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A Mixed Methods Study of Service Provider Capacity Development to Protect and Promote the Sexual and Reproductive Health of Street-Involved Youth: An Evaluation of Two Training Approaches

by

Wendi Lokanc-Diluzio

A THESIS

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Abstract

The central purpose of this mixed methods study was to explore the effectiveness of two types of training programs (face-to-face and online) that aim to enhance the capacity of service providers to work with street-involved youth (SIY) regarding their sexual and reproductive health (S&RH). Twenty-eight participants completed a six hour face-to-face training program that took place in one day. Twenty-nine participants completed a six hour online training program that took place over two weeks. The study evaluated participants' overall reactions to both training programs as well as three specific outcomes related to capacity development: cognitive learning (knowledge), affective learning (perceived comfort) and use of training (practice behaviour). Knowledge and perceived comfort were measured three times: prior to the training program; immediately after the training program; and six weeks after the training program. Participants' reactions to the training program were measured immediately after the training program and practice behaviours were measured six weeks after the training program. The outcomes were measured *via* questionnaires containing closed- and open-ended questions. The quantitative components of this study were analyzed using descriptive statistics, repeated measures ANOVA, independent samples t-tests, and Fisher's exact tests. The qualitative components were analyzed using content analysis.

Overall, the mixed methods data demonstrated that: (a) participants in both training programs had positive reactions to their respective training programs; (b) participants in both programs experienced a statistically significant increase in knowledge immediately after the training and six weeks later; (c) face-to-face participants experienced a statistically significant increase in perceived comfort immediately after the training whereas online participants experienced a statistically significant increase in perceived comfort immediately after the

training and six weeks later; and (d) six weeks after the training, approximately 46% of face-to-face participants and 72% of online participants had reportedly used their knowledge from their respective training programs. These findings suggest at least a short term enhancement of capacity development with service providers. Overall, this research demonstrated that although face-to-face and online S&RH training programs have their inherent strengths and challenges, both modalities represent acceptable and effective mechanisms for capacity development of service providers working with SIY.

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Dedication

This dissertation is dedicated to the people who encourage, motivate, inspire, and love me unconditionally… my family:

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Table of Contents

Abstract ii
Acknowledgements iv
Dedication vi
Table of Contents vii
List of Tables xii
List of Figures xiv

CHAPTER 1: INTRODUCTION 1
- Statement of the Problem 2
- Research Questions 3
- Significance 3
- Definition of Terms 4
- Organization of the Dissertation 6

CHAPTER 2: REVIEW OF THE LITERATURE 7
- Life and Sexual Health Circumstances of Street-Involved Youth 7
- Primary Health Care and Sexual Health Protection and Promotion 10
  - Health Promotion 10
  - Accessible Health Services 11
  - Appropriate Use of Technology 12
  - Interdisciplinary and Intersectoral Cooperation 13
  - Public Participation 13
- Protecting and Promoting the S&RH of Street-Involved Youth: Recommendations ... 14
  - Understand the S&RH Risks of Street-Involved Youth 14
  - Identify and Build Upon the Strengths of Street-Involved Youth 14
  - Understand Diverse Characteristics of Street-Involved Youth 15
  - Deliver Socially and Culturally Appropriate Services 16
  - Provide Non-Judgmental and Empathetic Care 17
  - Use a Theoretical Model to Guide Programming 17
- S&RH Capacity Development for Service Providers 19
  - S&RH Training Programs 21
  - Limitations in Previous Research 24
- Training Approaches for S&RH Capacity Development 25
  - Face-to-Face and Online Training Comparisons 26
  - Strengths and Challenges of Face-to-Face Learning 27
  - Strengths and Challenges of Online Learning 29
  - Recommendations for S&RH Training Programs 32
- Summary 33

CHAPTER 3: THEORETICAL PERSPECTIVES 34
- Pragmatism, Post-Positivism and Constructivism 34
  - Challenges of Mixed Methods Research 39
  - Strengths of Mixed Methods Research 41
  - Summary 42
- Theoretical Perspectives on Learning 42

Constructivist Learning 43
Andragogy 48
Constructivist Learning, Andragogy and the Research 51
Kirkpatrick & Kirkpatrick's Evaluation Model 53
Summary 55

CHAPTER 4: METHODS PHASE ONE 56
Situating the Researcher 57
Overall Research Purpose 58
Overall Research Design 59
Design and Objectives of Phase One 60
Sample in Phase One 61
Selection of Service Provider Participants 61
Service Provider Characteristics 61
Selection of Street-Involved Youth Participants 62
Street-Involved Youth Characteristics 63
Data Collection in Phase One 63
Data Analysis in Phase One 64
Research Trustworthiness in Phase One 66
Ethics in Phase One 68
Summary 68

CHAPTER 5: RESULTS PHASE ONE 69
Theme One: Providing Culturally Appropriate S&RH Services 69
Subtheme A: Recognizing Strengths of Street-Involved Youth 69
Subtheme B: S&RH Challenges of Street-Involved Youth 70
Subtheme C: Complex and Diverse Life Circumstances of Street-Involved Youth 79
Subtheme D: Facilitators of S&RH Protection and Promotion 81
Theme Two: The Importance of Relationships 82
Subtheme A: Connecting With Youth 83
Subtheme B: Connecting Youth to Dependable Services 84
Theme Three: Providing S&RH Support for Service Providers 85
Subtheme A: Capacity Development Opportunities 85
Subtheme B: Accessible Resources and Tools 90
Summary 90

CHAPTER 6: METHODS PHASE TWO 91
Design of Phase Two 91
Participants in Phase Two 93
Participants of the Two Training Programs 93
Face-to-Face and Online Participants Completing the Study 94
Facilitators 97
Training Program Facilitator Characteristics 97
Data Collection in Phase Two 98
Questionnaires 98
Interviews 102
Procedures in Phase Two 102

