" which indicates that the students felt quite positive about this aspect of the experience.

In summary, based on the analysis of the quantitative results, VWs can be at least as effective as traditional F2F instruction for delivering assertiveness training to reduce sexual coercion. In addition, the results were quite supportive of the value of role-playing in a virtual environment. Consistent with the literature on the influence of '*presence*' (Bulu, 2012; Allmendinger, 2010) on the verbal interactions of users while in a virtual environment, the numerical results suggest that most of the students perceived that a feeling of '*being there*' had some influence on the quality of their verbal interactions while enacting the role-plays.

8.2.6 Potential Threats to Validity

In the evaluation of any experiment, validity concerns need to be addressed.

The students were tested immediately after implementation and thus they may have not had enough time to reflect on the experience. Conversely, leaving the evaluation too long after implementation may result in students' retrospective perceptions not being as accurate as those following immediate evaluation. However, the timing of evaluation of studies undertaken in school research is out of the control of most researchers. This is discussed further in Section 7.4.

8.2.7 Additional Factors

It is also important to consider the impact of the facilitators in the process. In this study, the researcher had not taught these participants before and therefore they had not

experienced the researcher as a classroom teacher. In contrast, the teacher of the control group was known to the students as their SPHE teacher. It could be argued that familiarity or lack thereof, with the teacher delivering the class may have influenced the results. For example, working with an unfamiliar teacher may have taken the students more time to adjust to the researcher's style and approach than with a teacher they were already familiar with.

8.3. Qualitative Results

Qualitative information was gathered in this study in order to gain further insights from the students' experience of participating in the educational process.

8.3.1 Student Interviews

From the students' perspective, both methods of training were very well accepted. Overall, the students from both groups found the role-play methodology very different from their experience of traditional learning. The active participation inherent in learning through role play was seen as "*different*" and "*fun*". Some of the participants described their experience as "*challenging*" while others described it as "*exciting*". It was surprising to the researcher that both groups expressed similar attitudes, given that the F2F group did not have any objects or props to invoke a sense of realism compared to students in the experimental group. It was notable that two students from the control group referred to the lack of authenticity in the classroom. In addition, while none of the students had experience of role-play as a teaching method, it was found that those with some experience of drama were more comfortable with the method. In retrospect, recognising the student' various experience levels of role-play was warranted as this may influence how much they engage with the experience.

A valuable finding from this study was that students found the content of the role-plays relevant to them personally and to others in their age group. This is an important point as the literature suggests that relevancy is a prerequisite for engaging learners in work that is relevant to their lives (Taylor & Parsons, 2011). In addition, both groups reported they had benefited from the experience and were prepared to apply that knowledge in the future. Several participants referred to feeling "*more confident now*" which points to an element of feeling insecure prior to the intervention.

Both groups raised the issue of being initially embarrassed performing the role-plays in front of their peers. However, for the experimental group, this was mediated by enacting the role-plays through their avatar representation. For example, one participant said "*I wasn't afraid to speak up, because I could pretend to be somebody else*". This has been described as the *Proteus*

Effect. This is a phenomenon that can occur within a VW when our virtual representations can change how we interact with others (Yee et al., 2009).

Overall, similar to Gregory and Master's (2012) findings, the results from the students' interviews suggest that participants have a preference for F2F learning rather than learning through computers. This is a surprising result as it contradicts what many studies claim regarding the learning preferences of the "*Digital Generation*" (Taylor & Parsons, 2011; Prensky, 2001; Robinson, 2008). In addition, four of the students in the experimental group stated they didn't find computers interesting in general. This finding challenges presumptions that learners who take part in technology studies are more amenable to learning with computers and more likely to be motivated to take part in the study.

8.3.2 Facilitator's Observations

From classroom observations, the control group teacher had very positive perceptions of the whole learning experience. However, she also brought up an important point in relation to role-play as a teaching method. Role-play is an active, experiential method that requires a different style of teaching from the traditional knowledge-transfer approach (Kolb & Kolb, 2005). Students can become highly energised leading to overexcitement in the classroom. The teacher observed that group size is an important factor to consider in terms of maximising student learning. For example, she observed that role-play requires the teacher to be "*skilful*" to control the class and in the process give everyone a chance to take part. On a positive note, she felt that a large group gives a greater "*quality*" in terms of the variety of contributions and contributed to the "*great atmosphere*" in the classroom.

It could be argued that the experience of taking part in the study may have invoked an element of bias of the teacher towards the project. It is possible the teacher may have painted a more positive picture than what in fact, occurred. However, it could also be argued that commentaries from the students' interviews substantiated the teacher's account, particularly in regard to their engagement with the role-plays. For example, the teacher reported that with the exception of the last class when she thought students were becoming "*bored*" with the course, all the students were "*highly engaged*" with the role-play activities. From the interview commentaries, the students corroborated the teacher's opinion describing the activities as "*great fun*", "*engaging*" and "*very enjoyable*". While some may argue that schools are not playgrounds where students can engage in recreational activities, nevertheless as student engagement is positively related to learning outcomes, then this may be viewed as an encouraging result.

8.3.3 Researcher's Observations of Teaching in a VW

The following observations of the researcher while teaching in the VW may be considered useful for those educators wishing to follow the same path.

8.3.4 Planning Ahead

It is important to ensure that the technology is working properly before each class and not assume that because every computer worked the previous week, that this may be the case every week. In addition, VWs may be required to be updated or 'rebooted' and if not checked beforehand, can delay the classes considerably. Logging in ahead of time for the participants also reduces delays in teaching time. In addition, while teaching role-play through any delivery method requires a more flexible approach having lessons planned in advance with objectives for each class contributes to smooth organisation and management of learning activities.

8.3.5 Training in the VW

It is often assumed that because adolescents are part of the digital generation, they will automatically be able to master technology almost immediately. As this researcher found, this is not the case and it is very important to give participants enough time to acquire navigation skills in the beginning of the study before any learning activities begin. It is also the case that many students assume they know more than they do regarding technology and often they do not realise they need more training until they come upon problems such as using voice, for example. To ensure everyone had the same level of knowledge at the same time, the researcher had the assistance of the school I.T. manager to help the students learn how to navigate and control their avatars.

8.3.6 Promoting Engagement

To promote engagement and maintain participants' interest in the learning have a variety of interesting locations for the participants to visit, while at the same time be cognisant of the fact that too many interactive objects may cause distractions for the participants. From this experience, the researcher found that having too many interactive objects such as drivable cars caused too much distraction and entertainment, particularly for the boys. This necessitated the removal of some of these objects.

Personalisation of their avatars is the most popular feature for the students and this should be allowed to encourage engagement with the environment.

8.3.7 Pedagogical Implementation

It is important to be aware that using traditional teaching methods in a VW may not work. Because VWs mirror the real world, it does not necessarily follow that "if one is a teacher in the real world then one can, by extension, teach in this different yet recognisable virtual space" (Warburton & Perez Garcia, 2016, p. 194). To teach successfully educators may need to adjust their thinking in relation to traditional pedagogy. In a VW students are proactive in their learning; they are not passively absorbing information as they would in the traditional method. This may be difficult for teachers to adapt to. In addition, teaching in a virtual environment requires a number of skill sets such as the ability to multitask. For example, a teacher needs to be aware of where students are in the world and that learning tasks are being adhered to while at the same time may be called upon to assist students with technical difficulties.

8.3.8 Planning for Technical Issues

Unlike most studies involving VWs, technical issues did not pose a major problem in this study. As a result, the participants remained engaged in the process without great difficulty. However, on the few occasions that the system crashed, the researcher found that to cope with the "vicissitudes of the unpredictable" (Eisner, 2005, p. 173), it is important to consider alternative methods of delivery should technical problems in VWs interrupt the class

8.4 Challenges of Conducting School Research

Conducting research in schools presents several challenges for the researcher. Based on insights gained from this research, the following points may be of interest to those considering conducting research in second-level educational institutions.

- First, it is difficult to conduct a fully experimental design as schools have pre-existing classes and therefore random assignment is not possible. This has limitations in terms of statistical analysis and interpretation.

- Second, student and parental consent must be obtained for all students taking part in the study. If consent is not obtained, then consideration has to be given to where to locate these students during the course of the study.

- Next, as the academic curriculum takes precedence, the researcher may be limited to conducting the study with students who are not undertaking state exams. The

researcher may have no choice in the age of the students or the size of the class for their study.

- Another limitation is the length of the class. Most schools have 40 to 45 minute class sessions and therefore it is necessary for the researcher to structure the learning materials to within this time-frame

- The researcher may not have any control over the timing of the intervention due to school holidays, exams and other school activities. This may lead to difficulties with follow-up sessions.

- One or more students may have to leave a class early to attend sporting events or other school activities. This can cause disruption and distraction for other students. If a student needs to leave a class early it is important that they disclose this to the teacher at the beginning of the class so they can leave quietly without causing any disruption.

- Obtaining permission from school management and cooperation from teachers may take more time than initially envisaged, so therefore it is advisable to make practical arrangements for the study well in advance.

- Technology available in the school may not be suitable for the researchers' requirements, whether in terms of internet connection speed, memory or graphic capabilities. Alternative arrangements may need to be put in place in order to conduct the study.

8.5   Summary

Both qualitative and quantitative research methods were employed in this study, providing a triangulation method to collect the data. The quantitative aspect of this research used questionnaires to assess whether there was a change in assertiveness and self-efficacy. The qualitative data was collected through thematic analysis of student interviews.

Although the triangulation method has been supported in many studies as it increases the credibility and accuracy of the research by drawing on different viewpoints (Creswell, 2003), it has also been criticised mainly because it uses opposing epistemological and ontological assumptions to explain theories and methods (Blaikie, 2009). The established traditional view is that there is a clear distinction between the two methodologies that are incompatible and researchers should adopt either a quantitative or qualitative method (Lincoln & Guba, 2013).

It has been argued that triangulation research "runs the risk of taking on too many questions all at once" (Olsen, 2004, p. 13). It could be argued that if one perceives knowledge can be gained by only one type of data, then it would be definitely be inefficient to use several methods. However, if the researcher believes, as is the case in this present research that the triangulation method provides a fuller understanding of what worked and why it worked, it was thus was an appropriate approach for this study.

8.6   Discussion

This study compared the effectiveness of role-play training in a VW to F2F role-playing training a traditional classroom, on the perceptions of adolescents towards their assertiveness skills and self-efficacy to respond verbally to sexual coercion. Similar to studies conducted by Pacifici, (2001); Wolfe et al., (2012); and Arnab et al., (2013) there was evidence that the training improved the self-efficacy of the participants to verbally respond to sexual coercion.

Based on the results of the qualitative data most of the participants were very engaged in the role-play activities, although they had never experienced learning through role-play before. However, similar to studies conducted by Sogunro (2004) and Arnold and Koczwara (2006), some of the participants in the F2F training in the traditional classroom found it an unrealistic experience as they could not visualise the situations as they were being taught the content in an artificial setting. On the other hand, it should be noted that some of the participants who undertook training in the VW also reported a lack of realism with ($m=1$) reporting '*Not Much*' and ($m=2, f=2$) reporting '*A Little*' to the question on whether they felt a sense of realism while in the VW. This is in contrast to Jouriles et al., (2009) study, that found the realism of the VW provoked high levels of anxiety while enacting the role-plays. The researcher can only speculate that the employment of a professional adult actor to conduct the sexually coercive role-plays with the participants may have contributed to the overall feeling of anxiety and realism.

The quantitative analysis in this study failed to show a statistically significant difference in assertiveness and self-efficacy scores between the experimental and control groups in the pre - and post-test questionnaires. This finding is in contrast to Downs et al., (2004) computer-based study of adolescent womens' assertiveness skills to negotiate for safer sex. It may be the case that as Downs et al., (2004) Downs study was based on a longitudinal design over six months, it may be necessary for future studies to implement assertiveness

training for a longer period than the ten weeks employed in this current study to produce a more significant difference between the groups.

The current findings support the notion that VWs are a valuable medium for teaching assertive communication skills to adolescents. Several participants pointed out the benefit of role-playing as an avatar and how this helped them to overcome their shyness and gave them the confidence to speak up during the role-plays. Using VWs for social skills training has been widely reported (Lee, 2013; Heuett & Heuett, 2011; Park et al., 2011; King et al., 2012). Similar to Herold's (2012) study with adolescents, the participants in the VW component of this study pointed out the benefits of training in a new and exiting environment that prepared them for similar real-world experiences and engaged them in the learning.

CHAPTER 9: CONCLUSION

9.1 Conclusions

There are several broad conclusions that may be drawn from this study. First, the findings from this study highlighted how an assertiveness course to prevent sexual coercion delivered through a VW was just as efficacious as F2F instruction. The finding that the VW produced similar results is very promising. Most sexual coercion prevention programs require the use of several resources such as finance and personnel. Delivering instruction through a medium that achieves the same pedagogical goals has important implications for schools who may have limited resources available and need to allocate funds to other areas. VW training also expands the range of interventions to reach not only those students in a school setting, but also in other institutions where adolescents may attend such as community centres, clinics and medical centres.

In addition, this study adds to the literature and confirms that the use of a VW can be an effective tool for role-playing by providing a rich visual context for the role-plays where students can practice skills in a safe environment.

Second, the findings suggest that the majority of the students found role-play to be an engaging and interesting way to learn. This interest and enthusiasm may well have been due to the novelty of the learning experience. Nevertheless, engaging students with role-play augers well for the promotion of skill building with young adolescents.

Third, the link between the unique features of the VW and the perceptions of the students on the verbal quality of their interactions while enacting the role-plays was generally positive. However, while most of the participants had a positive experience, this was not the case for all. For example, the individual results (Figure 7.6, p.129) revealed that (m=2) of the participants reported '*Not Much*' when asked whether they felt physically present while in the VW. Not feeling physically present had an impact on the subsequent questions relating to how a sense of presence influenced the quality of their verbal interactions. Comparing the interview comments of these particular participants indicated that lack of interest and experience with computers may have influenced their attitude and opinion towards the VW experience. Interestingly, those participants (m=1, f=2) with an interest and experience in gaming (supported by interview comments) reported feeling '*Very Much*' physically present while in the VW and reported the benefits to their verbal interactions. It may be that these students' previous experience of role-playing as an avatar had an influence on how they interacted while in the VW, in contrast to those without that knowledge. Thus, when

introducing students to a new way of learning that tests the boundaries of their knowledge, consideration of the ways in which learners engage, particularly those with little experience of VWs and the factors that may hinder engagement needs to be taken into account for any educator planning to use VWs for education.

Analysis of individual responses to the questionnaire on realism revealed there was polarization among the students regarding the realism of the VW. Students evaluation showed that (*m*=1) thought '*Not Much*', (*m*=2, *f*=1) thought '*A Little*', (*m*=6, *f*=5) thought '*Somewhat*', (*m*=1, *f*=2) thought '*Much*' and (*m*=1, *f*=2) thought '*Very Much*'. As discussed in chapter three, to achieve realism, the CARE model incorporated several design features and visual and auditory stimuli to promote a sense of realism (Boulos et al, 2007; Jarmon, 2009). However, it may be that how users define, interpret and experience 'realism' is subjectively significant for them. For example, two of the participants focused on their own personal experience to explain why they thought the VW was '*Very Much*' realistic to them. Interview comments revealed they found the VW realistic because several locations were familiar to them in the physical world and they could relate to these. Therefore, even if the sensory channels provided enough realism for some, it may not have been sufficient to make the world believable from others' perspectives as not everyone will experience the same environment in the same way.

Individual responses to the questionnaire on immersion captured the most positive reactions from the group with (*m* 5, *f*=4) reporting '*Much*' and (*m*=3, *f*=3) responding '*Very Much*. One possible reason for the higher response to the experience of being 'immersed' was the extent to which the participants were able to find their way comfortably in the VW. The literature suggests that immersion is not only related to affected states but also to cognitive processes such as the extent to which a user can locate pertinent features when their viewpoint cannot encompass the entire environment (Minocha & Hardy, 2016). For this reason the CARE VW was designed with the needs of the younger learner in mind with locations that were familiar and navigation information directing them to their activities included at every stage.

Of significance, as the results of the immersion questionnaire showed, it is clearly not necessary to feel the VW is completely realistic to produce a sense of immersion in the VW. However, another reason for the high immersion result could be related to how role-playing as an avatar and the option to modify their avatar, influenced the students' level of immersion (Jarmon, 2009). It is purported that interacting as an avatar favours immersion

through what Jarmon (2009) termed a sense of embodiment, made possible by the opportunity to uniquely represent themselves in the VW according to the users' preferences. However, although this embodied activity was carried out by all of the participant in the same VW, there still remained some differences within the group with ($m=2$) reporting feeling '*A Little*' sense of immersion and ($m=3$, $f=2$) reporting feeling '*Somewhat*' immersed. Thus, a sense of immersion may be influenced by other factors such as personality differences between groups.

This is a valuable contribution to the literature on learning in VWs in that it adds to the evidence of the significance of presence to support the learning experience.

Finally, introducing VWs into classroom teaching requires a lot of determination and planning on the part of the teacher to make it work. Unfortunately, most teachers may need professional assistance to master the technology and create content. This raises issues for the use of this technology in second-level schools. However, on a positive note, once the system is in place there is a strong potential the virtual environment can be adapted and shared for use with a variety of subjects within the school curriculum without a great deal of technical knowledge being required on the part of the teacher.

9.2.   Broader Implications

There are several broader implications and contributions of this work that may be classified into two main areas. These are the prevention of adolescent sexual coercion and CARE, the social cognitive model designed specifically for this study. Considering these in turn, the following section seeks to expand on how the research presented in this thesis may contribute to the more wide-ranging aspects of the enquiry.

First, sexuality education is recognised as a fundamental human right and has been enshrined in policies internationally and nationally, with a special emphasis on the protection of children against sexual exploitation and sexual abuse (United Nations, 1989). To this end, a specialist focus on sexual coercion must be an essential part of sexuality education (Rape Crisis Network Ireland, 2014). However, although sexuality education is mandated in Ireland, it is governed by the ethos and moral values of the school where a child is attending. As a consequence, sexuality education is dependent on the optic lens through which it is viewed, and this influences how individual schools interpret, navigates and relates to sexuality issues. In reality, this may mean that a child may receive little or no sexuality education by the time they leave school (Mayock et al., 2007).