Training Program Development 102
Pre-Training Data Collection 111
Training Program Implementation 113
Immediate Post-Training Data Collection 113
Six Week Post-Training Data Collection 113
Data Analysis in Phase Two 114
Quantitative Data Analysis 114
Qualitative Data Analysis 114
Integration of Quantitative and Qualitative Methods 115
Research Trustworthiness in Phase Two 115
Ethics in Phase Two 116
Summary 116

CHAPTER 7: RESULTS PHASE TWO 118
Learner Reaction 118
Face-to-Face Learner Reactions 120
Content of the Face-to-Face Program 122
Instructional Features of the Face-to-Face Program 124
Comfort Level in Discussing S&RH in the Face-to-Face Program 129
Overall Rating of the Face-to-Face Program 130
Online Learner Reactions 130
Content of the Online Program 132
Instructional Features of the Online Program 133
Comfort Level in Discussing S&RH in the Online Program 141
Overall Rating of the Online Program 142
Comparison of Face-to-Face and Online Learner Reactions 143
Cognitive Learning (Knowledge) 147
Cognitive Learning for the Face-to-Face Group 149
Cognitive Learning for the Online Group 151
Comparisons of Cognitive Learning for the Face-to-Face and Online Groups 154
Knowledge of Reproductive Health 155
Knowledge of Pregnancy Awareness 156
Knowledge of STIs 157
Knowledge of Contraception 158
Knowledge of Condoms 160
Knowledge of Sexual Diversity 161
Knowledge of Community Resources 162
Affective Learning (Comfort) 163
Affective Learning for the Face-to-Face Group 165
Affective Learning for the Online Group 168
Comparisons of Affective Learning for the Face-to-Face and Online Groups 170
Comfort in Relation to Reproductive Health 172
Comfort in Relation to Healthy Relationships 173
Comfort in Relation to Unhealthy Relationships 174
Comfort in Relation to Pregnancy Awareness 175
Comfort in Relation to STIs 177
Comfort in Relation to Sexual Diversity/Sexual Orientation 178

Comfort in Relation to HIV 179
Comfort in Relation to Contraception 180
Comfort in Relation to Male Condoms 182
Comfort in Relation to Female Condoms 183
Comfort in Relation to Sexual Health Services 184
Use of Training 185
Practical Use of the Information 186
Practical Use of the Information by the Face-to-Face Group 186
Practical Use of the Information by the Online Group 187
Face-to-Face and Online Group Comparisons 189
Worthwhile Use of Time and Effort 189
Worthwhile Use of Time and Effort According to the Face-to-Face Group ... 190
Worthwhile Use of Time and Effort According to the Online Group 191
Face-to-Face and Online Group Comparisons 193
Ratings by Participants 194
Facilitators' Experience 194
Overall Program Evaluations by Facilitators 195
Strengths of Both Programs 196
Strengths of the Face-to-Face Program 201
Strengths of the Online Program 202
Challenges of the Face-to-Face Program 204
Challenges of the Online Program 206
Face-to-Face and Online Comparisons 208
Summary 210

CHAPTER 8: DISCUSSION AND RECOMMENDATIONS 211
Summary of Phase One and Phase Two 211
Learner Reaction 213
Summary of Findings 213
Discussion 214
Conclusions 222
Cognitive Learning (Knowledge) 222
Summary of the Findings 222
Discussion 223
Conclusions 226
Affective Learning (Comfort) 226
Summary of the Findings 227
Discussion 227
Conclusions 229
Use of the Training 230
Summary of the Findings 230
Discussion 231
Conclusions 232
Facilitators' Experiences 232
Summary of the Findings 232
Discussion 233
Conclusions 234

Summary of Findings Related to Capacity Development 234
Strengths and Limitations of the Research 235
Recommendations....................................237
Recommendations for Practice....................................237
Recommendations for Research....................................243
Evidence Based Practice and Knowledge Translation 244
Significance of the Research to Public Health Nursing Practice....................................246
Role of PHNs in Capacity Development....................................246
Primary Health Care....................................247
Clinical Meaningfulness and Relevance 248
Addresses Gaps in Knowledge Base....................................248
Role of PHNs in Caring for Vulnerable Populations 249
Impact on Street Youth....................................249
Conclusion 250

REFERENCES 251

APPENDICES 272
Appendix A: Sexual and Reproductive Health Training Program for Teachers 273
Appendix B: Service Provider Recruitment Notice (Phase One)....................................274
Appendix C: Demographic Form for Service Providers (Phase One)....................................275
Appendix D: Demographic Form for Street-Involved Youth (Phase One)....................................276
Appendix E: Interview Guide for Service Providers (Phase One) 277
Appendix F: Interview Guide for Youth Participants (Phase One) 279
Appendix G: Service Provider Consent (Phase One) 281
Appendix H: Youth Consent (Phase One)....................................285
Appendix I: Consent for Youth Under the Age of 18 (Phase One)....................................289
Appendix J: Recruitment Notice Face-to-Face Training Program (Phase 2) 293
Appendix K: Recruitment Notice Online Training Program (Phase Two) 294
Appendix L: Sample Size Calculation and Table....................................295
Appendix M: Adjusted Sample Size Calculation 296
Appendix N: Demographic Information Form....................................297
Appendix O: Learner Reaction Questionnaire: Face-to-Face Program....................................298
Appendix P: Learner Reaction Questionnaire: Online Program 300
Appendix Q: Knowledge about Sexual and Reproductive Health Questionnaire 302
Appendix R: Perceived Comfort Questionnaire 306
Appendix S: Training Follow-up Questionnaire 307
Appendix T: Facilitator Interview Guide....................................309
Appendix U: Detailed Summery of Training Program Content....................................310
Appendix V: Cover Letter for Pre-Training Questionnaires 324
Appendix W: Cover Letter for Post-Training Questionnaires....................................325
Appendix X: Cover Letter for Six Week Post-Training Questionnaires....................................326
Appendix Y: Consent Form Participants (Phase Two)....................................327
Appendix Z: Consent Form Alternative School/CBE Participants (Phase Two) 331
Appendix AA: Consent Form Facilitators (Phase Two)....................................335