Second, given that adolescent sexual coercion and harassment is a major global problem with serious repercussions for the health and well-being of young people, why is it not addressed in sexuality education? As evidence from the literature shows, adolescents are a particularly vulnerable age-group, with first time peer on-peer sexual victimisation most likely to occur during early adolescence (Bramsen et al., 2012). Therefore, for those responsible for educating young people, it is important we provide students with the skills and self-efficacy to recognise the cultural forces from which they obtain their sexual norms and knowledge and in the process build up their confidence to manage the issues they face in sex and relationships. As educators, we have a responsibility to ensure that prevention of sexual coercion is incorporated in all school policies and programs. As such, we need to consider 'a whole school' approach with zero tolerance of sexual coercion and harassment. We need to consider the value of expanding the current curriculum to include a module specifically dealing with sexual coercion and harassment. It is our duty as educators, along with parents, to make sure that our children are adequately prepared for life beyond school. This study goes some way towards addressing this.

An important part of this study was the CARE social cognitive model designed specifically for teaching assertiveness skills to adolescents to develop their self-efficacy to verbally respond to sexual coercion. The model was based on existing effective assertive communication training programs and best practice in the field of adolescent sexual health and became the underlying pedagogical structure for the study.

The foundation for the CARE model was based on the adoption of the theories of experiential learning and social cognitive theory. From the perspective of experiential learning, learning is a social process that is generated through active cultivated experiences, which "involves the learner's own appropriation of something that to them, is personally significant or meaningful" (Andresen, 2005, p. 2). The significance of this approach for educators is important, as experiential techniques lead us away from traditional methods of teaching, towards a more participative learner-centred approach that enables students to make a connection between theory and real life. Accordingly, the CARE model provided hands-on, active learning experiences that were centred on authentic real-life issues and relevant to contemporary young adolescents. To facilitate the acquisition of assertive communication skills, a key element in the CARE model was learning through role-play, an active experiential activity that may be challenging for some educators. The emphasis on the practical application of inquiry can cause educators to question their assumptions underlying many of their conventional practices (Kolb, 2014). However, our understanding of learners

as passive recipients of disconnected, isolated information has altered considerably over the last few decades. Our concept of the learning process itself has been progressively moving towards more self-directed learning to create personal experiences for learners that "serve to initiate their own process of inquiry and understanding" (Kolb, 2014, p. 11). Thus, the CARE model allowed the learner and the learning to become individualised, concrete and self-directed.

The CARE model also incorporated strategies to develop the self-efficacy of adolescents to verbally respond to sexual coercion. The term self-efficacy refers to the beliefs that individuals have in their ability and confidence to take action to succeed. Bandura purports that "human attainments and positive well-being require an optimistic sense of personal efficacy. Self-doubts can set in quickly after some failures or reverses. The important matter is not that difficulties arouse self-doubt, which is a natural immediate reaction, but the speed of recovery of perceived self-efficacy from difficulties" (Bandura, 1989, p.1176).

The important point here is the belief in one's own self-efficacy. Bandura (1997) believes that self-efficacy can influence whether an individual can succeed in controlling their own behaviour. This is particularly important for adolescents, as their lack of maturity and experience with personal relationships can place them in a vulnerable position regarding sexual coercion. Bandura (1997) stated that the weaker one's self-efficacy to practice personal control, the greater the possibility that factors such as pressure from peers, will increase the likelihood of engaging in risky sexual activity. An adolescent with strong beliefs in his or her ability to communicate what they want and don't want in sexual situations will have the motivation to persevere in difficult circumstances. In line with the approaches proposed by Bandura (1997), the CARE model employed a range of self-efficacy enhancing methods such as verbal persuasion and experiential activities to increase the self-efficacy perceptions of the students. To support student confidence and motivation to use the skills, the CARE model combined videos, written support materials, role-play exercises with techniques and strategies to verbally respond to sexual coercion.

The VW component of the CARE model was conceptualized as a new way of approaching how learning spaces could be organised for the 21st Century learner. As Chambers (2010, p 1) notes, "learning is an activity and not a place" and for today's learners the very nature of how we learn is changing. While many teachers use technologies such as videos, iPads and PowerPoint for teaching, these technologies are primarily passive, rather

than interactive. For todays' learner, technologies such as VWs can provide us with a new vision of learning environments that is participative, interactive, and student-centred and as this study has shown, can deliver pedagogical results. As Minocha and Reeves (2010) point out, VWs are well suited to facilitate exploratory and experiential learning rather than traditional instruction.

Therefore, in light of the findings in this study that students' perceptions of their assertiveness and self-efficacy to verbally respond to sexual coercion improved through the implementation of an interactive skills-based intervention, it is vital that as educators, we question our traditional assumptions that there is only one way of teaching and toward a view of learning that promotes inquiry-based learning. It must be acknowledged that it is not a simple task for teachers to alter their pedagogy with the current focus on individual assessment and school academic performance. However, in a world of rapid change for young people, teachers have a very important role to play, but only if they interact with and embrace new educational initiatives and alternative teaching strategies and explore where these alternative methods might be appropriate for the context and the learners.

9.3   Study Limitations

As with any investigation, the present study includes some limitations that require consideration. This research was conducted with a specific cohort of 14 to 15 year olds. It is possible that the outcomes would have been different with a different socio-economic stratum. In addition, due to school timetabling issues, the study was only able to be conducted once and no follow-up sessions were possible so the effects of long term involvement were not observed. However, the effect of one implementation was mitigated by the range of evaluation methods employed in the study.

Another limitation of this study was the use of a quasi-experimental design. Because the participants were already allocated to classes, it was not possible to randomly assign subjects for the purpose of this study. This may have implications with regard to the generalizability of the results to other populations.

9.4   Future Directions

While this study found positive benefits immediately following implementation follow-up sessions or a longitudinal design would determine whether the benefits were sustained over time. The findings also point to other directions for future research, such as: What are the advantages or disadvantages of OpenSim in comparison with other VWs to conduct assertiveness training?

What are students' perceptions of VW assertiveness training in comparison with F2F training?

Further research on the unequivocal effectiveness of computer assisted assertiveness training is required. It would be especially interesting to see if training is comparable to training with other forms of technology, such as video conferencing, for example.

9.5 Concluding Remarks

Innovative approaches are called for to address the rising rate and high prevalence of adolescent sexual coercion because of its impact on the health and well-being of victims. Unfortunately, as the literature shows there is scant evidence that school-prevention programs demonstrate evidence of improvement despite the increasing amount of time and resources being invested in interventions (De La Rue et al., 2014). As this study has shown, role-play training in a VW to reduce sexual coercion led to improvements of students' perceptions' of their assertiveness skills and self-efficacy to resist sexual coercion. While more research is needed in this area, in view of the results obtained in this study educators might consider using a technology that is both instructive and engaging at the same time, for young adolescents.

9.6 Contributions of the Study Undertaken

- In sum, the contributions made by this thesis are:

- The design, development and implementation of an assertiveness course appropriate for 14-15 year olds to respond verbally to sexual coercion.

- The evaluation of the assertiveness course

- The design, development and implementation of a VW to teach assertive communication to 14-15 year olds to respond verbally to sexual coercion

- The evaluation of the VW

- Insights into the teaching and learning implications arising from the study

- Adds to existing knowledge and evidence base on educational research and practice

- Adds to existing knowledge regarding the features of VWs that influences learning

- Provides signposts for future research in this area.

Personal Reflections

Reflection on a PhD journey refers to "a certain combination of stages to mark the development, directions and phases in an academic's journey"(Amran & Ibrahim, 2012, p.528). As such, it represents the personal, social and intellectual development an individual encounters as part of their doctoral experience. While embarking on a PhD is primarily an academic undertaking, the commitment of pursuing a PhD requires an individual to also develop other skills, such as managing their personal and professional responsibilities while at the same time developing skills as a researcher. However, having a genuine personal interest in my topic was instrumental in sustaining the motivation required to pursue this project.

There were several phases in my journey. At the same time as teaching sex education, I was also working as a teacher of technology. I was very interested in both these subjects and sought a way that I could combine the two. I began by focusing on teachers of sex education and set up a Moodle group in our school, where teachers could support one another and give advice to new teachers on how to address more sensitive topics such as STIs or homosexuality. This was followed by setting up another Moodle group where students could ask the teacher anonymously any questions they were reluctant to discuss in class, in front of their peers.

As I progressed through my studies however, I became aware of the very serious problem of adolescent sexual coercion, both nationally and internationally and how little this topic was addressed in the current Relationship and Sexuality Education curriculum. I realised that this was the area I most wanted to focus on and therefore, I needed to consider how best to achieve my objectives.

My first objective was to find out as much information as possible about my topic and this involved an extensive perusal of the research available. I would compare this process to being a detective, by making certain to discover all the relevant facts and information before deciding what should be included and what should be omitted. Unfortunately, in the initial stages of my research, I did not use EndNote, but kept a record of my references in a Word document. This of course later proved to be a cumbersome method and added hours and hours of work (not to mention stress) to my studies. It also took me quite a while to distinguish between relevant sources of information or whether the views expressed in the literature were based on personal opinion and not factual evidence. However, as I came to understand more, I learnt how to identify the main scholars in my field and compare and contrast the differing perspectives towards the topic. While I

discovered that everyone has biases, I learnt to be more open minded towards others' perspectives on the topic and realise there are multiple ways of seeing the world.

While motivation was a key factor in motivating and sustaining my interest in completing my PhD, there were many high and lows, with several emotional and academic challenges that threatened to derail completion of my project. Sadly, my mother passed away two years into my study and I found it very difficult to maintain focus or indeed, interest, at that point. That I did continue I put down to her passing on me to me her own determination (stubbornness?) genes. Another major blow that threatened to end my PhD journey was the loss of my original location of my study in Second Life. It is hard to describe the dismay and horror I felt to discover that, without notification of any kind, the owners of the location I had built on their site, decided to close it down. With just a few weeks to go, before I was due to start the implementation of my study, I had nothing to implement it with!

Now this is where resourcefulness and initiative come into play while undertaking a PhD. As building a VW requires a great amount of work and time, which I did not have, it was necessary to find a way out of this dilemma and find someone who could help me. Enter the wonderful resource of LinkedIn. I literally reached out to dozens of people from around the globe looking for help. I received many wonderful replies, but most people could not provide assistance in the time-frame involved. However, a wonderful lady called Gwenette Sinclair came to my rescue, and together we were able to put the project back on track.

However, dealing with academic challenges is one thing, handling the fear, self-doubt and feelings of inferiority is another. Doing a PhD can be a lonely experience, when no one understands why you are doing what you are doing. It also involves working for extended periods on your own, which can be daunting and even frightening at times. There were times I forgot that I was not completing this PhD on my own. When my panic levels were high, one conversation with my wonderful supervisor and listening to her advice, such as "*it's all part of the process of doing a PhD*" and "*you will get there*", or "*Its normal to feel like that*", was enough to bring my stress levels down (until the next time!). Similarly, having a family that cared about me and was by my side every (slow) step of the way was wonderful, and a great help in boosting my confidence when things got particularly difficult.

Now that the journey is finally over, and I reflect on my experience, I know that I have gained invaluable knowledge and critical insight into how the world of research works and to quote T.S. Eliot's from 'Little Gidding':

"We shall not cease from exploration"

Appendix 1: SPHE and RSE in the Post Primary Curriculum

<u>SPHE AND RSE IN THE POST-PRIMARY CURRICULUM</u>

Section 9 of the Education Act, 1998 requires that every school uses its available resources to promote the moral, spiritual, social and personal development of students and to provide health education for them, in consultation with their parents and having regard to the characteristic spirit of the school. In 1996, Relationships and Sexuality Education (RSE) Interim Curriculum and Guidelines (NCCA, 1996) was introduced into post-primary schools. It was envisaged that RSE would be taught within the context of Social, Personal and Health Education (SPHE). In 2000, the Junior Cycle SPHE Curriculum Framework1 (Department of Education and Science, 2000) was introduced. This document provided a flexible framework within which schools could plan a three-year SPHE programme to meet students' needs.

- The framework comprises the following ten modules.
- Belonging and integrating •
- Self-management: a sense of purpose •
- Communication skills •
- Physical health • Friendship •
- Relationships and sexuality • Emotional health •
- Influences and decisions •
- Substance use •

Personal safety The Junior Cycle SPHE Curriculum Framework sets out aims and learning outcomes for each module in each year of the programme. While schools have flexibility within the framework to order the topics according to school or class needs, all content outlined in the framework should be covered. The modules should be re-visited each year to facilitate a spiral approach to the development of students' knowledge, skills and attitudes. Since 2003, the provision of the equivalent of one class period of Social, Personal and Health Education (SPHE) per week for all junior cycle students is mandatory. In accordance with the Department of Education and Skills Circular 0037/2010, Relationships and Sexuality Education, post-primary schools are obliged to develop an RSE policy and to implement a programme in this area for all students from first year to sixth year. Junior cycle RSE should be taught as an integral component of SPHE.

In senior cycle, schools are required to teach RSE, even in the absence of a timetabled SPHE class. The RSE Interim Curriculum and Guidelines outline the expected content of an RSE programme under the following three key themes. •

- Human growth and development •
- Human sexuality •
- Human relationships

The RSE Interim Curriculum and Guidelines should inform the development of each school's RSE programme. A whole-school RSE policy should underpin the planning, delivery and evaluation of the RSE curriculum programme in each school. A draft senior cycle SPHE curriculum framework is also available to schools on the NCCA website to support them in planning provision for SPHE at that level.

Appendix II: Assertiveness Questionnaire

Male   **Female**

Please answer the following questions.

1. **Do you feel shy /awkward around someone you feel attracted to?**

Never	Rarely	Usually	Always	Not sure

2. **Do you find it difficult to make eye contact with someone you feel attracted to?**

Never	Rarely	Usually	Always	Not sure

3. **Do you generally express what you feel with someone you feel attracted to?**

Never	Rarely	Usually	Always	Not sure

4. **Do you feel comfortable expressing negative feelings to someone you feel attracted to?**

Never	Rarely	Usually	Always	Not sure

5. **When you do not agree with someone you feel attracted to are you able to speak up for your own viewpoint?**

Never	Rarely	Usually	Always	Not sure

6. **Do you speak up if someone you feel attracted to says something out of line?**

Never	Rarely	Usually	Always	Not sure

7. **Do you find it difficult to let someone you feel attracted to know that you are angry?**

Never	Rarely	Usually	Always	Not sure

8. **Do you avoid arguing with someone you feel attracted to rather than risk losing their friendship?**

Never	Rarely	Usually	Always	Not sure

9. **Do you give in to someone you feel attracted to avoid conflict?**

Never	Rarely	Usually	Always	Not sure

10. **Are you frequently afraid that you will lose someone you feel attracted to if you don't do what they want?**

Never	Rarely	Usually	Always	Not sure

11. **Do you refuse unreasonable requests from someone you feel attracted to?**

Never	Rarely	Usually	Always	Not sure

12. **Do you let someone you feel attracted to control the conversation?**

Never	Rarely	Usually	Always	Not sure

13. **If someone you feel attracted to makes you feel uncomfortable by, for example, trying to kiss you, or put their arm around you, do you tell them?**

Never	Rarely	Usually	Always	Not sure

14. **If someone you feel attracted to asks you to send a picture of yourself to them either nude or nearly nude, through text or email, do you refuse?**

Never	Rarely	Usually	Always	Not sure

15. **If someone you feel attracted to asks can they send you a picture of themselves, either nude or nearly nude, through text or email, do you refuse?**

Never	Rarely	Usually	Always	Not sure

16. **If someone you feel attracted to asks you to hand them (in person) a picture of yourself either nude or nearly nude, do you refuse?**

Never	Rarely	Usually	Always	Not sure

17. **If someone you feel attracted to hands you (in person) a picture of themselves either nude or nearly nude, do you refuse?**

Never	Rarely	Usually	Always	Not sure

18. **If someone you feel attracted to makes you feel uncomfortable by touching you sexually, do you tell them?**

Never	Rarely	Usually	Always	Not sure

19. **If someone you feel attracted to makes you feel uncomfortable by asking you to touch them sexually, do you tell them?**

Never	Rarely	Usually	Always	Not sure

20. **If someone you feel attracted to tries to persuade you to engage in a sexual activity that you find uncomfortable and threatens to end the relationship otherwise, do you refuse?**

Never	Rarely	Usually	Always	Not sure

21. **If someone you feel attracted to tries to persuade you to engage in a sexual activity that you find uncomfortable and threatens to see someone else otherwise, do you refuse?**

Never	Rarely	Usually	Always	Not sure

22. **If someone you feel attracted to tries to persuade you to engage in a sexual activity that you find uncomfortable and threatens to say you did anyway, do you refuse**

Never	Rarely	Usually	Always	Not sure

23 **If you don't want to engage in a sexual activity that you have previously engaged in with someone you feel attracted to, do you refuse?**

Never	Rarely	Usually	Always	Not sure

………………………………………………………………………………………
…

Male   Female

Part 2: Self –efficacy

In this section, we want to know how confident you are that you can respond verbally (use your voice) in various ways in certain situations.

1. **How sure are you that you can speak in a confident tone of voice with someone you feel attracted to who tries to persuade you to do something you do not want to do?**

Not at all sure	A little sure	Kind of sure	Fairly sure	Very sure

2. **How sure are you that you can express yourself well with someone you feel attracted to who tries to persuade you to do something you don't want to do?**

Not at all sure	A little sure	Kind of sure	Fairly sure	Very sure

3. **How sure are you that you can respond almost immediately when talking to someone you feel attracted to who tries to persuade you to do something you don't want to do?**

Not at all sure	A little sure	Kind of sure	Fairly sure	Very sure

4. **How sure are you that you can vary your tone of voice (*use the highs and lows of your voice by stressing some words to get your message across*) when talking to someone you feel attracted to who tries to persuade you to do something you don't want to do?**

Not at all sure	A little sure	Kind of sure	Fairly sure	Very sure

How sure are you that you can you say what you wanted to say in a moderate tone of voice *(Not too loud Not too soft)* to someone you feel attracted to who tries to get you to do something you don't want to do?

Not at all sure	A little sure	Kind of sure	Fairly sure	Very sure

Presence

Q 1 While you were in the virtual world to what extent did you feel you were physically present? (*Feeling you were really 'there' or 'inside' in the world*)

Not much	Little	Somewhat	Much	Very Much

Q 2 While you were in the virtual world to what extent did feeling you were physically present help you speak with confidence during the roleplays? (*Speak in a comfortable upbeat way*)

Not much	Little	Somewhat	Much	Very Much

Q 3 While you were in the virtual world to what extent feeling you were physically present help you express yourself well in the roleplays? (*Put your words and sentences together in a clear way*)

Not much	Little	Somewhat	Much	Very Much

Q 4 While you were in the virtual world to what extent feeling you were physically present help you to respond almost immediately when talking to the other avatars in the role-play? (*Give a quicker answer*)

Not much	Little	Somewhat	Much	Very Much

Q 5 While you were in the virtual world to what extent feeling you were physically present help you to vary your tone of voice during the roleplays?(*use the highs and lows of your voice by stressing some words to get your message across*)

Not much	Little	Somewhat	Much	Very Much

Q 6 While you were in the virtual world to what extent feeling you were physically present help you say what you wanted to say in a moderate tone of voice during the roleplays (*Speaking not too loud or too soft*)

Not much	Little	Somewhat	Much	Very Much

Realism

Q 7 When you were in the virtual world to what extent did the world feel 'real' to you?

(Refers to the look, sound and feel of the environment)

Not much	Little	Somewhat	Much	Very Much

Q 8 When you were in the virtual world, to what extent did feeling the world was 'real' help you speak with confidence during the roleplays? (*Speak in a comfortable upbeat way)*

Not much	Little	Somewhat	Much	Very Much

Q 9 When you were in the virtual world, to what extent did feeling the world was 'real' help you to express yourself well in the roleplays? (*Put words and sentences together in a clear way)*

Not much	Little	Somewhat	Much	Very Much

Q 10 When you were in the virtual world, to what extent feeling the world was 'real' help you to respond almost immediately when talking to the other avatars in the roleplays?** (*Give a quicker answer)*

Not much	Little	Somewhat	Much	Very Much

Q 11 When you were in the virtual world, to what extent feeling the world was 'real' help you to you to vary your tone of voice during the roleplays?(*use the highs and lows of your voice by stressing some words to get your message across)*

Not much	Little	Somewhat	Much	Very Much

Q 12 When you were in the virtual world**,** to what extent feeling the world was 'real' help you say what you wanted to say in a moderate tone of voice (*Speaking not too loud or too soft*)

Not much	Little	Somewhat	Much	Very Much

Immersion

Q 13 When you were in the virtual world to what extent were you able to forget the world around you? (*Forget you were in a classroom*)

Not much	Little	Somewhat	Much	Very Much

Q 14 When you were in the virtual world to what extent did forgetting the world around you help you speak with confidence during the roleplays? (*Speak in a comfortable upbeat way)*

Not much	Little	Somewhat	Much	Very Much

Q 15 When you were in the virtual world to what extent did forgetting the world around you help you express yourself well in the roleplays? (*Put words and sentences together in a clear way)*

Not much	Little	Somewhat	Much	Very Much

Q 16 When you were in the virtual world to what extent did forgetting the world around you help you to respond almost immediately when talking to the other avatars in the roleplays? (*Give a quicker answer)*

Not much	Little	Somewhat	Much	Very Much

Q 17 When you were in the virtual world to what extent did forgetting the world around you help you to vary your tone of voice during the roleplays ?*(use the highs and lows of your voice by stressing some words to get your message across)*

Not much	Little	Somewhat	Much	Very Much

Q 18 When you were in the virtual world to what extent did forgetting the world around you help you say what you wanted to say in a moderate tone of voice (*Not too loud Not too soft)*

Not much	Little	Somewhat	Much	Very Much

Appendix V: Interview Guiding Questions

First of all, what did you think of the virtual world?

What did you like best about it?

Was there anything you didn't like about the virtual world?

How much do you enjoy it? On a scale of 1 to 10

How would you describe the virtual world? In other words, did you like the look of it?

In general, do you think role-playing as an avatar had any impact on you at all?

What did you think about doing the roleplays with people in your class?

I'm not sure how friendly you were with the particular people in your group so; do you have any thoughts about the group you were doing the roleplays with?

What did you think of the content of the roleplays?

How would you link what you learned to your everyday life?

How do you think you will respond if you were ever in those situations that we practiced?

In general, what did you think of role-play as a way of learning?
Do you have any questions you want to ask me?

Have you any concerns at all about the study?

Appendix VI: Code of Conduct

CODE OF CONDUCT
THE FOLLOWING RULES ARE INTENDED FOR THE CONSIDERATION OF EVERYBODY WHILE IN THE VIRTUAL WORLD
• Arrive to class on time
• Respect the opinions of others
• Participate in a respectful manner
• Respect myself and others by not using any form of bad language
• Do not make any comments of any kind that intimidates, harasses, bullies or is offensive or hateful to anyone
• Do not distract others from working
• No eating or drinking while in the computer lab
• Log out when the class is over
• Put headphones away when class is over

Appendix VII: Instructions for Logging in to CARE

On your computer desktop find the icon labelled "Firestorm" and double-click it. The viewer will then open and you will be presented with this screen.

<u>Objectives</u>

After you complete this class you will be able to:

Enter CARE using a viewer

Learn how to move around the virtual world as your avatar

To communicate with other students in the virtual world

Learn to use the camera controls to control your avatar

Change the appearance of your avatar

Dress your avatar

How not to get lost in the virtual world

<u>Getting to Know your 3-D Web Viewer</u>

We will be using the Firestorm Viewer. On your computer desktop find the icon labelled

"Firestorm" and double-click it. When the viewer opens, type in the first name, last name, and

password that has been given to you. This will bring you online to your **Home Location**.

The default point of view is from directly behind and above your Avatar.
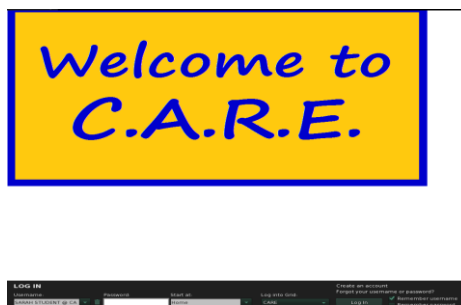
<u>Getting to Know your 3-D Web Avatar</u>

The first important things your Avatar learns are to Walk, Sit, Stand, Type, Talk, Fly, and Teleport Home.

To Walk, use the Arrow keys on the Walk/Run/Fly icon. The Up Arrow walks you forward; the Down Arrow walks you backward; the Left and Right Arrows turn you before walking.

To Sit, Right Click on a chair; a menu pops up, from which you Left

Click on **Sit Here.**

To Stand, look at the bottom of your viewer screen and click on the button that says StandUp.

To Type, hit your Enter key; a Local Chat dialog box opens up at the bottom left of your screen; type what you want to say and then hit your Enter key again.

Your words appear over your Avatar's head.

If you want to see the ongoing chat log of what you and other Avatars are typing, at the bottom left of your screen, click the Local Chat button. To **hide** the log, click the Local Chat button again.

<u>**To Talk**</u>, at the bottom right of your viewer screen, click on the **Talk** button and begin talking; you should begin to see green arcs appearing over the top of your Avatar head. When you are done talking, click the Talk button again to mute your microphone. Remember when speaking to take turns and not "step on each other's lines." That means, **button On** to talk, **button Off** to listen.
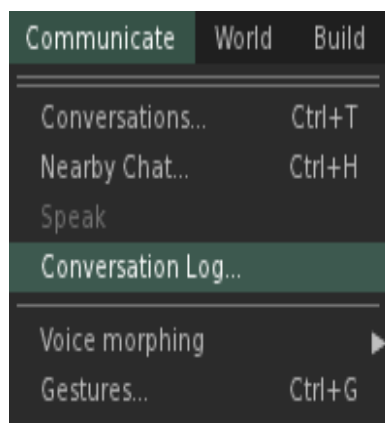
**To Fly**, hit your Home key; your Avatar will begin to hover. When flying, hit your **PgUp** key to go higher or your **PgDn** key to go lower. The **Up** Arrow flies you **forward**; the **Down** Arrow flies you **backward**; the Left and Right Arrows turn you before flying. To land, hit your Home key again.

To Teleport Home, at the top left of your viewer click on World; a menu appears from which you click Teleport Home; you will be back at your original login location. This is handy if you get lost.
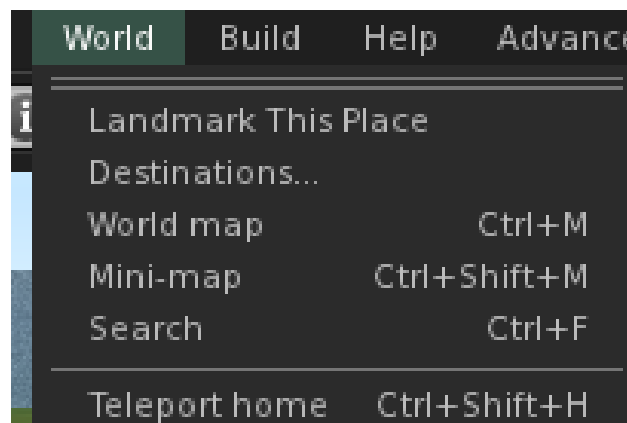
Customizing your 3-D Web Avatar

There are many ways to customize your Avatar. Here are three of them: Gestures, Total Avatar Makeovers, and Custom Avatar Makeovers.

Gestures

Your Avatar may use any of a standard library of animated Avatar gestures. You can activate and use any of these built in gestures. As an example, we will use **"wave."** You will be able to follow the same instructions to use the other gestures available.

Activate **"Wave"**

1. At the top left of your viewer screen, click the **Communication** button; a window appears. Scroll down to **Gestures.** Double –Click to open it.   .

Scroll down to the icon **Wave** and Right-Click it; a menu opens from which you can click **Wave** and your avatar waves.

Total Avatar Makeovers

There are several total Avatar makeovers available in your personal Avatar Inventory. You can activate any of these added makeovers. As an example, we will change one Female Avatar look for another; and one Male Avatar look for another. You will be able to follow the same instructions to use the other makeovers available.

INSERT change female/male look instructions here.

Custom Avatar Makeovers

Instead of completely replacing your Avatar outfit, it is possible to "mix and match" between the different makeover files available in your Inventory. You can replace any item of clothing that you are wearing with another item of clothing in your Inventory.

As an example we will use customizing one Female Outfit to use a different top; and one Male Outfit to use a different shirt. You will be able to follow the same instructions to use the other items of clothing available.

INSERT change female/male items of clothing instructions here.
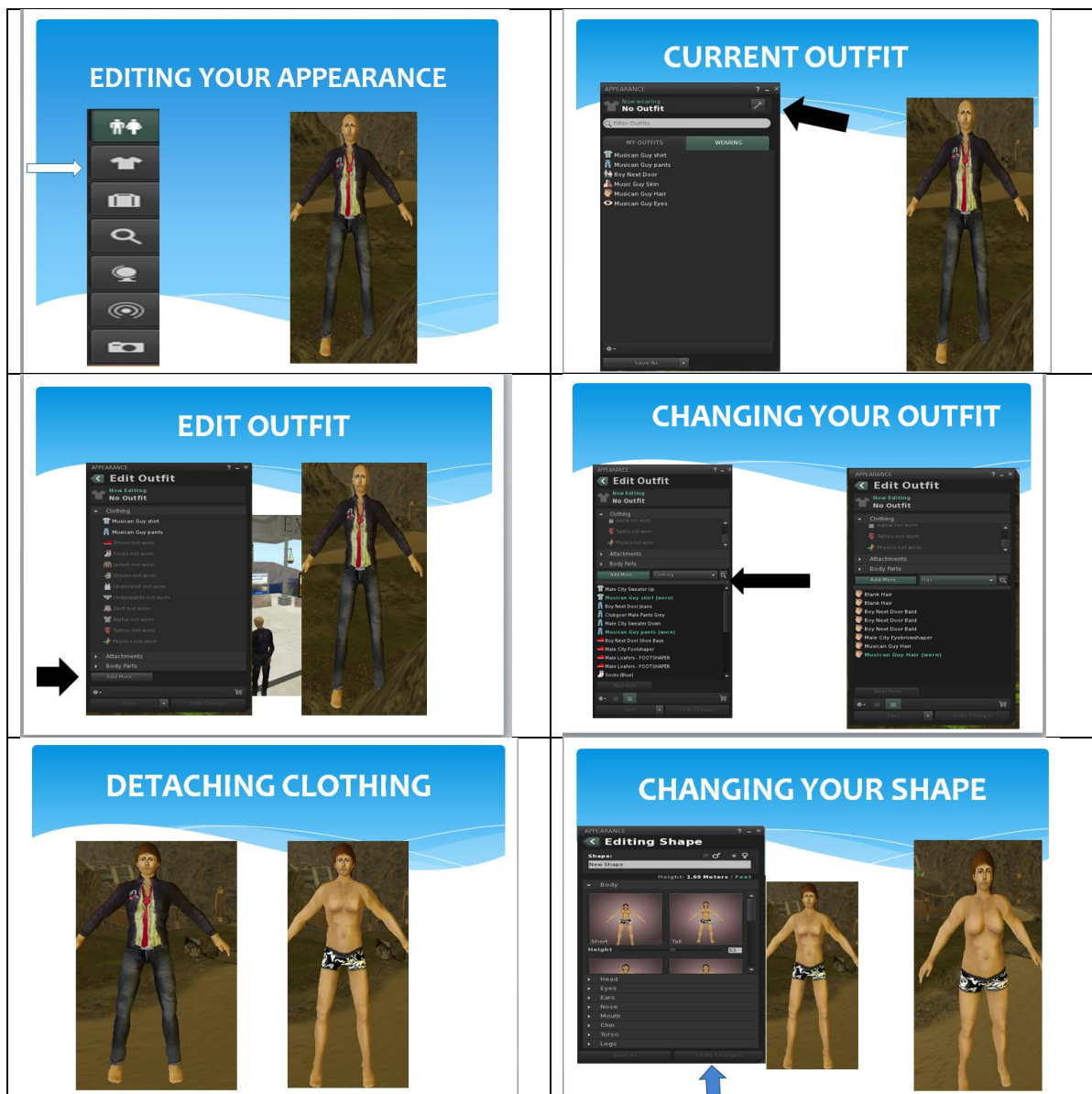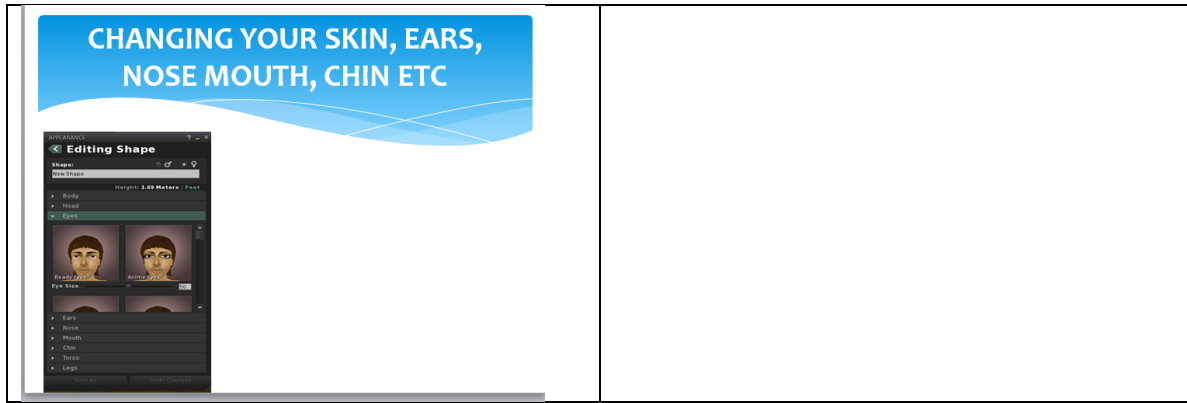
Congratulations!

This completes your New Student Guide for learning in Virtual Reality. Your tutor and fellow students are available to help with further questions.

Appendix VIII: Example Role-Play Scenarios

Role –Play Practice using Broken Record Technique

Aggressive actor tries to persuade assertive actor to send a naked picture of themselves.

Aggressive Actor – Hi, How're doing?

Assertive Actor: fine thanks, how about you?

Aggressive Actor: Me, fine, never better

Assertive Actor: Good what are you up to?

Aggressive Actor: Nothing much, I just wanted to ask you something

Assertive Actor: yeah, what?

Aggressive Actor: I thought it would be fun if we all sent one another naked pictures of ourselves

Assertive Actor: You're kidding right?

Aggressive Actor: No. ah go on, if you were my friend, you'd send me a pic.

Assertive Actor -I like to be your friend, but what does sending a naked picture of myself got to do with it?

Aggressive Actor: Just one photo won't hurt you!

Assertive Actor   - You're right. But it won't do me any good either.

Aggressive Actor: look, I'll send one to you first

Assertive Actor   : No thanks. I'm not interested

Aggressive Actor   - Don't' be such a coward

Assertive Actor   : No thanks, I'm not interested

Aggressive Actor   : Just this once

Assertive Actor: No thanks. I'm not interested

Aggressive Actor   : I bet you think I will send it around the school

Assertive Actor   : I told you I am not interested. Please respect my opinion. I feel upset when you try to pressurise me into doing something I clearly don't want to do.

Aggressive Actor – OK, Ok

<u>Suggested Situations</u>

- You are asked to go to a film by someone you are not interested in going out with

- Tell your boyfriend/girlfriend you want a night by yourself

- You want to end your relationship with your girlfriend/boyfriend. How do you handle that?

- Your girlfriend/boyfriend wants you to send them a naked selfie of yourself, how do you respond?