List of Tables

Table 1. Knowledge Claims of Post-Positivism, Pragmatism and Constructivism 38

Table 2. Assumptions of Constructivist Learning and Implications for Education 45

Table 3. Steps for Coding Data and how they were Applied to the Current Study 65

Table 4. Demographic Information: Face-to-Face (F2F) and Online Participants Completing the Study (n= 57) 95

Table 5. Additional Demographic Information: Face-to-Face (F2F) and Online Participants Completing the Study (n= 57) 95

Table 6. Summary of Questionnaires 98

Table 7. Cronbach's Alpha of Three Questionnaires 101

Table 8: Face-to-Face and Online Training Program Objectives 103

Table 9. Summary of Learning Strategies for Face-to-Face and Online Training Programs 111

Table 10. Quantitative Learner Reaction Results: Face-to-Face Group 121

Table 11. Quantitative Learner Reaction Results: Online Group 132

Table 12. Quantitative Learner Reaction Results: Face-to-Face and Online Group Comparisons 144

Table 13. Summary of Strengths and Challenges of Face-to-Face and Online Learning Programs 145

Table 14. Face-to-Face Cognitive Learning (Knowledge) Results 150

Table 15. Online Cognitive Learning (Knowledge) Results 152

Table 16. Knowledge Outcomes by Group (ANOVA) 155

Table 17. Knowledge of Reproductive Health: Face-to-Face and Online Comparisons 156

Table 18. Knowledge of Pregnancy Awareness: Face-to-Face and Online Comparisons 157

Table 19. Knowledge of STIs: Face-to-Face and Online Comparisons 158

Table 20. Knowledge of Contraception: Face-to-Face and Online Comparisons 159

Table 21. Knowledge of Condoms: Face-to-Face and Online Comparisons 161

Table 22. Knowledge of Sexual Diversity: Face-to-Face and Online Comparisons 162

Table 23. Knowledge of Community Resources: Face-to-Face and Online Comparisons 163

Table 24. Face-to-Face Affective Learning (Comfort) Results 166

Table 25. Online Affective Learning (Comfort) Results 169

Table 26. Comfort Outcomes by Group (ANOVA) 171

Table 27. Comfort in Relation to Reproductive Health: Face-to-Face and Online Comparisons 173

Table 28. Comfort in Relation to Healthy Relationships: Face-to-Face and Online Comparisons 174

Table 29. Comfort in Relation to Unhealthy Relationships: Face-to-Face and Online Comparisons 175

Table 30. Comfort in Relation to Pregnancy Awareness: Face-to-Face and Online Mean Comparisons 176

Table 31. Comfort in Relation to STIs: Face-to-Face and Online Comparisons 178

Table 32. Comfort in Relation to Sexual Diversity/Sexual Orientation: Face-to-Face and Online Comparisons 179

Table 33. Comfort in Relation to HIV: Face-to-Face and Online Comparisons 180

Table 34. Comfort in Relation to Contraception: Face-to-Face and Online Comparisons 181

Table 35. Comfort in Relation to Male Condoms: Face-to-Face and Online Comparisons 183

Table 36. Comfort in Relation to Female Condoms: Face-to-Face and Online Comparisons ... 184

Table 37. Comfort in Relation to Sexual Health Services: Face-to-Face and Online Comparisons 185

Table 38. Have You Used the Information? 186

Table 39. Was the Training Worth Your Time and Effort? 190

Table 40. How Would You Rate the Usefulness of the Training? 194

Table 41. Strengths and Challenges of Face-to-Face and Online Learning: The Facilitator's Experience 209

List of Figures

Figure 1. Depiction of the Information-Motivation-Behavioural Skills Model 18

Figure 2. Depiction of Study Design 60

Figure 3. Values Quiz Example 106

Figure 4. Knowledge of Reproductive Health: Face-to-Face and Online Mean Comparisons .. 156

Figure 5. Knowledge of Pregnancy Awareness: Face-to-Face and Online Mean Comparisons 157

Figure 6. Knowledge of STIs: Face-to-Face and Online Mean Comparisons 158

Figure 7. Knowledge of Contraception: Face-to-Face and Online Mean Comparisons 159

Figure 8. Knowledge of Condoms: Face-to-Face and Online Mean Comparisons 160

Figure 9. Knowledge of Sexual Diversity: Face-to-Face and Online Mean Comparisons 161

Figure 10. Knowledge of Community Resources: Face-to-Face and Online Mean Comparisons 163

Figure 11. Comfort in Relation to Reproductive Health: Face-to-Face and Online Mean Comparisons 172

Figure 12. Comfort in Relation to Healthy Relationships: Face-to-Face and Online Mean Comparisons 174

Figure 13. Comfort in Relation to Unhealthy Relationships: Face-to-Face and Online Mean Comparisons 175

Figure 14. Comfort in Relation to Pregnancy Awareness: Face-to-Face and Online Mean Comparisons 176

Figure 15. Comfort in Relation to STIs: Face-to-Face and Online Mean Comparisons 177

Figure 16. Comfort in Relation to Sexual Diversity/Sexual Orientation: Face-to-Face and Online Mean Comparisons 179