- You are in a night club with friends and they offer to buy you a drink which you don't want

- Your friend wants to borrow ten Euro from you to buy drugs, but you do not approve. How do you tell them that?

- Your new boyfriend /girlfriend want to go further than you are ready for. How will you handle that?

Appendix IX: Example Verbal Responses

"I'm not interested in that kind of a relationship right now"

"I don't need to prove anything to you; I just don't want to, OK"

"It doesn't make a difference if you call me names, it won't change the fact that I'm just not ready, and I'm telling you "no"

"I think there are other ways we could have more fun at this point in our lives"

> "I really like someone else. I'm sorry, but I'd really like to be friends"

> "I really don't want to risk getting pregnant; my mom would be really hurt"

> Let's just hold each other, OK?

> I'd rather we knew one another a bit better. Can't we just go and see a film?

> "Let's slow things down and talk about it again in a few months"

> I like kissing and touching. I just don't want more than that

Appendix X: Ethical Consent Forms

CARE: Exploring the Potential of a Virtual World to Teach Assertive Communication Skills to Adolescents.

Marion McGinn, PhD Student at Trinity College Dublin and a member of the Career Guidance and Counselling stafff of the King's Hospital, Palmerstown, Dublin 20.

What is this all about?

Adolescence is a time when young people are exposed to a wide range of new social situations, such as parties, bars and concerts. As a result, young people come into contact not only with friends, but also with strangers, compelling them to learn and develop new social roles without the supervision of their parents. Every day, they are in situations where the possession of social skills such as assertiveness can help them — like refusing alcohol and drugs, asking someone on a date, refusing unwanted sexual situations. The possession of social skills such as assertiveness may determine the degree to which adolescents are able to succeed in their peer group. Failure to provide young people with strong communication skills can leave them potentially vulnerable to coercion, abuse and exploitation, unintended pregnancy and STIs.

Virtual worlds can provide safe, on-line spaces and opportunities to build the necessary strong communication skills and confident understandings through interactive role play and simulations of real-life scenarios that can to be difficult to provide in a traditional school or text-based environment. Also, in a virtual world, opportunities exist for students to acquire opportunities for simulations of real life-scenarios in a customised setting that mirrors the real world ,yet at the same time provide opportunities for experimentation without real-world repercussions in a safe and non-threatening environment.

'CARE': A Digital Learning Space

The idea behind 'CARE' is simple; it will offer a selected group of young people the chance to explore over a period of eight weeks a series of issues and questions relating to Relationships and Sexuality Education.

'CARE' will be run as a PhD research project – with every attention given to strict ethical considerations related to this type of research, as laid-out in the attached guidelines provided by Trinity College Dublin. The study will investigate whether a virtual world is an effective place to build understanding and communication skills in the area of sexual health. It will also seek to build personal confidence and assertiveness in these areas.

Participation in this study is voluntary. You have the right to refuse permission for your son/daughter to take part, or to withdraw them from the project at any point should you so wish. Similarly, your child may decide to participate or not and can choose to opt-out at any point. This will in no way reflect on you or your son / daughter. The project needs to be totally voluntary in nature.

If you choose to allow your son/daughter to take part in the study the following will happen:

Your son/daughter will be given access to a URL, an <u>anonymous username</u> and a password. Access to the virtual world will be <u>strictly</u> <u>limited</u> to the participants in the study and the researcher.

In order to ensure there are no negative effects from the use of the site, participants will be asked to abide by a Code of Conduct (see attached).

Instruction on how to navigate and communicate in the virtual world will be provided in an introductory session and with written instructions.

Most of what happens in 'CARE' will involve taking part in carefully and sensitively designed simulations and role play activities focusing on assertiveness and decision making skills.

An example of the kind of material that will be presented to the students includes a video that will demonstrate how to recognise:

• Passive behaviour

• Aggressive behaviour

• Manipulative behaviour

• Peer pressure

The students will then get an opportunity to practice the skills they have learned in the virtual world.

Information will be provided by tutor presentation, video and provision of print materials on the topics to be covered during the study. This will provide the baselines from which it's hoped participants will develop their capacity to communicate effectively.

Thank you for taking the time to read this general note on the project. It promises to be an exciting and interesting experience for all concerned.

I would be very grateful for your permission – indicated by your signature below – to approach your son / daughter to ask if they are willing to participate in the research. I am attaching below more formal guidance regarding the project and what it involves.

We / I, the undersigned give permission for _____, my son / daughter / ward (please delete as appropriate), to take part in the virtual world RSE project.

SIGNED: _____

Please PRINT Name _____   Date: _____

Relationship to Child:_____

Virtual World Study

During the study, your son/daughter will be asked to complete a number of short questionnaire about their experience – always on a comfort-only basis. Anything they are uncomfortable about they can skip / leave-out..

During the study your son/daughter may be invited to take part in semi -structured interviews and focus groups. Participation in these will always be voluntary. The interviews and focus groups will be audio recorded for later analysis. However, they will be totally confidential and anonymised and analysed using standard qualitative techniques so that anonymity will be protected. Participants in the interviews will have the right to have the recording devices turned off at any time and the right to ask questions at any time. Audio recordings will not be made available to anyone outside the project , and will be stored until the completion of the thesis work in accordance with the Data Protection Act, at Trinity College.

When the research includes observation of interactions, participants will be asked first to consent to be observed at that point.

Data from this study may be used in academic papers, talks or conferences. However, all data in this study will be treated with full confidentiality and if published the data will not be identifiable or traceable in any way.

Participants in the study will be provided with a comprehensive introduction to the project and its intentions after which they will be asked to sign an informed consent form.

At the end of the study, on request participants will be provided with a brief explanation of the outcomes / findings.

To ensure fulfillment of the Data Protection Act at Trinity College it is my responsibility to inform you of the following:

The study will involve viewing videos. Consequently, I need to verify if your son/daughter or anyone in your family has epilepsy. This is to allow for any necessary measures to be taken to allow safe viewing.

In the most unlikely event that illicit or illegal activity is made apparent to me during the study, I will be obliged to report it to the appropriate authorities.

At all times, I will act in accordance with the information provided. For example, if I tell participants I will not do something, then I will not do it.

Please note that I formally affirm I have no conflict of interest in either the project or the participation of any individual people.

Signed:_____

Marion McGinn   Date:

If you have any questions before, during or after the completion of this research project, please contact me, Marion McGinn at mcginnma@tcd.ie

Informed Consent Form (Students)

Lead Researcher: Marion McGinn

You are invited to take part in a research project being conducted by Marion McGinn, a PhD student from Trinity College Dublin and a member of the Career Guidance and Counselling staff of the King's Hospital School, Palmerstown, Dublin 20.

Background of Research: Assertiveness is a healthy way of communicating. It's the ability to speak up for ourselves in a way that is honest and respectful. Every day, young people are in situations where being assertive can help, particularly when dealing with friends/peers— like refusing to take a cigarette, refusing alcohol or unwanted sexual activities.

Being assertive doesn't come naturally to everyone. Some people communicate in a way that is too *passive*. Other people have a style that is too *aggressive*. An assertive style is the happy medium between these two.

Virtual worlds can provide safe, on-line spaces and opportunities to build the necessary strong communication skills and confident understandings through interactive role play and simulations of real-life scenarios that can to be difficult to provide in a traditional school or text-based environment.

Participation in this study is voluntary. You have the right to not to take part or to withdraw from the project at any point should you so wish. Similarly, you may decide to participate or not and can choose to opt-out at any point. This will in no way reflect on you. The project needs to be totally voluntary in nature.

Procedures: This study will take place over an 8 week period

If you choose to take part in this study:

- You will be provided with an information sheet with details of the study.
- You will be given access to an URL and an anonymous username and password. Access to the virtual world will be limited to the participants in the study and the researcher
- You will be given Instruction on how to navigate and communicate in the virtual world
- You will partake in simulations and role play activities focusing on assertiveness, negotiation and decision making skills
- You will be provided with information delivered by tutor presentation, video and provision of print materials on the topics to be covered during the study
- Following the study you will be asked to complete a questionnaire on your experience of using the virtual world. You will have the option of omitting questions you do not wish to answer
- In the event the research will be observational, you will be asked for your permission to be observed

- The study will involve viewing videos. Consequently, I need to verify if you or anyone in your family has epilepsy. This is to allow for any necessary measures to be taken to allow safe viewing.

- Following the study you will be invited to take part in semi-structured interviews. Participation in the interview will be voluntary. The interviews will be audio recorded for later qualitative analysis. Any identifying data will be made anonymous to protect your identity

- In the most unlikely event that illicit or illegal activity is made apparent to me during the study, I will be obliged to report it to the appropriate authorities.

- At all times, I will act in accordance with the information provided. For example, if I tell participants I will not do something, then I will not do it.

- At the end of the study, on request participants will be provided with a brief explanation of the outcomes / findings.

- Please note that I formally affirm I have no conflict of interest in either the project or the participation of any individual people.

Publication: There will be a research project written as a result of this project. No information directly identifying you as a participant will be used in the publication and subsequent presentation of research findings.

DECLARATION:

- I freely and voluntarily agree to be part of this research study, though without prejudice to my legal and ethical rights

- I have read, or had read to me, a document providing information about this research and this consent form. I have had an opportunity to ask questions and all my questions have been answered to my satisfaction and understand the description of the research that is being provided to me

- I agree that my data is used for scientific purposes and I have no objection that my data is published in scientific publications in a way that does not reveal my identity

- I understand that if I make illicit activities known, these will be reported to appropriate authorities

- I understand that I may stop electronic recordings at any time, and that I may at any time, even subsequent to my participation have such recordings destroyed (except in situations such as above)

- I understand that subject to the constraints above, no recordings will be replayed in any public forum or made available to any audience other than the current researchers/researcher team

- I understand that I may refuse to answer any question and that I may withdraw at any time without penalty.

- I understand that my participation is fully anonymous and that no personal details about me will be recorded

- I understand that if I or anyone in my family has a history of epilepsy then I am proceeding at my own risk

- I have received a copy of this agreement

Participant's Full Name………………………………………………………….

Date……………………………………………………………………………………

Statement of researcher's responsibility: *I have explained the nature and purpose of this research study, the procedures to be undertaken and any risks that may be involved. I have offered to answer any questions and fully answered such questions. I believe that the participant understands my explanation and has freely given informed consent.*

Researcher's Signature……………………………………………..

Date…………………………………………………………………………..

Project contact Details

Marion McGinn   Email: mcginnma@tcd.ie

Appendix XI: Sample Activities and Resources

INTRODUCTION TO COMMUNICATION STYLES
Passive, Aggressive, Assertive

VIDEO
* https://www.youtube.com/watch?v=hz6CQ6sHKTE&rel=0

COMMUNICATION STYLES

THREE MAIN COMMUNICATION STYLES

*PASSIVE STYLE

*AGGRESSIVE

*ASSERTIVE STYLE

PASSIVE STYLE………………

* Getting taken advantage of, not standing up for yourself
* Feeling one way, but acting the opposite way
* Hoping the other person can read your mind
* Afraid to say NO in case you offend other people

EXAMPLES OF PASSIVE COMMUNICATION

"I DON'T CARE. IT DOESN'T MATTER TO ME"

" WHATEVER YOU THINK"

" I DON'T KNOW"

"I'LL GO WITH WHATEVER THE GROUP DECIDES"

" YOU DECIDE"

CONSEQUENCES OF TOO PASSIVE BEHAVIOUR!

* Loss of confidence
* Feel angry, hurt, frustrated
* Lose control in relationships
* Temper
* Never get your way

AGGRESSIVE/INDIRECT AGGRESSIVE STYLE……………

* Interrupts and 'talks' over others
* Speaks loudly and dominates the conversation
* Disagrees with sarcasm or a putdown
* Glares and stares at people
* Only considers own feelings

ME ME ME. IT'S ALL ABOUT ME!

EXAMPLES OF AGGRESSIVE COMMUNICATION

"I DON'T SEE WHY YOU CAN'T SEE THAT THIS IS THE RIGHT WAY TO DO IT"

"WHO CARES WHAT YOU THINK"

"ITS GOING TO BE MY WAY OR NOT AT ALL"

" YOUR JUST STUPID IF YOU THINK THAT WILL WORK"

CONSEQUENCES OF AGGRESSIVE BEHAVIOUR

* Conflict in relationships
* Loss of self-respect
* Lose respect of others
* Possible violence
* Not achieve results

ASSERTIVE STYLE………..

* Stand up for themselves while respecting the rights of others
* Not too timid, not too pushy
* Can give an opinion and say how they feel
* Can ask for what they want and need
* Can disagree respectively
* Can speak up for someone else

EXAMPLES OF ASSERTIVE COMMUNICATION

"I CAN SEE THAT THIS UPSETS YOU AND FROM YOUR PERSPECTIVE I CAN SEE WHY. NOW WHAT CAN WE DO TO MAKE THIS BETTER FOR BOTH OF US"

" I THINK………
" I FEEL…………
" I BELIEVE THAT……."

" I WOULD APPRECIATE IT IF YOU………."

" I DON'T AGREE BUT IF THAT HOW YOU SEE IT , THAT'S FINE"

CONSEQUENCES OF ASSERTIVENESS

* Increased self-esteem/ Self confidence
* Increased positive reaction from others
* Feel in control of situations
* Honest relationships
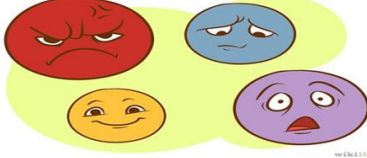
ASSERTIVENESS EXAMPLES
* http://www.youtube.com/watch?v=Ymm866GDAF4

HOW ASSERTIVE ARE YOU?

* Take the test

Example Resource 2

THE IMPORTANCE OF ASSERTIVENESS https://www.youtube.com/watch?v=68ciKKIafDQ	**SOUNDING ASSERTIVE** ▸ It's not **WHAT** you say, but **HOW** you say it	**VOLUME** • 38% of a person's first impression is from your tone of voice, so: • Speak up when you have an idea or opinion • Say what you think and feel
TONE OF VOICE ▸ Can make you sound more confident 　　▸ OR ▸ Can make you sound dull and lifeless	**PITCH AND PACE** http://www.youtube.com/watch?y=OvEci5Bjgd4 *The Importance of Nonverbal Cues As told by "Friends"*	

Example Resource 3

Assertive Techniques

- *Broken Record*
- **Repeat, Repeat, Repeat**
- **(not like a parrot)**

- **but use the same key words**

Rehearse and Practice !

Use I STATEMENTS

- No, I don't want to because………………………
- No, I have a problem with that……………………
- No, I don't feel ready…………………………………..

Example Resource 5

Slide 1 — VOLUME / And vocal variety

Slide 2 — VOLUME
- It doesn't matter what you say, if the other person can't hear you
- Vary the volume of your voice to add interest to what you are saying

Slide 3 — Vocal Variety / PITCH
- Pitch means the highness and lowness of the tone of your voice
- A change is pitch is called inflection
- Helps to stop speaking in a monotone

Slide 4 — Tone Matters
- Its not what you say, it's the way that you say it
- The tone of your voice describes your attitude

Slide 5 — RATE
- Rate is how fast or slow you speak
- Too slow and you sound uninterested and dull
- Too fast and you sound nervous
- Avoid speaking too slowly or too quickly

Slide 6 — PAUSES
- Take your time when responding *but*
- If a pause is too long it can show you are not sure or confident about what you are saying

Appendix XII: Lesson Plans

	Objectives	Methods	Materials	Learning Outcomes
Lesson 1	To introduce students to the benefits of being assertive. To help them recognise the difference between passive, aggressive, and assertive styles of communication and the importance of assertiveness to themselves and others. To Make students aware of their assertive rights	The students will first be introduced to the communication concepts with a 3 minute animation video followed be a PP presentation delivered by the tutor which contains more detail about the concepts and a video of student actors modelling the different communication styles	Video demonstration PP presentation Class discussion A " Bill of Rights "charter Worksheets Homework assignments Assertiveness/Self Efficacy Questionnaire	Students will be able to recognise the difference between passive, aggressive, and assertive styles Understand when to apply the various communicatio n behaviours in certain situations Students will understand the basic principles of their assertive rights as a person
Lesson 2	To help students be aware of the thoughts and attitudes that may be preventing them from being assertive. To develop students' understanding of the non-verbal components of assertiveness (Body language, tone, pitch, loudness, intensity ,voice quality in assertive communication	Review Role-Play. Student actors demonstrate non-verbal passive, aggressive, assertive behaviour. Students will observe and asked to note the different components of the various behaviours In pairs students will practice role-play assertive responses in general social situations Students' voices will be recorded and tutor will give feedback	PP Presentation The importance of non-verbal cues " Friends" - video Peer demonstration Dialogue scripts Class discussion Hand-outs of sample assertive responses Audio Feedback Homework assignments	Students will be aware of how their voice sounds in terms of tone, pitch, loudness etc.
Lesson 3	To improve students' ability to effectively communicate through verbal (clarity of expression, tone of voice, inflection and volume, response latency) and non-verbal (body orientation, posture and gestures) training To improve students ability to respond	Review Student actors will briefly Model non-verbal behaviours both negatively and positively. In pairs students will practice role-play with each other using assertive responses provided by the tutor	PP Presentation Dialogue scripts Feedback Class discussion	Students will have strategies to respond assertively when risky health situations require it

	assertively in situations where they need to respond to pressure to engage in risky health situations			
Lesson 4	To focus on improving students' ability to use the quality of voice , tone etc. to assertively communicate in situations where they need to respond to pressure to engage in risky health situations	Review Students will role-play scenes with student actors where they will attempt to give assertive responses with semi scripted dialogues provided by the tutor	Discussion Semi scripted dialogues Prompts	Students should be able to participate in role-plays and apply what they have learnt in previous classes
Lesson 5	To encourage students to come up with their own assertive responses	Review In groups, students will be asked to create their own assertive responses to what they might say. Students will practice Role-playing these responses for the rest of the group while others observe and take notes	Class Discussion Class hand-outs Class feedback	The students should be able to engage in role-plays that illustrate ways of dealing with pressure to engage in risky health situations without the aid of scripts
Lesson 6	To underpin the learning with practice	Review Students will practice the assertiveness role-plays based on impromptu scenes provided by the tutor	Class Discussion Rathus Assertiveness Questionnaire Audio	Students will be able to hear how their voices sound after the assertiveness training. Students will be administered Assertiveness/ Self-Efficacy scale

Appendix XIII: Teacher's Diary

Teacher Diary: Evaluation of the Class

Date……………………………………………….