Figure 17. Comfort in Relation to HIV: Face-to-Face and Online Mean Comparisons 180

Figure 18. Comfort in Relation to Contraception: Face-to-Face and Online Mean Comparisons 181

Figure 19. Comfort in Relation to Male Condoms: Face-to-Face and Online Mean Comparisons 182

Figure 20. Comfort in Relation to Female Condoms: Face-to-Face and Online Mean Comparisons 184

Figure 21. Comfort in Relation to Sexual Health Services: Face-to-Face and Online Mean Comparisons 185

CHAPTER 1: INTRODUCTION

Street-involved youth (SIY) are a complex population; they come from various backgrounds and possess an array of personal attributes, experiences, and needs. Nevertheless, they share some characteristics, including their unstable living conditions, poverty, and psychological and emotional instability (Elliot, 2013; Public Health Agency of Canada [PHAC], 2006a). It is these circumstances that place SIY at risk for adverse sexual and reproductive health (S&RH) outcomes, such as pregnancy, sexually transmitted infections (STIs) and blood borne pathogens, including human immunodeficiency virus (HIV) and hepatitis B (PHAC, 2006a; PHAC, 2006b).

It is important to note that although SIY face numerous challenges, they possess many strengths and attributes, and appear hopeful for a better life (Bender, Thompson, McManus, Lantry, & Flynn, 2007; Rew & Horner, 2003; Thompson et al., 2013). In fact, they reach out to selected adults for guidance and support (Caputo, Weiler, & Anderson, 1997; McCreary Centre Society, 2007; Thompson et al., 2013; Worthington & MacLaurin, 2013). Healthcare, social service and education providers (service providers) working with SIY represent a most valuable resource for S&RH protection and promotion. As Caputo and colleagues (1997) state,

> …supportive individuals can play a vital role in delivering relevant services to these young people. Young people can be influenced by an individual who provides consistent and caring support. This could be a teacher, outreach worker or staff member in a youth-serving agency. (p. 39)

Although service providers are well positioned to make a difference in the S&RH outcomes of SIY, a lack of training can impede their ability. The Canadian Public Health Association (CPHA, 2005), the Public Health Agency of Canada (PHAC, 2008) and the Leading Together Championing Committee (LTCC, 2013) emphasize the value of developing the capacity of

service providers to protect and promote the S&RH of SIY. In this regard, training in the area of S&RH can prove useful (PHAC, 2008).

Statement of the Problem

This research focuses on developing and evaluating two types of training programs that develop the capacity of service providers to protect and promote the S&RH of SIY. This two phased study aims to: (a) assess the S&RH learning needs of service providers working with SIY (phase one: qualitative); and (b) explore the effectiveness of two kinds of programs (face-to-face and online) that train service providers to support SIY in addressing their S&RH needs (phase two: mixed methods, quasi-experimental design). It is important to note that the data collected and analyzed in phase one of this research informs phase two. Therefore, phase two represents the main focus of the research.

Several theoretical perspectives and models inform this research. Pragmatism is the overarching scientific paradigm that guides the research process (e.g., research questions, data collection, data analysis, and interpretation). Constructivist learning (philosophy of education) and andragogy, a complementary theory of adult learning (Knowles, Holton, & Swanson, 2012), both inform the design and implementation of the training programs. Kirkpatrick and Kirkpatrick's (2005) evaluation model informs the evaluation of the training programs, specifically the outcomes measured. Lastly, there are the principles and values of primary health care, which are fundamental to public health nursing practice and improving the health of all Canadians (Canadian Nurses Association [CNA], 2013; Community Health Nurses Association of Canada [CHNAC], 2011). These principles and values provide the rationale for addressing the S&RH of SIY through capacity development of service providers working with them.

Research Questions

The questions guiding the research are:

1. What knowledge do SIY require from service providers to protect and promote their S&RH? (phase one)
2. Does participation in either an online or face-to-face training experience enhance the capacity of service providers to work with SIY regarding their S&RH? (phase two) The secondary questions for phase two are:
    A. How do participants regard either their online or face-to-face training experience (learner reaction)?
    B. Do participants experience an increase in cognitive learning (knowledge) after participation in either an online or face-to-face training experience?
    C. Do participants experience an increase in affective learning (perceived comfort) after participation in either an online or face-to-face training experience?
    D. How do participants reportedly use their training after participation in either an online or face-to-face training experience (practice behaviour)?
    E. How do facilitators of online or face-to-face training approaches evaluate their experiences?

Significance

This research is significant for three main reasons. First, it fulfills a gap in the existing knowledge base. Although there is an array of research describing successful training programs for various service providers across multiple disciplines and content areas, there is limited Canadian research related to training regarding the topic of S&RH. Furthermore, there is no research that addresses S&RH capacity development of service providers working with SIY.

Second, this research builds upon an earlier study by Worthington and colleagues (2008), the Calgary Youth, Health and the Street study. It recommends S&RH capacity development for service providers working with SIY. Finally, this research is practical. It advances my work as a sexual and reproductive health specialist for Alberta Health Services, Sexual and Reproductive Health in Calgary (Lokanc-Diluzio, Cobb, Harrison, & Nelson, 2007), by providing practical recommendations for existing and future face-to-face and online training programs.

Definition of Terms

A number of terms are used throughout this study. In order to ensure understanding and consistency, several terms are defined.

1. *Affective learning* refers to the development of "attitudes, beliefs, or dispositions" as a result of the training program (Guskey, 2000, p. 125). Specific to this research, affective learning refers to the development of perceived comfort in addressing the topic of S&RH with SIY. Within the context of this research, the terms "affective learning" and "comfort" are used interchangeably.

2. *Capacity development* refers to the growth of knowledge, comfort, skills and abilities among service providers in order to deliver a service that meets the needs of a particular population (Smith, Tang, & Nutbeam, 2006).