Class 1

How did you think this class went overall?

| Very Well | Well | OK | Not very well | Badly |

What topics were covered in today's class?

What worked well?

What didn't work well?

Any other comments?

References

Akers, R. L. (2011). *Social Learning and Social Structure: A General Theory of Crime and Deviance*. London: Transaction Publishers.

Allen, K. R., & Jaramillo-Sierra, A. L. (2015). Feminist Theory and Research on Family Relationships: Pluralism and Complexity. *Sex Roles, 73*(3), 93-99.

Allmendinger, K. (2010). Social Presence in Synchronous Virtual Learning Situations: The Role of Nonverbal Signals Displayed by Avatars. *Educational Psychology Review, 22*(1), 41-56.

Alvy, L., McKirnan, D., Mansergh, G., Koblin, B., Colfax, G., Flores, S., & Hudson, S. (2011). Depression is Associated with Sexual Risk Among Men Who Have Sex with Men, but is Mediated by Cognitive Escape and Self-Efficacy. *AIDS and Behavior, 15*(6), 1171-1179.

American Academy of Pediatrics. (2001). Care of the adolescent sexual assault victim. *Pediatrics, 107*(6), 1476-1479.

Ames, D. R. (2008). In search of the right touch: Interpersonal assertiveness in organizational life. *Current Directions in Psychological Science, 17*, 381-385.

Amran, N. N., & Ibrahim, R. (2012). Academic Rites of Passage: Reflection on a PhD Journey. *Procedia - Social and Behavioral Sciences, 59*, 528-534.

Anderson, J., Brown, G., Evans, J., Sankovich, E., & Sims, J. (2009). *Sexual Harassment Prevention in Schools: A facilitator's Manual and Curriculum for Grades 1 Through 12*. Pennsylvania: Pennsylvania Coalition Against Rape (PCAR).

Anderson, R. E., & Cahill, S. P. (2014). Use of the Response-Latency Paradigm for Eliciting and Evaluating Women's Responses to the Threat of Date Rape. *Violence and Victims, 29*(2), 248-261.

Andresen, H. (2005). Role Play and Language Development in the Preschool Years. *Culture & Psychology, 11*(4), 387-414.

Arnab, S., Brown, K., Clarke, S., Dunwell, I., Lim, T., Suttie, N., Louchart, S., Hendrix, M., & de Freitas, S. (2013). The development approach of a pedagogically-driven serious game to support Relationship and Sex Education (RSE) within a classroom setting. *Computers & Education, 69*, 15-30.

Arnett, J. J. (2004). *Emerging Adulthood: The Winding Road from Late Teens through the Twenties*. New York: Oxford University Press.

Arnold, S. J., & Koczwara, B. (2006). Breaking Bad News: Learning Through Experience. *Journal of Clinical Oncology, 24*(31), 5098-5100.

Auslander, B. A., Baker, J., & Short, M. B. (2012). The Connection Between Young Women's Body Esteem and Sexual Assertiveness. *Journal of Pediatric and Adolescent Gynecology, 25*(2), 127-130.

Baele, J., Dusseldorp, E., & Maes, S. (2001). Condom use self-efficacy: Effect on intended and actual condom use in adolescents. *Journal of Adolescent Health, 28*(5), 421-431.

Bai, X., & Lavin, B. (2013). Enhance Learning in a Virtual Professional Environment via 3D Cases. *International Journal of Nursing and Health Care, 1*(1), 114-126.

Bailenson, J. N., Yee, N., Merget, D., & Schroeder, R. (2006). The Effect of Behavioral Realism and Form Realism of Real-Time Avatar Faces on Verbal Disclosure, Nonverbal Disclosure, Emotion Recognition, and Copresence in Dyadic Interaction. *Presence: Teleoperators and Virtual Environments, 15*(4), 359-372.

Bailey, J. V., Murray, E. R., Mercer, C. H., Morris, R. W., Peacock, R., Cassell, J., & Nazareth, I. (2010). Interactive computer-based interventions for sexual health promotion. *Cochrane Database of Systematic Reviews, 9*, 1-78.

Bainbridge, W. S. (2007). The Scientific Research Potential of Virtual Worlds. *Science, 317*(5837), 472-476.

Baker, S. C., Wentz, R. K., & Woods, M. M. (2009). Using Virtual Worlds in Education: Second Life as an Educational Tool. *Teaching of Psychology, 36*(1), 59-64.

Ball, B., & Rosenbluth, B. (2008). Expect Respect. http://www.vawnet.org/assoc_files_vawnet/

Bandura. (1994). *Self-efficacy*. New York: Academic Press.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215.

Bandura, A. (1986). *Social Foundations of Thought and Action*. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1989). Social Cognitive Theory. In R. Vasta (Ed.), *Annals of Child Development. Vol.6. Six Theories of Child Development* (pp. 1-60). Greenwich, CT: JAI Press.

Bandura, A. (1997). *Self-efficacy: The Exercise of Control*. New York: W.H Freeman.

Bandura, A. (2001). Social cognitive theory: an agentic perspective. *Annual Review of Psychology, 52*, 1-26.

Bandura, A. (2012). *Information on self-efficacy*: WH Freeman.

Barter, C. (2009). In the Name of Love: Partner Abuse and Violence in Teenage Relationships. *British Journal of Social Work, 39*(2), 211-233.

Barter, C., Stanley, N., Wood, M., Aghtaie, N., Larkins, C., Overlien, C., & Lesta, S. (2015). Safeguarding Teenage Intimate Relationships (STIR) : Connecting Online and Offline Contexts and Risks. http://stiritup.eu/wp-content/uploads/2015/06/STIR-Exec-Summary-English.pdf

Bartle, R. A. (2003). *Designing Virtual Worlds*. London: New Riders.

Basile, K. C., Black, M. C., Simon, T. R., Arias, I., Brener, N. D., & Saltzman, L. E. (2006). The association between self-reported lifetime history of forced sexual intercourse and recent health-risk behaviors: findings from the 2003 National Youth Risk Behavior Survey. *Journal of Adolescent Health, 39*(5), 751-757.

Baylor, A. L. (2009). Promoting Motivation with Virtual Agents and Avatars: Role of Visual Presence and Appearance. *Philosphical Transactions of the Royal Society, 364*, 3559-3565.

Beard, C., & Wilson, J. (2006). *Experiential Learning: A Best Practice Handbook for Trainers and Educators*. London: Kogan Page.

Beltrán Sierra, L. M., Gutiérrez, R. S., & Garzón-Castro, C. L. (2012). Second Life as a support element for learning electronic related subjects: A real case. *Computers & Education, 58*(1), 291-302.

Benight, C. C., & Bandura, A. (2004). Social Cognitive Theory of Posttraumatic Recovery: The Role of Perceived Self-Efficacy. *Behaviour Research and Therapy, 42*, 1129-1148.

Beres, M. A. (2007). Spontaneous' Sexual Consent: An Analysis of Sexual Consent Literature. *Feminism & Psychology, 17*(1), 93-108.

Berg, B. L. (2007). *Qualitative Research Methods for the Social Sciences*. MA: Pearson Education Company.

Bishop, A. (2012). *Develop Your Assertiveness*. London: Kogan Page.

Blaikie, N. (2009). *Designing Social Research: The Logic of Anticipation*. Cambridge: Polity Press.

Blascovich, J., & Bailenson, J. N. (2011). *Infinity Reality: Avatars, Eternal Life, New Worlds,and the Dawn of the Virtual Revolution*. New York: William Morrow.

Borbely, C., Graber, J. A., Nicols, T., Brooks-Gunn, J., & Botvin, G. J. (2005). Sixth Graders' Conflict Resolution in Role Plays with a Peer, Parent, and Teacher. *Journal of Youth and Adolescence, 34*(4), 279-291.

Boulos, M. N., Hetherington, L., & Wheeler, S. (2007). Second Life: An overview of the potential of 3-D virtual worlds in medical and health education. *Health Information & Libraries Journal, 24*(4), 233-245.

Brace, N., Kemp, R., & Snelgar, R. (2012). *SPSS for Psychologists*. New York: Palgrave Macmillan.

Bramsen, R., Lasgaard, M., Koss, M., Elklit, A., & Banner, J. (2012). Adolescent sexual victimization: a prospective study on risk factors for first time sexual assault. *European Child and Adolescent Psychiatry, 21*(9), 521-526.

Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology, 3*(2), 77-101.

Braun, V., Terry, G., Gavey, N., & Fenaughty, J. (2009). 'Risk' and sexual coercion among gay and bisexual men in Aotearoa/New Zealand-key informant accounts. *Culture, Health and Sexuality, 11*(2), 111-124.

Breiding, M. J., Basile KC, Smith SG, Black MC, & Mahendra, R. R. (2015). *Intimate Partner Violence Surveillance: Uniform Definitions and Recommended Data Elements* Atlanta: Centers for Disease Control and Prevention.

Brownmiller, S. (2013). *Against Our Will: Men, Women and Rape*. New York: Integrated Media.

Buhi, E. R., & Goodson, P. (2007). Predictors of Adolescent Sexual Behavior and Intention: A Theory-Guided Systematic Review. *Journal of Adolescent Health, 40*(1), 4-21.

Bulu, S. T. (2012). Place presence, Social presence, Co-Presence, and Satisfaction in Virtual Worlds. *Computers & Education, 58*(1), 154-161.

Byers, S. E., & Glenn, S. A. (2012). Gender Differences and Affective Responses to Sexual Coercion. *Journal of Interpersonal Violence, 27*(5), 827-845.

Campbell, C., & Jones, S. (2008). *Using Second Life as an Educational Instructional Tool with Pre-service Education Students: A Work in Progress*. Paper presented at the World Conference on Educational Multimedia, Hypermedia and Telecommunications, Vienna, Austria.

Campbell, J. C. (2002). Health consequences of intimate partner violence. *The Lancet, 359*, 1331-1336.

Carmody, M. (2009). Conceptualising the prevention of sexual assault and the role of education. *Australian Intstitute of Family Studies*(10), 1-19.

Centers for Disease Control and Prevention. (2009). Understanding Teen Dating Violence: Fact sheet. http://www.cdc.gov/violenceprevention/pdf/TeenDatingViolence2009-a.pdf

Centers for Disease Control and Prevention. (2015). *Sexually Transmitted Disease Surveillance 2014* Atlanta: U.S. Department of Health and Human Services.

Chambers, J. (2010). *The Learning Society: Executive Summary*. San Jose, CA: Cisco Public Information.

Chase, K. A., Treboux, D., & O'leary, K. D. (2002). Characteristics of High-Risk Adolescents' Dating Violence. *Journal of Interpersonal Violence, 17*(1), 33-49.

Chen, C. H., Yang, J. C., Shen, S., & Jeng, M. C. (2007). A Desktop Virtual Reality Earth Motion System in Astronomy Education *Educational Technology & Society, 10*(3), 289-304.

Chen, J. F., Warden, C. A., Wen-Shung Tai, D., Chen, F.-S., & Chao, C.-Y. (2011). Level of abstraction and feelings of presence in virtual space: Business English Negotiation in Open Wonderland. *Computers & Education, 57*(3), 2126-2134.

Chiodo, D., Crooks, C. V., Wolfe, D. A., McIsaac, C., Hughes, R., & Jaffe, P. G. (2012). Longitudinal prediction and concurrent functioning of adolescent girls demonstrating various profiles of dating violence and victimization. *Prevention Science, 13*(4), 350-359.

Cho, B. (2015). Improving Learners' Oral Skills through Two Types of Role-play. *Scenario, 9*(1), 35-52.

Cho, Y. H., Yim, S. Y., & Paik, S. (2015). Physical and social presence in 3D virtual role-play for pre-service teachers. *The Internet and Higher Education, 25*, 70-77.

Chodos, D. (2012). *Using virtual worlds for scenario-based training.* (Doctoral), University of Alberta.

Chodos, D. (2012). *Using Virtual Worlds for Scenario-Based Training.* University of Alberta.

Chomphan, S., & Kobayashi, T. (2009). Tone correctness improvement in speaker-independent average-voice-based Thai speech synthesis. *Speech Communication, 51*(4), 330-343.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. Hillsdale, NJ: Lawrence Erlbaum.

Cohen, L., Manion, L., & & Morrison, K. (2007). *Research Methods in Education*. London: Routledge.

Cohen, L., Manion, L., & Morrison, K. (2011). *Research Methods in Education*. New York: Routledge.

Coker, A. L., Fisher, B. S., Bush, H. M., Swan, S. C., Williams, C. M., Clear, E. R., & DeGue, S. (2015). Evaluation of the Green Dot Bystander Intervention to Reduce Interpersonal Violence Among College Students Across Three Campuses. *Violence Against Women, 21*(12), 1507-1527.

Collins, W. A., & van Dulmen, M. (2006). The Course of True Love(s): Origins and Pathways in the Development of Romantic Relationships. In A. C. Crouter & A. Booth (Eds.), *Romance and sex in adolescence and emerging adulthood: Risks and opportunities* (pp. 63-86). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Collins, W. A., Welsh, D. P., & Furman, W. (2009). Adolescent Romantic Relationships. *Annual Review of Psychology, 60*, 631-652.

Connolly, J., & McIsaac. (2011). *Romantic Relationships in Adolescence*. New York: The Guildford Press.

Connolly, J., Nocentini, A., Menesini, E., Pepler, D., Craig, W., & Williams, T. S. (2010). Adolescent dating aggression in Canada and Italy: A cross-national comparison. *International Journal of Behavioral Development, 34*(2), 98-105.

Cornelius, T. L., & Resseguie, N. (2007). Primary and secondary prevention programs for dating violence: A review of the literature. *Aggression and Violent Behavior, 12*(3), 364-375.

Council of Europe Treaty Serious No.201. (2007). *Council of Europe Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse*. Lisbon: Council of Europe.

Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*. Thousand Oaks, CA: Sage.

Creswell, J. W. (2013). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks,CA: Sage.

Crossan, F. (2003). Research Philosophy: Towards an understanding. *Nurse Researcher, 11*(1), 46-55.

Curtin, N., Ward, L. M., Merriwether, A., & Caruthers, A. (2011). Femininity Ideology and Sexual Health in Young Women: A focus on Sexual Knowledge, Embodiment, and Agency. *International Journal of Sexual Health, 23*(1), 48-62.

Dalton, A., & Galambos, N. (2009). Affect and Sexual Behavior in the Transition to University. *Archives of Sexual Behavior, 38*(5), 675-687.

Dank, M., Lachman, P., Zweig, J. M., & Yahner, J. (2014). Dating violence experiences of lesbian, gay, bisexual, and transgender youth. *Journal of Youth and Adolescence, 43*(5), 846-857.

Darbes, L., Crepaz, N., Lyles, C., Kennedy, G., & Rutherford, G. (2008). The efficacy of behavioral interventions in reducing HIV risk behaviors and incident sexually transmitted diseases in heterosexual African Americans. *AIDS, 22*(10), 1177-1194.

Dawley, L., & Dede, C. (2014). Situated Learning in Virtual Worlds and Immersive Simulations. In J. M. Spector, M. D. Merrill, J. Elen & M. J. Bishop (Eds.), *Handbook of Research on Educational Communications and Technology* (pp. 723-734): Springer New York.

De Bruijn, P., Burrie, I., & Van Wel, F. (2006). A Risky Boundary: Unwanted Sexual Behaviour Among Youth. *Journal of Sexual Aggression, 12*(2), 81-96.

De Freitas, S. (2008). Serious Virtual Worlds: A Scoping Study. http://www.nmc.org/clipping/serious-virtual-worlds-a-scoping-study-pdf/

de Freitas, S., & Neumann, T. (2009). The use of 'exploratory learning' for supporting immersive learning in virtual environments. *Computers & Education, 52*(2), 343-352.

De Haas, S., Van Berlo, W., Bakker, F., & Vanwesenbeeck, I. (2012). Prevalence and Charateristics of Sexual Violence in the Netherland, the Risk of Revictimization and Pregnancy: Results from a National Population Survey. *Violence and Victims, 27*(4), 592-608.

De Koker, P., Mathews, C., Zuch, M., Bastien, S., & Mason-Jones, A. J. (2014). A Systematic Review of Interventions for Preventing Adolescent Intimate Partner Violence. *Journal of Adolescent Health, 54*(1), 3-13.

De La Rue, L., Polanin, J., Espelage, D., & Pigott, T. (2014). School-Based Interventions to Reduce Dating and Sexual Violence: A Systematic Review. *10*(7), 1-111.

Dede, C. (2009). Immersive interfaces for engagement and learning. *Science, 323*(5910), 66-69.

Deeds, D. W. (2014). *Using OpenSimulator for K-12 Schools*. Paper presented at the OpenSimulator Community Conference.

DeGue, S. (2014). Preventing Sexual Coercion on College Campuses: Lessons from Research and Practice. https://notalone.gov/assets/evidence-based-strategies-for-the-prevention-of-sv-perpetration.pdf

DeGue, S., Massetti, G. M., Holt, M. K., Tharp, A. T., Valle, L. A., Matjasko, J. L., & Lippy, C. (2013). Identifying links between sexual violence and youth violence perpetration: New opportunities for sexual violence prevention. *Psychology of Violence, 3*(2), 140-156.

DeGue, S., Valle, L. A., Holt, M. K., Massetti, G. M., Matjasko, J. L., & Tharp, A. T. (2014). A Systematic Review of Primary prevention Strategies for Sexual Violence Perpetration. *Aggression and Violent Behavior, 19*(4), 346-362.

Denmark, F., Carulli Rabinowitz, V., & Scechzer, A. (2016). *Engendering Psychology: Women and Gender Revisited*. New York: Routledge.

Department of Education. (1995). *Realtionships and Sexuality Education.Circular 2/95 to Boards of Management and Principles of National Schools.* Athlone: Department of Education.