3. *Cognitive learning* refers to the knowledge or understanding gained from a training program, as it relates to particular content (Guskey, 2000; Kirkpatrick & Kirkpatrick, 2005). Within the context of this research, "cognitive learning" and "knowledge" are used interchangeably.

4. *Health promotion* refers to a client-driven, strength-based and holistic process that enables individuals to increase control over the determinants of their health through skill-building, empowerment, and participation (World Health Organization [WHO], 1986).

5. *Health protection* refers to measures that minimize the occurrence of health problems or disease (Peter, Sweatman, & Carlin, 2012).

6. *Learner reaction* refers to participants' satisfaction level or how they regard their training experience (Guskey, 2000; Kirkpatrick & Kirkpatrick, 2005).

7. *Online learning*, which is also known as e-learning, web-based and internet learning, refers to the development of knowledge and skills through the use of internet technologies, "particularly to support interactions for learning − interactions with content, with learning activities and tools, and with other people" (Canadian Council on Learning, 2009, p. 30). Online learning can be: (a) synchronous where participants are online at the same time; or (b) asynchronous where participants are online at differing times, at their own convenience (Mount Royal University, 2013).

8. *Sexual and reproductive health (S&RH)* is:

> a state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity... [It] requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of cohersion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled. (PHAC, 2008, p. 5)

Within the context of this study, the terms S&RH and "sexual health" are used interchangeably.

9. *Street-involved youth (SIY)* refers to youth from15 to 24 years of age, who may be experiencing differing degrees of homelessness and a range of risky behaviours. In the context of

this research, SIY, although not necessarily homeless, have exposure to and experience "the physical, mental, emotional and social risks of street culture" (Elliot, 2013, p. 1).

Organization of the Dissertation

This dissertation has eight chapters. Chapter 1 presents the introduction, statement of the problem, research questions, significance of the study, and definition of terms. Chapter 2 includes a discussion regarding the principles of primary health care; and the review of the literature related to the S&RH of SIY and the S&RH capacity development of service providers. Chapter 3 contains the theoretical perspectives informing this research and includes discussions regarding pragmatism, constructivist learning, andragogy and Kirkpatrick & Kirkpatrick's evaluation model. Chapter 4 includes the methods and procedures used to gather and analyse data for phase one. The results of the analysis and findings that emerged from phase one are presented in Chapter 5. Chapter 6 contains the methods and procedures used to gather and analyse data for phase two. The results of the analysis and findings that emerged from phase two are presented in Chapter 7. Finally, Chapter 8 contains a summary of the research and findings, a discussion, conclusions drawn from the findings, strengths and limitations of the research, and recommendations for practice and future research.

CHAPTER 2: REVIEW OF THE LITERATURE

This chapter presents the literature relevant to the capacity development of service providers working with street-involved youth (SIY) with regards to sexual and reproductive health (S&RH). First, a description of the life and sexual health circumstances of SIY is provided. Second, the principles of primary health care are discussed, with regards to the S&RH of SIY. Third, based upon the literature, six recommendations for promoting and protecting the S&RH of SIY are presented. Fourth, the capacity of service providers to address S&RH with clients is discussed. Fifth, a review of existing research related to S&RH training programs is provided. Finally, a discussion regarding face-to-face and online training approaches and recommended practices for S&RH capacity development are provided.

Life and Sexual Health Circumstances of Street-Involved Youth

Street-involved youth (SIY) are a heterogeneous population. Although they possess several strengths, they face numerous challenges. Largely driven by circumstances, the reasons that they find themselves on the streets are highly complex and diverse. Most prominent among them are family conflict (Gaetz, O'Grady, Buccieri, Karabanow, & Marsolais, 2013; McCreary Centre Society, 2007; Worthington et al., 2008), discrimination (Gaetz et al., 2013), neglect (Alberta Health Services, 2011; PHAC, 2006a), and/or physical, emotional and sexual abuse (Alberta Health Services, 2011; PHAC, 2006a).

Once on the street, many youth experience uncertainty, discrimination (Caputo et al., 1997; McCreary Center Society, 2007), psychological and emotional vulnerability (PHAC, 2006a), and different kinds of victimization (Gaetz & O'Grady, 2013; McCreary Center Society, 2007). Additionally, they experience financial instability (PHAC, 2006a; Wingert, Higgegett, & Ristock, 2005) due in part to a lack of education necessary for adequate remunerative

employment (Gaetz & O'Grady, 2013; PHAC, 2006a) or the challenges of obtaining and keeping a job while on the street (Gaetz & O'Grady, 2013). Under these circumstances, obtaining food, maintaining safety, and having a place to stay become dominant concerns (PHAC, 2006a; Wingert et al., 2005).

Many SIY engage in a lifestyle characterized by high risk behaviours, many of which place them at risk for pregnancy, STI, and HIV (PHAC, 2006a; PHAC, 2006b). SIY tend to have sex with multiple partners, engage in unprotected intercourse, sell sex to survive, and use substances such as alcohol and drugs (Alberta Health Services, 2011; Ottawa Public Health, 2011; PHAC, 2006a; PHAC, 2006b). For example, in an Edmonton study of SIY, 98.5% had had sex; 52.8%, 77.7%, and 49.4% reportedly did not use condoms at their last vaginal, oral, and anal sex respectively; 86.4% reported that they used alcohol within the previous three months; 96.5% reported at least once using non injection drugs; 14% reported at least once using injection drugs; and 9.3% reported involvement in the sex trade (Alberta Health Services, 2011). Furthermore, in an Ottawa study of SIY, 46% reported having 10-50 lifetime sexual partners and over 60% reported having sex while drunk or high over the past three months (Ottawa Public Health, 2011).

Canadian-based researchers have investigated pregnancy among SIY (McCreary Centre Society, 2007; Worthington et al., 2008). The research indicates that SIY have a higher incidence of pregnancy compared to the mainstream population of the same age. For example, in a Calgary study of SIY aged 15-24 years, 52% of females reported at least one pregnancy (Worthington et al., 2008). Whereas based upon data from the Government of Alberta, approximately 8% of Albertan females aged 15-24 years reported a pregnancy in 2007 (Reproductive Health Working Group, 2009).

Pregnancy among SIY is an important issue as it presents challenges for both mother and child. Larson (2007) states that the "early child health consequences of poverty and pregnancy are multiple, and often set a newborn child on a life-long course of disparities in health outcomes" (p. 673). Infants of poor mothers are at risk for premature birth, intrauterine growth restriction, and death (Larson, 2007). Furthermore, children of poverty stricken mothers are at risk for cognitive delays (Larson, 2007; Morinis, Carson, & Quigley, 2013), behaviour problems, and poor performance in school (Larson, 2007).

Canadian researchers also investigated the occurrence of STIs and blood-borne infections, such as HIV, hepatitis B, and hepatitis C among SIY. The research indicates that SIY have higher incidences of STIs and blood-borne infections compared to their mainstream counterparts (Haley, Roy, Leclerc, Boudreay, & Boiven, 2004; Haley et al., 2002; Ottawa Public Health, 2011; PHAC, 2006a; PHAC, 2006b; Roy et al., 2001; Roy et al., 2000; Roy et al., 1999; Shields et al., 2004; Weber, Boivin, Blais, Haley, & Roy, 2002). For example, in an Edmonton study, in 2010, 12.7% of SIY tested positive for chlamydia, and 2.0% tested positive for gonorrhea (Alberta Health Services, 2011). Whereas, based upon data from the Government of Alberta (2013) in 2010, approximately 1.6% and 0.1% of all Albertan youth aged 15-24 years tested positive for chlamydia and gonorrhea respectively. This is noteworthy because if left untreated, STIs, such as chlamydia and gonorrhea, can cause pelvic inflammatory disease (PID) in females, which can lead to chronic pain, ectopic pregnancy, or infertility. In males, untreated infections can lead to testicular infections, infertility and/or chronic pelvic pain (PHAC, 2010). Additionally, having an STI increases an individual’s risk for HIV, which eventually leads to acquired immunodeficiency syndrome (AIDS) (PHAC, 2010).

Primary Health Care and Sexual Health Protection and Promotion

The S&RH of SIY is a public health concern (PHAC, 2008; CPHA, 2005). When considering strategies for protecting and promoting the S&RH of these youth, it is important to do so within the spirit of primary health care. Primary health care (PHC) is paramount to achieving health for all (WHO, 1978) Canadians and is at the heart of public health nursing practice (CNA, 2013; CHNAC, 2011). Primary health care is,

> evidence-based health care that is made accessible at a cost a country and community can afford with methods that are practical, scientifically sound and socially acceptable. Primary health care extends beyond the traditional health care system to include services that encompass the determinants of health such as income, housing, education and environment. Primary health care considers the health care needs of the community as well as the individual. Communities and individuals are active partners in making decisions that will affect their health and health care. (College & Association of Registered Nurses of Alberta [CARNA], 2008, p. 1)

The five principles embodying the definition of PHC are: health promotion, accessible health services, the appropriate use of technology, interdisciplinary and intersectoral cooperation, and public participation (WHO, 1978). A brief discussion of each principle and considerations for S&RH protection and promotion of SIY follows.

Health Promotion

Health promotion is a proactive approach to client care. It is a client-driven, strength-based, and holistic process that enables individuals to increase control over their determinants of health (WHO, 1986). Health promotion recognizes risk factors, searches for ways to overcome health barriers, and considers the social environment of individuals (CARNA, 2008; Mikkonen & Raphael, 2010). Promoting the S&RH of SIY can include strategies directed at youth;

however, they can also include strategies directed at their social environment. Important in the social environments of SIY, are the service providers that work with them.

Whereas mainstream youth likely have accessible and reliable S&RH information through a variety of sources, such as parents and schools, SIY typically lack these kinds of support (PHAC, 2008). In this regard, service providers can make a difference in the lives of these Canadians. These service providers know and interact with these youth. For example, a British Columbia study of SIY (McCreary Centre Society, 2007) indicates that 55% had contact with a youth/outreach worker; 53% had contact with a social worker; 47% had contact with a doctor, nurse, or street nurse; and 44% had contact with a school counsellor. Presumably then, one strategy for promoting the S&RH of SIY is developing the capacity of service providers working with them (CPHA, 2005; LTCC, 2013; PHAC, 2008; WHO, 1986).

Capacity development involves the growth of knowledge, skills, abilities and comfort among service providers in order to deliver a service that meets the needs of a particular population and "may include training of staff, providing resources, designing policies and procedures… and developing structures for health promotion planning and evaluation" (Smith et al., 2006, p. 342). Interventions that strengthen the capacity of service providers, in turn, should strengthen the capacity of the healthcare system to improve the health outcomes of various populations (Hawe, Noort, King, & Jordens, 1997).

Accessible Health Services

The second principle, accessible health services, refers to "a continuing and organized supply of care that is geographically, financially, culturally and functionally within easy reach of the whole community" (WHO, 1978, p. 58). Accessibility is enhanced through continuity of care and the provision of seamless transitions linking the various components (e.g., formal caregivers,

informal caregivers, internal agencies, external agencies) of the health care system (CARNA, 2005a). In order to promote the sexual health for all, accessible services are paramount. According to PHAC (2008), the services should be equitable, age and developmentally appropriate, and responsive to a person's sexual orientation, ethnicity, race, and socioeconomic status.