DeWalt, K. M., & DeWalt, B. R. (2002). *Participant Observation: A Guide for Fieldworkers*. Walnut Creek, CA: Alta Mira Press.

Dickson, S., & Willis, G. M. (2015). Primary Prevention of Sexual Violence in Aotearoa New Zealand: A Survey of Prevention Activities. *Sexual Abuse: A Journal of Research and Treatment, 25*(1), 1-21.

DiClemente, R. J., Wingood, G. M., Rose, E. S., Sales, J. M., Lang, D. L., Caliendo, A. M., Hardin, J. W., & Crosby, R. A. (2009). Efficacy of sexually transmitted disease/human immunodeficiency virus sexual risk-reduction intervention for african american adolescent females seeking sexual health services: a randomized controlled trial. *Archives of Pediatrics & Adolescent Medicine, 163*(12), 1112-1121.

Dieterle, E. (2009). Neomillennial Learning Styles and River City. *Children, Youth and Environments, 19*(1), 245-278.

DiLorio, C., Dudley, W. N., Soet, J. E., & McCarty, F. (2004). Sexual possibility situations and sexual behaviors among young adolescents: the moderating role of protective factors. *Journal of Adolescent Health, 35*(6), 511-520.

Dodds, T. J., Mohler, B. J., & Bülthoff, H. H. (2011). Talk to the Virtual Hands: Self-Animated Avatars Improve Communication in Head-Mounted Display Virtual Environments. *PLoS ONE, 6*(10).

Dowd, T., & Tierney, J. (2005). *Teaching Social Skills to Youth*. Chicago: Boys Town Press.

Downey, S. (2014). History of the (Virtual) Worlds. *Journal of Technology Studies, 40*(2), 54-66.

Downs, J. S., Murray, P. J., Bruine de Bruin, W., Penrose, J., Palmgren, C., & Fischhoff, B. (2004). Interactive video behavioral intervention to reduce adolescent females' STD risk: a randomized controlled trial. *Social Science and Medicine, 59*(8), 1561-1572.

Dreher, C., Reiners, T., Dreyer, N., & Dreyer, H. (2009). Virtual Worlds as a Context Suited for Information Systems Education: Discussion of Pedagogical Experience and Curriculum Design with Reference to Second Life. *Journal of Information Systems Education, 20*(2), 211-224.

Ducheneaut, N., Wen, M.-H., Yee, N., & Wadley, G. (2009). *Body and mind: a study of avatar personalization in three virtual worlds*. Paper presented at the Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, Boston, MA, USA.

Dunkel, C. S., & Mathes, E. (2011). The Effect of Individual Differences and Manipulated Life Expectancies on the Willingness to Engage in Sexual Coercion. *Evolutionary Psychology, 9*(4), 147470491100900409.

Dutton, D. G., & Nicholls, T. L. (2005). The Gender Paradigm in Domestic Violence Research and Theory: The Conflict of Theory and Data. *Aggression and Violent Behavior, 10*(6), 680-714.

East, P., & Adams, J. (2002). Sexual Assertiveness and Adolescents' Sexual Rights. *Perspectives on Sexual and Reproductive Health, 34*(4), 1-3.

Eggarxou, D., & Psycharis, S. (2007). Teaching History Using Virtual Reality Modelling Language Model of Erechtheum. *International Journal of Education and Development using Information and Communication Technology, 3*(3), 115-121.

Eisner, E. W. (2005). *Reimagining Schools: The Selected Works of Elliot W.Eisner*. New York: Routledge.

Eschenbrenner, B., Fui-Hoon, F. N., & Siau, K. (2008). 3-D Virtual Worlds in Education: Applications, Benefits, Issues and Opportunities. *Journal of Database Management, 19*(4), 91-110.

Eskin, M. (2003). Self-reported assertiveness in Swedish and Turkish adolescents: a cross-cultural comparison. *Scandinavian Journal of Psychology, 44*(1), 7-12.

European Court of Human Rights. (2014). *O'Keefe v Ireland*. (35810/09).

European Union Fundamental Rights Agency. (2014). *Violence Against Women: An EU-Wide Survey- Main Results*. Luxemburg: Publications Office.

Falconer, L. (2013). Situated Learning in Virtual Simulations: Researching the Authentic Dimension in Virtual Worlds. *Journal of Interactive Learning Research, 24*(3), 285-300.

Faryna, E. L., & Morales, E. (2000). Self-efficacy and HIV-related risk behaviors among multiethnic adolescents. *Cultural Diversity and Ethnic Minority Psychology, 6*(1), 42-56.

Fellmeth, G. L., Heffernan, C., Nurse, J., Habibula, S., & Sethi, D. (2013). Educational and skills-based interventions for preventing relationship and dating violence in adolescents and young adults. *Cochrane Database of Systematic Reviews, 6*, 1-97.

Felson, R. B., & Cundiff, P. R. (2014). Sexual Assault as a Crime Against Young People. *Archives of Sexual Behavior, 43*(2), 273-284.

Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods, 5*(3), 1-11.

Field, A. (2006). *Discovering Statistics using SPSS*. London: Sage.

Figueredo, A. J., Hammond, K. R., & McKiernan, E. C. (2006). A Brunswikian evolutionary developmental theory of preparedness and plasticity. *Intelligence, 34*(2), 211-227.

Finkelstein, J. (2006). *Learning in Real Time:Synchronous Teaching and Learning Online*. San Francisco, CA: Jossey-Bass.

Flood, M., Fergus, L., & Heenan, M. (2009). *Respectful Relationships Education*. Melbourne: Department of Education and Early Childhood Development.

Floyd, D. P.-D., S; & Rogers, R.W. (2006). A meta-analysis of research on protection motivation theory. *Journal of Applied Social Psychology, 30*, 407-429.

Fontenot, H. B., & Fantasia, H. C. (2011). Do Women in Abusive Relationships Have Contraceptive Control? *Nursing for Women's Health, 15*(3), 239-243.

Forde, C. (2010). Addressing the needs of young people. *Youth Studies Ireland, 5*(1), 18-33.

Foshee, V. A., Benefield, T. S., Reyes, H. L., Ennett, S. T., Faris, R., Chang, L. Y., Hussong, A., & Suchindran, C. M. (2013). The peer context and the development of the perpetration of adolescent dating violence. *Journal of Youth and Adolescence, 42*(4), 471-486.

Foshee, V. A., Reyes, H., Whitaker, D. J., & Lutzker, J. R. (2009). Primary Prevention of Adolescent Dating Abuse Perpetration: When to Begin, Whom to Target, and How to Do it. In D. J. Whitaker & J. R. Lutzker (Eds.), *Preventing Partner Violence: Research and Evidence-*

Based Intervention Strategies (pp. 141-168). Washington, DC: American Psychological Association.

Foster, J. J. (2001). *Data Analysis using SPSS for Windows Versions 8 to 10*. London: Sage.

Fox, J., Bailenson, J., & Binney, J. (2009). Virtual Experiences, Physical Virtual Behaviors: The Effect of Presence on Imitation of an Eating Avatar. *Presence, 18*(4), 294-303.

Franceschi, K., Lee, R. M., Zanakis, S. H., & Hinds, D. (2009). Engaging Group E-Learning in Virtual Worlds. *Journal of Management Information Systems, 26*(1), 73-100.

Fredland, N. M., Ricardo, I. B., Campbell, J. C., Sharps, P. W., Kub, J. K., & Yonas, M. (2005). The Meaning of Dating Violence in the Lives of Middle School Adolescents. *Journal of School Violence, 4*(2), 95-114.

Fulu, E., Kerr-Wilson, A., & Lang, J. (2014). *What works to prevent violence against women and girls? Evidence Review of interventions to prevent violence against women and girls*. Pretoria, South Africa: Medical Research Council.

Gao, F., Noh, J. M., & Koehler, M. J. (2008). *Comparing Student Interactions in Second Life and Face-to-Face Role-playing Activities*. Paper presented at the Society for Information Technology & Teacher Education International Conference 2008, Las Vegas, Nevada, USA.

Gavey, N. (2013). *Just Sex?: The Cultural Scaffolding of Rape*. New York: Routledge.

Gidycz, C. A., Orchowski, L. M., Probst, D. R., Murphy, M., & Tansill, E. (2015). Concurrent Administration of Sexual Assault Prevention and Risk Reduction Programming: Outcomes for women. *Violence Against Women, 21*(6), 780-800.

Giordano, P. C., Manning, W. D., & Longmore, M. A. (2010). Affairs of the Heart: Qualities of Adolescent Romantic Relationships and Sexual Behavior. *Journal of Research on Adolescence, 20*(4), 983-1013.

Gladden, P. R., Sisco, M., & Figueredo, A. J. (2008). Sexual coercion and life-history strategy. *Evolution and Human Behavior, 29*(5), 319-326.

Glenn, A. L., Kurzban, R., & Raine, A. (2011). Evolutionary theory and psychopathy. *Aggression and Violent Behavior, 16*(5), 371-380.

Gloppen, K. M., David-Ferdon, C., & Bates, J. (2010). Confidence as a predictor of sexual and reproductive health outcomes for youth. *Journal of Adolescent Health, 46*, S42-58.

Good, A., & Abraham, C. (2011). Can the effectiveness of health promotion campaigns be improved using self-efficacy and self-affirmation interventions? An analysis of sun protection messages. *Psychology & Health, 26*(7), 799-818.

Gordon, P. (2009). *International Technical guidance on Sexuality Education*. Paris: UNESCO.

Gottfredson, D. C., Cross, A. W., D; Rorie, M., & & Connell, N. (2010). An experimental evaluation of the All Stars prevention curriculum in a community after school setting. *Prevention Science, 11*, 142-154.

Grant, S. H., H;, & Pasfield-Neofitou. (2013). Language learning in virtual worlds: The role of foreign language and technical anxiety. *Journal of Virtual Worlds Research, 6*(1), 1-8.

Graves, L. (2008). A Second Life for Higher Education. *News & World Report, 144*(2), 49-50.

Gregory, S., & Masters, Y. (2012). Real thinking with virtual hats: A role-playing activity for pre-service teachers in Second Life. *Australasian Journal of Educational Technology, 28*(3), 420-440.

Guay, F., Chanal, J., Ratelle, C. F., Marsh, H. W., Larose, S., & Boivin, M. (2010). Intrinsic, identified, and controlled types of motivation for school subjects in young elementary school children. *British Journal of Educational Psychology, 80*(4), 711-735.

Guse, K., Levine, D., Martins, S., Lira, A., Gaarde, J., Westmorland, W., & Gilliam, M. (2012). Interventions Using New Digital Media to Improve Adolescent Sexual Health: A Systematic Review. *Journal of Adolescent Health, 51*(6), 535-543.

Haberland, N., & Rogow, D. (2015). Sexuality Education: Emerging Trends in Evidence and Practice. *Journal of Adolescent Health, 56*(1), S15-S21.

Hallam, R., Grisham Brown, J., Gao, X., & Brookshire, R. (2007). The Effects of Outcomes-Driven Authentic Assessment on Classroom Quality. *Early Childhood Research & Practice, 9*(2), 1-6.

Hamieh, C., & Usta, J. (2011). *The Effects of Socialization on Gender Discrimination and Violence*. Beirut: Oxfam Research Report.

Hamilton, G., Ortega, R., Hochstetler, V., Pierson, K., Lin, P., & Lowes, S. (2014). Teaching communication skills to hospice teams: comparing the effectiveness of a communication skills laboratory with in-person, second life, and phone role-playing. *American Journal of Hospice and Palliative Care, 31*(6), 611-618.

Hargie, O. (2011). *Skilled Interpersonal Communication: Research, Theory and Practice*. New York: Routledge.

Harlow, L. L. (2010). On Scientific Research. *Journal of Modern Applied Statistical Methods, 9*(2), 348-358.

Hattie, J., & Timperley, H. (2007). The Power of Feedback. *Review of Educational Research, 77*(1), 81-112.

Hayman, S. (2011). *Assert Youself and Change Your Life*. London: Hodder Education.

Health Service Executive. (2014). *Summary of STIs in Ireland*. Dublin: Health Service Executive.

Hedges, L. V., & Olkin, I. (2014). *Statistical Methods for Meta-Analysis*. New York: Academic Press.

Hedtke, K. A., Ruggiero, K. J., Fitzgerald, M. M., Zinzow, H. M., Saunders, B. E., Resnick, H. S., & Kilpatrick, D. G. (2008). A longitudinal investigation of interpersonal violence in relation to mental health and substance use. *Journal of Consulting and Clinical Psychology, 76*(4), 633-647.

Herold, D. V. (2012). Second Life and Academia-Reframing the Debate between Supporters and Critics. *Journal of Virtual Worlds Research, 5*(1), 1-14.

Heuett, B. L., & Heuett, K. B. (2011). Virtual Reality Therapy: A Means of Reducing Public Speaking Anxiety. *International Journal of Humanities and Social Science, 1*(16).

Holmberg, K., & Huvila, I. (2008). Learning Together Apart: Distance Education in a Virtual World. http://firstmonday.org/ojs/index.php/fm/article/view/2178/2033>.

Holmes, K., & Sher, L. (2013). Dating Violence and Suicidal Behavior in Adolescents. *International Journal of Adolescent Medicine and Health, 25*(3), 257-261.

Hovsepian, S. L., Blais, M., Manseau, H., Otis, J., & Girard, M. E. (2010). Prior victimization and sexual and contraceptive self-efficacy among adolescent females under Child Protective Services care. *Health Education & Behavior, 37*(1), 65-83.

Hyde, A., Drennan, J., Howlett, E., & Brady, D. (2008). Heterosexual Experiences of Secondary School Pupils in Ireland: Sexual Coercion in Context. *Culture Health & Sexuality, 10*(5), 479-493.

Hyde, A. H., E. (2004). *Understanding Teenage Sexuality in Ireland*. Dublin: Crisis Pregnancy Agency.

Inman, C., Wright, V. H., & Hartman, J. A. (2010). Use of Second Life in K-12 and higher education: A review of research. *Journal of Interactive Online Learning, 9*(1), 44-63.

Ito, K. E., Kalyanaraman, S., Ford, C. A., Brown, J. D., & Miller, W. C. (2008). "Let's Talk About Sex": Pilot Study of an Interactive CD–ROM to Prevent HIV/STIS in Female Adolescents. *AIDS Education and Prevention, 20*(1), 78-89.

Jamaludin, A., Chee, Y. S., & Ho, C. M. L. (2009). Fostering argumentative knowledge construction through enactive role play in Second Life. *Computers & Education, 53*(2), 317-329.

Jarmon, L., Lim, K., Carpenter, B., & (2009). Introduction: Pedagogy, Education and Innovation in Virtual Worlds. *Journal for Virtual Worlds Research, 2*(1), 1-12.

Jarmon, L., Traphagan, T., Mayrath, M., & Trivedi, A. (2009). Virtual World Teaching, Experiential Learning, and Assessment: An Interdisciplinary Communication Course in Second Life. *Computers & Education, 53*(1), 169-182.

Joffe, H. (2012). Thematic Analysis. In D. Harper & A. Thompson (Eds.), *Qualitative Research Methods in Mental Health and Psychotherapy: A Guide for Students and Practitioners* (pp. 209-223). Chicester: Wiley-Blackwell.

Jones, J. G. (2005). *Accelerating Online Discourse via 3D Online Learning Environments*. Paper presented at the ACM SIGGRAPH Educators Program, Los Angeles, California.

Jones, K. A., Cornelius, M. D., Silverman, J. G., Tancredi, D. J., Decker, M. R., Haggerty, c. L., De Genna, N. M., & Miller, E. (2016). Abusive Experiences and Young Women's Sexual Health Outcomes: Is Condom Negotiation Self-Efficacy a Mediator? *Perspectives on Sexual and Reproductive Health, 48*(2), 57-64.

Joo, Y. J., Lim, K. Y., & Kim, J. (2013). Locus of control, self-efficacy, and task value as predictors of learning outcome in an online university context. *Computers & Education, 62*, 149-158.

Jouriles, E. N., Garrido, E., Rosenfield, D., & McDonald, R. (2009). Experiences of psychological and physical aggression in adolescent romantic relationships: links to psychological distress. *Child Abuse and Neglect, 33*(7), 451-460.

Jouriles, E. N., McDonald, R., Kullowatz, A., Rosenfield, D., Gomez, G. S., & Cuevas, A. (2009). Can Virtual Reality Increase the Realism of Role Plays Used to Teach College Women Sexual Coercion and Rape-Resistance Skills? *Behavior Therapy, 40*(4), 337-345.

Kalichman, S. (2014). *Preventing AIDS: A Sourcebook for Behavioral Interventions*. New York: Psychology Press.

Katz, J., May, P., Sorensen, S., & DelTosta, J. (2010). Sexual revictimization during women's first year of college: self-blame and sexual refusal assertiveness as possible mechanisms. *Journal of Interpersonal Violence, 25*(11), 2113-2126.

Kelly, L. (2013). *Surviving Sexual Violence*. Oxford: Polity Press.

Kim, C., Lee, S.-G., & Kang, M. (2012). I became an attractive person in the virtual world: Users' identification with virtual communities and avatars. *Computers in Human Behavior, 28*(5), 1663-1669.

King, S., Chodos, D., Stroulia, E., Carbonaro, M., MacKenzie, M., Reid, A., Torres, L., & Greidanus, E. (2012). Developing interprofessional health competencies in a virtual world. *Medical Education Online, 17*, 1-11.

Kirby, D. B., Laris, B. A., & Rolleri, L. A. (2007). Sex and HIV Education Programs: Their Impact on Sexual Behaviors of Young People Throughout the World. *Journal of Adolescent Health, 40*(3), 206-217.

Kluge, S., & Riley, L. (2008). Teaching in virtual worlds: opportunities and challenges. *Issues in Informing Science and Information Technology, 5*, 127-135.

Kolb. (2011). Self-efficacy: A necessary social skills curricula component. *Journal of Emerging Trends in Educational Research and Policy Studies, 2*(4), 206-210.

Kolb, A. Y., & Kolb, D. A. (2005). Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education. *Academy of Management Learning & Education, 4*(2), 193-212.