In terms of SIY, providing accessible S&RH services means that information and services are made available by eliminating psychological and physical obstacles (PHAC, 2006c). PHAC (2008) states, "It is important that outreach initiatives and safe environments such as drop-in centers are able to provide sexual health information and services to these youth who may not have access to it otherwise" (p. 10). In this regard, developing the capacity of service providers would purportedly improve access to information and resources.

Appropriate Use of Technology

The third principle, the appropriate use of technology, refers to the appropriate utilization of all health resources including funds, facilities, equipment, tools, information services, education technology, pharmaceuticals, techniques, and skills (CARNA, 2005a; Stewart, 2000). Appropriate technology is evidence-based, acceptable, and results in desired outcomes. The appropriateness of any technology depends on the current state of knowledge, the existing resources, the nature of the health concern (Stewart, 2000), and whether or not it has demonstrable effectiveness (CARNA, 2005a). Appropriate technology requires thinking about alternatives to high cost strategies for education and training, evaluating them and disseminating the results (Smith, Van Herk, & Rahaman, 2012). In the context of S&RH capacity development programs, this means considering which methods are effective, acceptable, and cost effective.

Interdisciplinary and Intersectoral Cooperation

Primary health care underscores the importance of interdisciplinary and intersectoral cooperation. It includes coordinated multiple discipline teams that utilize the complementary talents of all service providers (CARNA, 2005a). The development of partnerships (both formal and informal) among agencies can promote service integration and seamless service delivery across the various sectors and between professionals and agencies (CARNA, 2005a). This is especially important for vulnerable populations who historically have had difficulty accessing health services (PHAC, 2008; Pringle, Levitt, Horsburgh, Wilson, & Whittaker, 2000). In terms of S&RH education, PHAC (2008) contends such cooperation represents an interdisciplinary responsibility requiring the participation of all sectors.

Public Participation

The final principle of primary health care is public participation (CARNA, 2008; WHO, 1978). It addresses the need for all individuals to partake in identifying their health needs, determining possible strategies for addressing those needs, and decision-making regarding their health (CARNA, 2008; Smith et al., 2012). In brief, the principle of participation encourages a shift in practice whereby nurses and other service providers move away from "caring for" their clients to "caring with" their clients. In terms of S&RH education, PHAC (2008) recommends that the planning of education or training programs include collaboration with the intended audience in order to meet the needs of the group.

Summary

In summary, achieving health for *everyone* is at the heart of primary health care. This means that health, including sexual health, is a fundamental human right. In this regard, the Public Health Agency of Canada (2008) states,

> All Canadians have a right to sexual health education that is relevant to their needs. Diverse populations such as sexual minorities... and socio-economically disadvantaged such as street-involved youth often lack access to information and education that meets their specific needs. Correspondingly, it is important that sexual health educators and service providers give particular attention to the kinds of programs and resources that support the sexual health and well-being of these individuals across their lifespan. (p. 8)

If achieving sexual health is a right for all Canadians, including SIY, it is the responsibility of service providers to support them in achieving that right.

Protecting and Promoting the S&RH of Street-Involved Youth: Recommendations

The literature provides guidance for service providers in terms of protecting and promoting the S&RH of SIY. Six key recommendations are outlined below.

Understand the S&RH Risks of Street-Involved Youth

Service providers should understand the health risks and the behaviours that place the S&RH of SIY at risk (Ensign & Santelli, 1998; PHAC, 2006a). Discussed earlier, SIY engage in high risk sexual behaviours, including having sex with multiple partners, engaging in unprotected intercourse, selling sex to survive, and using substances such as alcohol and drugs (PHAC, 2006a; PHAC, 2006b). These behaviours place them at risk for pregnancy, STIs and blood borne pathogens.

Identify and Build Upon the Strengths of Street-Involved Youth

Whereas it is important to acknowledge the adversity faced by SIY, their personal strengths also deserve recognition (Bender et al., 2007; Rew & Horner, 2003; Thompson et al., 2013). Some strengths identified in the literature include (a) their social support systems, such as peer networks and societal resources (Bender et al., 2007; Rew & Horner, 2003; Thompson et al., 2013); (b) their motivation to transition off of the streets (Bender et al., 2007; Rew & Horner,

2003); (c) their coping skills and self-reliance or the ability to problem solve and network in order to meet their needs (Bender et al., 2007; Thompson et al., 2013); (d) their knowledge of the environment (Rew & Horner, 2003); and (e) their spirituality or belief in a higher power that is a source of hope and support (Bender et al., 2007; Thompson et al., 2013). Portraying SIY only in terms of their limitations restricts their participation in their own health endeavours (Bender et al., 2007), whereas focusing on their strengths can serve as a building block for developing additional strengths (Lind & Smith, 2008).

Understand Diverse Characteristics of Street-Involved Youth

It is important for service providers to have a realistic understanding of the varied personal and social attributes of SIY (Caputo et al., 1997). In order to provide effective services, providers need to recognize the heterogeneity of SIY. Caputo and colleagues (1997) caution providers about designing services based upon stereotypes (e.g., all SIY are abused or neglected). In this regard, two important points to remember are sexual and knowledge diversity.

In terms of sexual diversity, gay, lesbian, bisexual, transgendered, and queer (GLBTQ) youth make up a large sub-population of SIY. It is estimated that between 2% and 10% of all North Americans identify themselves as non-heterosexual (PHAC, 2011). Whereas in Edmonton (Alberta Health Services, 2011) and Toronto (Gaetz, 2004) studies of SIY, approximately 22% and 32% of SIY respectively identified themselves as non-heterosexual. It is crucial to provide care that is sensitive to sexual diversity (Cochran et al., 2002; PHAC, 2011; PHAC, 2008).