Kolb, D. A. (1984). *Experiential Learning*. Englewood Cliffs, NJ: Prentice Hall.

Kolb, D. A. (2014). *Experiential Learning: Experinces as the Source of Learning and Development*.

Korolov, M. (2013). Outrage Grows Over New Second Life Terms. *Hypergrid Business* www.hypergridbusiness.com/2013/09/outrage-grows-over-new-second-life-terms/

Kotzman, M., & Kotzman, A. (2008). *Listen to Me, Listen to You: A Step by Step Guide to Communication Skills Training*. Victoria: Australian Council for Educational Research.

Krahé, B., Tomaszewska, P., Kuyper, L., & Vanwesenbeeck, I. (2014). Prevalence of sexual aggression among young people in Europe: A review of the evidence from 27 EU countries. *Aggression and Violent Behavior, 19*(5), 545-558.

Kwon, J. H., Powell, J., & Chalmers, A. (2013). How level of realism influences anxiety in virtual reality environments for a job interview. *International Journal of Human-Computer Studies, 71*(10), 978-987.

KZero. (2011). Slidshare Universal Presentations http://www.kzero.co.uk/blog/?p=4599

Lalumiere, M. L., Harris, G., Quinsey, V. L., & Rice, M. E. (2005). *The Cause of Rape*. Washington DC: American Psychological Association Press.

Lave, J., & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*. Cambridge, UK: Cambridge University Press.

Lawson, T. J., McDonough, T. A., & Bodle, J. H. (2010). Confronting Prejudiced Comments: Effectiveness of a Role-Playing Exercise. *Teaching of Psychology, 37*, 257-261.

Layte, R., McGee, H., Quail, A., Rundle, K., Cousins, G., Donnelly, C., Mulcahy, F., & & Conroy, R. (2006). *The Irish Study of Sexual Health and Relationships*. Dublin: Crisis Pregnancy Agency and Department of Health and children.

Leaper, C., & Ayres, M. M. (2007). A Meta-Analytic Review of Gender Variations in Adults' Language Use: Talkativeness, Affiliative Speech, and Assertive Speech. *Personality and Social Psychology Review, 11*(4), 328-363.

Lee, M. J. W., Dalgarno, B., Gregory, S., Carlson, L., & Tyanan, B. (2013). How Are Australian and New Zealand Higher Educators Using 3D Immersive Virtual Worlds. In B. Tynan, J. Willems & R. James (Eds.), *Outlooks and Opportunities in Blended and Distance Learning* (pp. 169-188). USA: IGI Global.

Lee, S. (2013). Can Speaking Activities of Residents in a Virtual World Make a Difference to their Self-Expressions. *Educational Technology & Society, 16*(1), 254-262.

Lehrer, J. A., Lehrer, E. L., & Koss, M. P. (2013). Unwanted sexual experiences in young men: evidence from a survey of university students in Chile. *Archives of Sexual Behavior, 42*(2), 213-223.

Lenhart, A., Kahne, J., & Middaugh, E. (2010). Teens, Video Games, and Civics: Teen's gaming experiences are diverse and include significant social interaction and civic engagement. http://www.pewinternet.org/Reports/2008/Teens-video-Games-and_Civics.aspx

Leung, F. H., Martin, D., & Batty, H. (2009). A theory-based curriculum design for remediation of residents' communication skills. *Medical Teacher, 31*(12), e555-559.

Lincoln, Y. S., & Guba, E. G. (2013). *The Constructivist Credo*. Walnut Creek, CA: Left Coast Press.

Linnenbrink, E. A., & Pintrich, P. R. (2003). The Role of Self-Efficacy Beliefs In Student Engagement and Learning in the Classroom. *Reading & Writing Quarterly, 19*(2), 119-137.

Livingston, J. A., Testa, M., & VanZile-Tamsen, C. (2007). The Reciprocal Relationship Between Sexual Victimization and Sexual Assertiveness. *Violence Against Women, 13*(3), 298-313.

Lombard, M., & Jones, M. T. (2015). Defining Presence. In F. B. M.Lombard, J. Freeman, W. Jesselstein, R. J. Schaevitz (Ed.), *Immersed in Media* (pp. 13-34). USA: Springer International Publishing.

Lundgren, R., & Amin, A. (2015). Addressing Intimate Partner Violence and Sexual Violence Among Adolescents: Emerging Evidence of Effectiveness. *Journal of Adolescent Health, 56*(2), S42-S50.

Mack, L. (2010). The philosophical underpinnings of educational research. *Polyglossia, 19*, 5-11.

Mackey, a., & Gass, S. (2005). *Second Language Research: Methodology and Design*. New Jersey: Lawrence Erlbaum Associates.

Maddux, J. E. (2009). Self-Efficacy: The Power of Believing You Can. In S. J. Lopez & C. R. Sidney (Eds.), *The Oxford Handbook of Positive Psychology*. Oxford: Oxford University Press.

Maree, K. (2007). *First Steps in Research*. Pretoria: Van Schaik.

Martín, A. F., Baz, M. B. O., Vicario-Molina, I., Álvarez, J. L. M., Fuertes, A. F., & González, R. J. C. (2012). Assessment of a Sexual Coercion Prevention Program for Adolescents. *The Spanish Journal of Psychology, 15*(2), 560-570.

Mayock, P., Kitching, K., Morgan, M., Crisis Pregnancy Agency (Ireland), & Ireland. Dept. of Education and Science. (2007). *Relationships and sexuality education (RSE) in the context of social, personal and health education (SPHE) : an assessment of the challenges to full implementation of the programme in post-primary schools*. Dublin: Crisis Pregnancy Agency.

McCoy, K., & Oelshlager, J. (2015). Sexual Coercion: Knowing the Facts and Protecting Yourself www.fit.edu/caps/document/sexualcoercion_000.pdf

McElroy, W. (2016). *Rape Culture Hysteria: Fixing the Damage done to Men and Women*. New York: CreateSpace Independent Publishing Platform.

McWhirter, J. J., McWhirter, B. T., & McWhirter, E. H. (2013). *At Risk Youth: A Comprehensive Response for Counselors, Teachers, Psychologists, and Human Service Professionals*. California: Brooks/Cole.

Mellor, D., & Moore, K. A. (2014). The use of Likert scales with children. *Journal of Pediatric Psychology, 39*(3), 369-379.

Mennecke, B. E., Triplett, J. L., Hassall, L. M., Conde, Z. J., & Heer, R. (2011). An Examination of a Theory of Embodied Social Presence in Virtual Worlds. *Decision Sciences, 42*(2), 413-450.

Mercer Kollar, L. M., Davis, T. L., Monahan, J. L., Samp, J. A., Coles, V. B., Bradley, E. L., Sales, J. M., Comer, S. K., Worley, T., et al. (2016). Do As I Say: Using Communication Role-Plays to Assess Sexual Assertiveness Following an Intervention. *Health Education & Behavior*.

Mertens, D. M. (2010). *Research Evaluation in Education and Psychology*. London: Sage.

Mikropoulos, T. A., & Natsis, A. (2011). Educational virtual environments: A ten-year review of empirical research (1999–2009). *Computers & Education, 56*(3), 769-780.

Minocha, S., & Hardy, C. (2016). Designing for Navigation and Wayfinding in 3D Virtual Learning Spaces. In S.Gregory, S.M. Lee, B. Dalgarno & B.Tynan (Eds.), *Learning in Virtual Worlds: Research and Applications.* (pp. 3-41). Edmonton: Athabasca University Press.

Minocha, S., Tran, M., & Reeves, A. J. (2010). Conducting empirical Research in Virtual Worlds: Experiences from two projects in Second Life. *Journal of Virtual Worlds Research, 3*(1), 4-21.

Morrison-Beedy, D. (2012). Communication Strategies to Facilitate Difficult Conversations about Sexual risk in Adolescent Girls. *Clinical Communication, 19*(2), 60-74.

Mount, N. J., Chambers, C., Weaver, D., & Priestnall, G. (2009). Learner immersion engagement in the 3D virtual world: principles emerging from the DELVE project. *Innovation in Teaching and Learning in Infomation and Computer Sciences, 8*(3), 40-55.

Muijs, D. (2010). *Doing Quantitative Research in Education with SPSS*. London: Sage.

Muijs, D., & Reynolds, D. (2013). *Effective Teaching: Evidence and Practice*. London: Sage.

Mulford, C., & Giordano, P. (2008). Teen Dating Violence: A Closer Look at Adolescent Romantic Relationships. *National Institute of Justice Journal, 261*, 34–40.

Muller, M. N., Emery Thomspon, M., & Wrangham, R. W. (2009). *Male Chimpanzees Prefer Mating with Old Females* (Vol. 16).

Munoz-Rivas, M. J., Gamez-Guadix, M., Grana, J. L., & Fernandez, L. (2010). Relationship between dating violence and use of alcohol and illegal drugs in Spanish adolescents and young adults. *Adicciones, 22*(2), 125-133.

Munoz-Rivas, M. J., Grana, J. L., O'Leary, K. D., & Gonzalez, M. P. (2009). Prevalence and predictors of sexual aggression in dating relationships of adolescents and young adults. *Psicothema, 21*(2), 234-240.

Nangle, D. w., Hansen, D. J., & Erdley, C. A. (2010). *Practitioner's Guide to Empirically Based Measures of Social Skills*. New York: Springer.

Nation, M., Crusto, C., Wandersman, A., Kumpfer, K. L., Seybolt, D., Morrissey-Kane, E., & Davino, K. (2003). What works in prevention: Principles of effective prevention programs. *American Psychologist, 58*(6), 449-456.

Nichols, T., Birnel, S., Graber, J., Brooks-Gunn, J., & Botvin, G. (2010). Refusal Skill Ability: An Examination of Adolescent Perceptions of Effectiveness. *The Journal of Primary Prevention, 31*(3), 127-137.

Noar, S. M., Black, H. G., & Pierce, L. B. (2009). Efficacy of computer technology-based HIV prevention interventions: a meta-analysis. *AIDS, 23*(1), 107-115.

Noll, J. G., & Grych, J. H. (2011). Read-React-Respond: An Integrative Model for Understanding Sexual Revictimization. *Psychology of Violence, 1*(3), 202-215.

O'Keefe, S., McGrath, D., & Smith, M. (2006). *Crisis Pregnancy Agency Statistical Report 2006: Revised Teenage Pregnancy Data*. Dublin: Liffey Press.

O'Leary, K. D., Smith Slep, A. M., Avery-Leaf, S., & Cascardi, M. (2008). Gender differences in dating aggression among multiethnic high school students. *Journal of Adolescent Health, 42*(5), 473-479.

O'Leary, K. D., Woodin, E. M., & Fritz, P. A. T. (2006). Can We Prevent the Hitting? Recommendations for Preventing Intimate Partner Violence Between Young Adults. *Journal of Aggression, Maltreatment & Trauma, 13*(3-4), 121-178.

Ogden, J. (2012). *Health Psychology: A Textbook*. New York: McGraw-Hill.

Olsen, W. (2004). Triangulation in Social Research: Qualitative and Quantitive Methods Can Really Be mixed. In M. Olborn (Ed.), *Developments in Sociology* (pp. 2-30). Ormskirk: Causeway Press.

Onwuegbuzie, A. J., & Leech, N. L. (2005). On Becoming a Pragmatic Researcher: The Importance of Combining Quantitative and Qualitative Research Methodologies. *International Journal of Social Research Methodology, 8*(5), 375-387.

Pacifici, C., Stoolmiller, M., & Nelson, C. (2001). Evaluating a prevention program for teenagers on sexual coercion: A differential effectiveness approach. *Journal of Consulting and Clinical Psychology, 69*(3), 552-559.

Pallant, J. (2007). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using IBM Spss* Philadelphia: Open University Press.

Park, K. M., Ku, J., Choi, S. H., Jang, H. J., Park, J. Y., Kim, S. I., & Kim, J. J. (2011). A virtual reality application in role-plays of social skills training for schizophrenia: a randomized, controlled trial. *Psychiatry Research, 189*(2), 166-172.

Parson, V., & Bignell, S. (2011). Using Problem-Based learning within 3D virtual worlds. In R. Hinrichs & C. Wankle (Eds.), *Transforming Virtual World Learning* (pp. 241-261). Leeds: Emerald Group Publishing Limited.

Parsons, S., Leonard, A., & Mitchell, P. (2006). Virtual environments for social skills training: comments from two adolescents with autistic spectrum disorder. *Computers & Education, 47*(2), 186-206.

Passarelli, A. M., & Kolb, D. A. (2011). The Learning Way: Learning from Experience as the Path to Lifelong Learning and Development. In M. London (Ed.), *The Oxford Handbook of Lifelong Learning*.

Pedlow, C. T., & Carey, M. P. (2004). Developmentally appropriate sexual risk reduction interventions for adolescents: rationale, review of interventions, and recommendations for research and practice. *Annals of Behavioral Medicine, 27*(3), 172-184.

Peneva, I., & Mavrodiev, S. (2013). A Historical Approach to Assertiveness. *Psychological Thought, 6*(1), 3-26.

Penfold, P., & Duffy, P. (2009). A Second Life First Year Experience. *Journal of Virtual World Research, 2*(3-15).

Persky, S., Kaphingst, K. A., McCall, C., Lachance, C., Beall, A. C., & Blascovich, J. (2009). Presence Relates to Distinct Outcomes in Two Virtual Environments Employing Different Learning Modalities. *CyberPsychology & Behavior, 12*(3), 263-268.

Peskin, M. F., Shegog, R., Markham, C. M., Thiel, M., Baumler, E. R., Addy, R. C., Gabay, E. K., & Emery, S. T. (2015). Efficacy of It's Your Game-Tech: A Computer-Based Sexual Health Education Program for Middle School Youth. *Journal of Adolescent Health, 56*(5), 515-521.

Peterson, M. (2006). Learner Interaction Management in an Avatar and Chat-Based Virtual World. *Computer Assisted Language Learning, 19*(1), 79-103.

Platt, J. J., & Busby, D. M. (2009). Male Victims: The Nature and Meaning of Sexual Coercion. *The American Journal of Family Therapy, 37*(3), 217-226.

Polvinen, E. (2007). *Educational Simulations in Second Life for Fashion Technology Students.* Paper presented at the Proceedings of the Second Life Education Workshop at SLCC, Chicago, San Francisco.

Poobalan, A. S., Pitchforth, E., Imamura, M., Tucker, J. S., Philip, K., Spratt, J., Mandava, L., & van Teijlingen, E. (2009). Characteristics of effective interventions in improving young people's sexual health: a review of reviews. *Sex Education, 9*(3), 319-336.

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon, 9*(5), 1-6.

Raghupathy, S., Klein, C., & Card, J. (2013). Online Activities for Enhancing Sex Education Curricula: Preliminary Evidence on the Effectiveness of the Abstinence and Contraception Education Storehouse. *Journal of HIV/AIDS & Social Services, 12*(2), 160-171.

Rape Crisis Network Ireland. (2010). *What Does the Research and Data tell us about Male Victims of Rape in an Irish Context*. Dublin: Rape Crisis Network Ireland.

Rape Crisis Network Ireland. (2014). *National Rape Crisis Statistics*. Ireland: Rape Crisis Network Ireland.

Rape Crisis Network Ireland. (2014). *RCNI submission on the National Strategy on GBV 2015-2020*. Dublin: Rape Crisis Network Ireland.

Razali, N. M., & Wal, Y. B. (2011). Power Comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and Anderson-Darling Tests. *Journal of Statistical Modeling and Analytics, 2*(1), 21-33.

Rea, L. M., & Parker, R. A. (2014). *Designing and Conducting Survey Research: A Comprehensive Guide*. San Francisco, CA: Jossey-Bass.

Richardson, A., Hazzard, M., Challman, S. D., Morgenstein, A. M., & Brueckner, J. K. (2011). A "Second Life" for Gross Anatomy: Applications for Multiuser Virtual Environments in Teaching the Anatomical Sciences. *Anatomical Sciences Education, 4*(1), 39-43.

Rickert, V. I., Sanghvi, R., & Wiemann, C. M. (2002). Is lack of sexual assertiveness among adolescent and young adult women a cause for concern? *Perspectives on Sexual and Reproductive Health, 34*(4), 178-183.

Rijsdijk, L. E., Bos, A. E., Ruiter, R. A., Leerlooijer, J. N., de Haas, B., & Schaalma, H. P. (2011). The World Starts With Me: A multilevel evaluation of a comprehensive sex education programme targeting adolescents in Uganda. *BMC Public Health, 11*(1), 1-12.

Robb, A., White, C., Cordar, A., Wendling, A., Lampotang, S., & Lok, B. (2015). A comparison of speaking up behavior during conflict with real and virtual humans. *Computers in Human Behavior, 52*(C), 12-21.

Robertson, J., & Good, J. (2003). Using a Collaborative Virtual Role-Play Environment to Foster Characterisation in Stories. *Journal of Interactive Learning Research, 14*(1), 5-29.

Robinson, M. (2008). Digital Nature and Digital Nurture: Libraries, Learning and the Digital Native. *Library Management, 29*(2), 67-76.

Robson, C. (2007). *Real World Research*. Oxford: Blackwell.

Roessger, K. M. (2012). Toward an Interdisciplinary Perspective: A Review of Adult Learning Frameworks and Theoretical Models of Motor Learning. *Adult Education Quarterly, 62*(4), 371-392.

Rostosky, S. S., Dekhtyar, O., Cupp, P. K., & Anderman, E. M. (2008). Sexual self-concept and sexual self-efficacy in adolescents: a possible clue to promoting sexual health? *Journal of Sex Research, 45*(3), 277-286.

Rothman, E. F., Exner, D., & Baughman, A. (2011). The prevalence of sexual assault against people who identify as Gay, Lesbian or Bisexual in the United States: A systematic review. *Trauma Violence Abuse, 12*(2), 55-66.

Rowe, L. S., Jouriles, E. N., & McDonald, R. (2015). Reducing Sexual Victimization Among Adolescent Girls: A Randomized Controlled Pilot Trial of My Voice, My Choice. *Behavior Therapy, 46*(3), 315-327.

Rubin, H. J., & Rubin, I. S. (2005). *Qualitative Interviewing: The Art of Hearing Data*. London: Sage.

Salmon, G., Nie, M., & Edirisingha, P. (2010). Developing a five-stage model of learning in Second Life. *Educational Research, 52*(2), 169-182.

Sanchez, J. (2009). Pedagogical applications of Second Life. *Library Technology Reports, 45*(2), 21-28.

Santelli, J. S., Kaiser, J., Hirsch, L., Radosh, A., Simkin, L., & Middlestadt, S. (2004). Initiation of sexual intercourse among middle school adolescents: the influence of psychosocial factors. *Journal of Adolescent Health, 34*(3), 200-208.

Santos-Iglesias, P., Sierra, J. C., & Vallejo-Medina, P. (2013). Predictors of sexual assertiveness: the role of sexual desire, arousal, attitudes, and partner abuse. *Archives of Sexual Behavior, 42*(6), 1043-1052.

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research Methods for Business Students*. London: Sage.

Schewe, P. A. (2008). Interventions to Prevent Sexual Violence. In L. Doll, S. Bonzo, D. Sleet & J. Mercy (Eds.), *Handbook of Injury and Violence Prevention*. Atlanta, GA: Centers for Disease Control and Prevention.

Schinke, S. P., Fang, L., & Cole, K. C. (2009). Computer-Delivered, Parent-Involvement Intervention to Prevent Substance Use among Adolescent Girls. *Preventive Medicine, 49*(5), 429-435.

Schmid, A., Leonard, N. R., Ritchie, A. S., & Gwadz, M. V. (2015). Assertive Communication in Condom Negotiation: Insights From Late Adolescent Couples' Subjective Ratings of Self and Partner. *Journal of Adolescent Health, 57*(1), 94-99.

Schmider, E., Ziegler, M., Danay, E., Beyer, L., & Bühner, M. (2010). Is It Really Robust? *Methodology, 6*(4), 147-151.

Schry, A. R., & White, S. W. (2013). Sexual Assertiveness Mediates the Effect of Social Interaction Anxiety on Sexual Victimization Risk Among College Women. *Behavior Therapy, 44*(1), 125-136.

Schubert, K. (2015). Building a Culture of Health: Promoting Healthy Relationships and Reducing Teen Dating Violence. *Journal of Adolescent Health, 56*(2), S3-S4.

Schunk, D. H., & Meece, J. L. (2005). Self-Efficacy Development in Adolescents. In F. Pajares & T. Urdan (Eds.), *Self-Efficacy Beliefs of Adolescents* (pp. 71-96). Santa Clara: Information Age Publishing.

Schwandt, T. A. (2000). Three Epistemological Stances for Qualitative Inquiry: Interpretivism, Hermeneutics, and Social Construction. In N.K.Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 189-213). Thousand Oaks, CA: Sage.

Schwarzer, R. (2014). *Self-Efficacy: Thought Control of Action*. New York: Routledge.

Schwienhorst, K. (2002). Why Virtual, Why Environments? Implementing Virtual Reality Concepts in Computer-Assisted Language Learning. *Simulation & Gaming, 33*(2), 196-209.

Sears, H. A., Sandra Byers, E., & Lisa Price, E. (2007). The co-occurrence of adolescent boys' and girls' use of psychologically, physically, and sexually abusive behaviours in their dating relationships. *Journal of Adolescence, 30*(3), 487-504.

Second Life. (2015). Private Region Pricing https://secondlife.com/land/privatepricing.php

Selkie, E. M., Benson, M., & Moreeno, M. (2011). Adolescents' Views Regarding Uses of Social Networking Websites and Text Messaging for Adolescent Sexual Health Education. *American Journal of Health Education, 42*(4), 205-212.

Simpson Rowe, L., Jouriles, E. N., McDonald, R., Platt, C. G., & Gomez, G. S. (2012). Enhancing women's resistance to sexual coercion: a randomized controlled trial of the DATE program. *Journal of American College Health, 60*(3), 211-218.

Sims, E. M. (2007). Reusable, lifelike virtual humans for mentoring and role-playing. *Computers & Education, 49*(1), 75-92.

Slater, M. (1999). Measuring Presence: A Response to the Witmer and Singer Presence Questionnaire. *Presence: Teleoperators and Virtual Environments, 8*(5), 560-565.

Slater, M. (2009). Place illusion and plausibility can lead to realistic behaviour in immersive virtual environments. *Philosophical Transactions of the Royal Society B: Biological Sciences, 364*(1535), 3549-3557.

Slavich, G. M., & Zimbardo, P. G. (2012). Transformational Teaching: Theoretical Underpinnings, Basic Principles, and Core Methods. *Educational Psychology Review, 24*(4), 569-608.

Sogunro, O. A. (2004). Efficacy of role-playing pedagogy in training leaders: some reflections. *Journal of Management Development, 23*(4), 355-371.

Sohr-Preston, S. L., Scaramella, L. V., Martin, M. J., Neppl, T. K., Ontai, L., & Conger, R. (2013). Parental socioeconomic status, communication, and children's vocabulary development: a third-generation test of the family investment model. *Child Development, 84*(3), 1046-1062.

Stoerger, S. (2010). Creating a Virtual World Mindset: A Guide for First Time Second Life Teachers. *International Journal of E-Learning & Distance Education, 24*(3), 1-18.

Suter, G. W., 2nd, & Cormier, S. M. (2013). Pragmatism: A practical philosophy for environmental scientists. *Integrated Environmental Assessment and Management, 9*(2), 181-184.

Suvivuo, P., Tossavainen, K., & Kontula, O. (2009). Contraceptive use and non-use among teenage girls in a sexually motivated situation. *Sex Education, 9*(4), 355-369.

Tapsis, N., & Tsolakidis, K. (2015). Educational Communication in Virtual Worlds and Videoconference. *International Journal of Emerging Technologies in Learning, 10*, 431-442.

Taylor, B., Stein, N. D., Woods, D., & Mumford, E. (2011). Shifting Boundaries: Final Report on an Experimental Evaluation of a Youth Dating Violence Prevention Program in New York City Middle Schools https://www.ncjrs.gov/pdffiles1/nij/grants/236175.pdf

Taylor, B. G., & Mumford, E. A. (2014). A National Descriptive Portrait of Adolescent Relationship Abuse: Results From the National Survey on Teen Relationships and Intimate Violence. *Journal of Interpersonal Violence, 31*(6), 963-988.

Taylor, B. G., Stein, N. D., Mumford, E. A., & Woods, D. (2013). *Prevention Science, 14*(1), 64.

Taylor, L., & Parsons, J. (2011). Improving Student Engagement. *Current Issues in Education, 14*(1), 1-33.

Taylor, P. C., & Medina, M. N. (2013). Educational Research Paradigms: From Positivism to Multiparadigmatic. *The Journal of Meaning-Centered Education, 1*(2), 1-17.

Teddlie, C., & Tashakkori, A. (2010). *Overview of Contemporary Issues in Mixed Methods Research*. California: Sage.

Teng, Y., & Mak, W. W. S. (2011). The role of planning and self-efficacy in condom use among men who have sex with men: An application of the Health Action Process Approach model. *Health Psychology, 30*(1), 119-128.

Tharp, A. T., Burton, T., Freire, K., Hall, D. M., Harrier, S., Latzman, N. E., Luo, F., Niolon, P. H., Ramirez, M., et al. (2011). Dating Matters: Strategies to Promote Healthy Teen Relationships. [Article]. *Journal of Women's Health, 20*(12), 1761-1765.

The National Office for the Prevention of Domestic Sexual and Gender-Based Violence. (2012). *Awareness Raising of Domestic and Sexual Violence: A Survey of Post-Primary Schools in Ireland*. Dublin: COSC.

Thompson, R. J., & Berenbaum, H. (2011). Adaptive and Aggressive Assertiveness Scales (AAA-S). *Journal of Psychopathology and Behavioral Assessment, 33*(3), 323-334.

Thornhill, R., & Palmer, C. T. (2001). *A Natural History of Rape*. Cambridge MA: The MIT Press.

Tolman, D. L., Spencer, R., Rosen-Reynoso, M., & Porche, M. V. (2003). Sowing the Seeds of Violence in Heterosexual Relationships: Early Adolescents Narrate Compulsory Heterosexuality. *Journal of Social Issues, 59*(1), 159-178.

Tsai, C. C., Chuang, S. C., Liang, J. C., & Tsai, M. J. (2011). Self-Efficacy in Internet-Based Learning Environments: A Literature Review. *Educational Technology & Society, 14*(4), 222-240.

Turchik, J. A., Hebenstreit, C. L., & Judson, S. S. (2016). An Examination of the Gender Inclusiveness of Current Theories of Sexual Violence in Adulthood: Recognizing Male Victims, Female Perpetrators, and Same-Sex Violence. *Trauma Violence Abuse, 17*(2), 133-148.

Twining, P. (2009). Exploring the educational potential of virtual worlds:Some reflections from the SPP. *British Journal of Educational Technology, 40*(3), 496-514.

Tyler, K. A., & Melander, L. A. (2012). Individual and Social Network Sexual Behavior Norms of Homeless Youth at High Risk for HIV Infection. *Children and Youth Services Review, 34*(12), 2481-2486.

UNESCO. (2009). *International Technical Guidance on Sexuality Education: an evidence-informed approach for school, teachers and health educators*. France: UNESCO.

UNICEF. (2011). *Changing the future: experiencing adolescence in Contemporary Ireland: Sexual Health and Behaviour* Dublin: UNICEF

Union of Students in Ireland. (2013). *Say Something*. Dublin: COSC.

United Nations. (1989). *Convention on the Rights of the Child*. Geneva: United Nations.

United Nations. (2012). *Monitoring of Population Programmes Focusing on Adolescent and Youth*. Geneva: United Nations.

Vagos, P., & Pereira, A. (2010). A Proposal for Evaluating Cognition in Assertiveness. *Psychological Assessment, 22*(3), 657-665.

Vallance, A. K., Hemani, A., Fernandez, V., Livingstone, D., McCusker, K., & Toro-Troconis, M. (2014). Using virtual worlds for role play simulation in child and adolescent psychiatry: an evaluation study. *The Psychiatric Bulletin, 38*(5), 204-210.

Van Berlo, W., & Hoing, M. (2006). Sexual Victimization. In F. Bakker & I. Vanwesenbeeck (Eds.), *Sexual Health in the Netherlands* (pp. 139-155). Delft: Eburon.

Van Camp, T., Hébert, M., Guidi, E., Lavoie, F., Blais, M., & the members of the, P. A. J. T. (2014). Teens' Self-Efficacy to Deal with Dating Violence as Victim, Perpetrator or Bystander. *International review of victimology, 20*(3), 289-303.

Vasileiou, V. N. P., F. (2010). Teaching Role-Playing Instruction in Second Life: an Exploratory Study. *Journal of Information,Information Technology, and Organizations, 5*, 25-50.

Vezina, J., & Hebert, M. (2007). Risk factors for victimization in romantic relationships of young women: a review of empirical studies and implications for prevention. *Trauma Violence Abuse, 8*(1), 33-66.

von der Putten, A. M., Kramer, N. C., Gratch, J., & Kang, S. H. (2010). "It doesn't matter what you are!" Explaining social effects of agents and avatars. *Computers in Human Behavior., 26*(6), 1641-1650.

Walby, S. (1990). *Theorizing Patriarchy*. Oxford: Blackwell.

Walker, D. P., & Messman-Moore, T. L. (2011). Number of Sexual Partners and Sexual Assertiveness Predict Sexual Victimization: Do More Partners Equal More Risk? *Violence and Victims, 26*(6), 774-787.

Walker, V. (2009). 3D virtual learning in counselor education: Using Second Life in counselor skill development. *Journal for Virtual Worlds Research, 2*(1), 3-12.

Wang, M., Lawless-Reljic, S., Davies, M., & Callaghan. (2011). Social Presence in Immersive 3D Virtual Learning Environments. In P. Novais (Ed.), *Ambient Intelligence: Software and Applications* (pp. 59-67). Berlin: Springer-Verlag.

Warburton, S. (2009). Second Life in higher education: Assessing the potential for and the barriers to deploying virtual worlds in learning and teaching. *British Journal of Educational Technology, 40*(3), 414-426.

Warburton, S., & Perez Garcia, M. (2016). Analysing teaching practices in Second Life: A design taxonomy for the implementations of workshos in virtual worlds. In S. Gregory, M.W. Lee, B. Dalgarno & B. Tynan (Eds.), *Learning in Virtual Worlds: Research and Applications* (pp. 193-227). Canada: Athabasca University Press.

Ward, T., & Siegert, R. (2002). Rape and evolutionary psychology: a critique of Thornhill and Palmer's theory. *Aggression and Violent Behavior, 7*(2), 145-168.

Wäschle, K., Allgaier, A., Lachner, A., Fink, S., & Nückles, M. (2014). Procrastination and self-efficacy: Tracing vicious and virtuous circles in self-regulated learning. *Learning and Instruction, 29*, 103-114.

Weaver, H., Smith, G., & Kippax, S. (2005). School-based sex education policies and indicators of sexual health among young people: a comparison of the Netherlands, France, Australia and the United States. *Sex Education, 5*(2), 171-188.

Welsh, D., Haugen, P., Widman, L., Darling, N., & Grello, C. (2005). Kissing is good: A developmental investigation of sexuality in adolescent romantic couples. *Sexuality Research & Social Policy, 2*(4), 32-41.

Whitaker, D. J., Morrison, S., Lindquist, C., Hawkins, S. R., O'Neil, J. A., Nesius, A. M., Mathew, A., & Reese, L. R. (2006). A critical review of interventions for the primary prevention of perpetration of partner violence. *Aggression and Violent Behavior, 11*(2), 151-166.

Whitaker, D. J., Murphy, C. M., Eckhardt, C. I., Hodges, A. E., & Cowart, M. (2013). Effeciveness of Primary Prevention Efforts for Intimate Partner Violence. *Partner Abuse, 4*(2), 175-195.

Wiecha, J., Heyden, R., Sternthal, E., & Merialdi, M. (2010). Learning in a Virtual World: Experience With Using Second Life for Medical Education. *Journal of Medical Internet Research, 12*(1), 1-17.

Williams, C. M., Larsen, U., & McCloskey, L. A. (2008). Intimate Partner Violence and Women's Contraceptive Use. *Violence Against Women, 14*(12), 1382-1396.

Witmer, B. G., & Singer, M. J. (1998). Measuring Presence in Virtual Environments: A Presence Questionnaire. *Presence:, 7*(3), 225-240.

Wolfe, D. A., Crooks, C. C., Chiodo, D., & Jaffe, P. (2009). Child Maltreatment, Bullying, Gender-Based Harassment, and Adolescent Dating Violence: Making the Connections *Psychology of Women Quarterly, 33*(1), 21-24.

Wolfe, D. A., Crooks, C. C., Chiodo, D., & Jaffe, P. (2009). Child Maltreatment, Bullying, Gender-Based Harassment, and Adolescent Dating Violence: Making the Connections. *Psychology of Women Quarterly, 33*(1), 21-24.

Wolfe, D. A., Crooks, C. V., Chiodo, D., Hughes, R., & Ellis, W. (2012). Observations of adolescent peer resistance skills following a classroom-based healthy relationship program: A post-intervention comparison. *Prevention Science, 13*(2), 196-205.

Wolitzky-Taylor, K. B., Ruggiero, K. J., Danielson, C. K., Resnick, H. S., Hanson, R. F., Smith, D. W., Saunders, B. E., & Kilpatrick, D. G. (2008). Prevalence and Correlates of Dating Violence in a National Sample of Adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 47*(7), 755-762.

Women's Aid. (2011). 2in2u www.2in2u.ie

World Health Organisation. (2002). *World Report on Violence and Health*. Geneva: World Health Organization.

World Health Organization. (2002). *World Report on Violence and Health*. Geneva: World Health Organization.

Wright, P. J., Randall, A. K., & Grace Hayes, J. (2012). Predicting the Condom Assertiveness of Collegiate Females in the United States From the Expanded Health Belief Model. *International Journal of Sexual Health, 24*(2), 137-153.

Yee, N., Bailenson, J. N., & Ducheneaut, N. (2009). The Proteus Effect: Implications of Transformed Digital Self-Representation on Online and Offline Behavior. *Communication Research, 36*(2), 285-312.

Yom, Y., & Eun, L. (2005). Effects of a CD-ROM Educational Program on Sexual Knowledge and Attitude. *Computers, Informatics, Nursing, 23*(4), 214-219.

Young, Furman, W., & Jones, M. C. (2012). Changes in adolescents' risk factors following peer sexual coercion: evidence for a feedback loop. *Development and Psychopathology, 24*(2), 559-571.

Young, Grey, M., & Boyd, C. J. (2009). Adolescents' experiences of sexual assault by peers: prevalence and nature of victimization occurring within and outside of school. *Journal of Youth and Adolescence, 38*(8), 1072-1083.

Zerubavel, N., & Messman-Moore, T. L. (2013). Sexual Victimization: Fear and Sexual Powerlessness, and Cognitive Emotion Dysregulation as Barriers to Sexual assertiveness in College Women. *Violence Against Women, 19*(12), 1518-1537.

Zimmerman, B. J., & Cleary, T. J. (2006). Adolescents Development of Personal Agency:The Role of Self-Efficacy Beliefs and Self-Regulatory Skill. In F.Pajares & T. Urdan (Eds.), *Self-efficacy Beliefs of Adolescents* (pp. 45-69). Greenwich: Information Age Publishing.

Zuffianò, A., Alessandri, G., Gerbino, M., Luengo Kanacri, B. P., Di Giunta, L., Milioni, M., & Caprara, G. V. (2013). Academic achievement: The unique contribution of self-efficacy beliefs in self-regulated learning beyond intelligence, personality traits, and self-esteem. *Learning and Individual Differences, 23*, 158-162.

Zurbriggen, E. L. (2009). Understanding and Preventing Adolescent Dating Violence: The Importance of Developmental, Sociocultural, and Gendered Perspectives. *Psychology of Women Quarterly, 33*(1), 30-33.