The S&RH knowledge level of SIY is also diverse. Research suggests that SIY possess a combination of accurate and inaccurate knowledge about S&RH (Rew, Chambers, & Kulkarni, 2002; Worthington et al., 2008). For example, the Calgary Youth, Health and the Street study reported that 44% believed a person can contract HIV from deep kissing and exchanging saliva

with an infected person; 41% believed a person can contract HIV from infected mosquitoes or other insects; and 17% believed a person can contract HIV by using public toilet seats (Worthington et al., 2008). In a qualitative study of American SIY, some youth did not know STIs can have no symptoms, and some thought that spermicides provided protection from STIs (Rew et al., 2002).

Deliver Socially and Culturally Appropriate Services

Service providers should offer S&RH services (e.g., clinical, education, counselling) that are socially and culturally relevant and sensitive to the precariousness of street life (Caputo et al., 1997; Ensign & Santelli, 1998; PHAC, 2006a; PHAC, 2006b; PHAC, 2008). For example, providers can offer education services that assist youth in developing skills in relation to correct condom use, condom negotiation, or how to speak with partners about their S&RH history. Education services can also include harm reduction strategies (PHAC, 2006a) that endeavour to reduce the harm related to certain behaviours (Canadian Paediatric Society [CPS], 2008). An example of a harm reduction strategy includes educating injection drug users regarding where to access clean needles. This strategy recognizes that SIY can take precautions so that they do not have to share needles.

Additionally, through education, providers can assist SIY in assessing their risk for pregnancy, STIs, and HIV (PHAC, 2006a). In an Edmonton study, SIY had an unrealistic perception of their risk for STIs (Alberta Health Services, 2011). While many participated in high risk behaviours, the majority of youth believed they were at no (approximately 17%) or low risk (approximately 47%) for STIs, HIV, or hepatitis C. Surprisingly, less than 10% believed they were at high risk for STIs.

Provide Non-Judgmental and Empathetic Care

The literature underscores the importance of providing S&RH services in a non-judgmental, supportive manner (Caputo et al., 1997; Cochran et al., 2002; Ensign & Gittelsohn, 1998; Marshall, 2008; PHAC, 2008; Worthington et al., 2008). Factors precluding SIY from accessing health services include prejudice or coercion from service providers, heterosexist cultures, or service providers not supportive of sexual minorities (Marshall, 2008). Caputo and colleagues (1997) stress the importance of service providers establishing rapport and connecting with these youth. This underscores the importance of relationships. In this regard Hammond (2010) states, "[p]ositive change occurs in the context of authentic relationships - people need to know someone cares and will be there unconditionally for them" (p. 5).

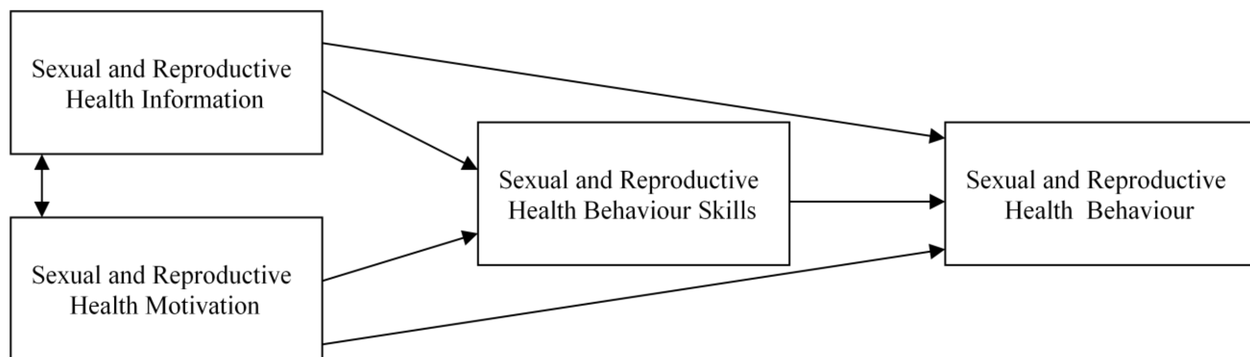
Use a Theoretical Model to Guide Programming

Service providers should employ a theoretical model derived from research in developing S&RH programming for SIY. PHAC (2008) recommends using the Information-Motivation-Behavioural Skills (IMB) model (Fisher & Fisher, 1998). The IMB model's effectiveness has been tested with diverse populations such as inner city minority youth (Fisher, Fisher, Bryan, & Misovich, 2002), women (Misovich, Martinez, Fisher, Bryan, & Catapano, 2003), and post-secondary youth (Fisher & Fisher, 1998) in relation to various topics, including HIV prevention (Fisher et al., 2002), breast self-examination (Misovich et al., 2003), and contraceptive behaviour (Fisher & Fisher, 1998).

The IMB model proposes that information regarding sexual health, motivation to take action on this information, and behavioural skills for taking action represent essential influencers in the initiation and maintenance of "healthy" behaviours. According to the model, an "individual's information and motivation work primarily through his or her behaviour skills to

affect behaviour" (Fisher & Fisher, 1998, p. 42). It is important to note that S&RH information and motivation are independent constructs in that individuals who are motivated are not necessarily informed and vice versa (Fisher & Fisher, 1998). Figure 1 depicts the model.

Figure 1. Depiction of the Information-Motivation-Behavioural Skills Model



Adapted from Fisher & Fisher, 1998

The IMB model suggests that pertinent, practical, age and developmentally appropriate information that is relevant to the life circumstances of an individual effect the implementation and maintenance of healthy sexual practices (Fisher & Fisher, 1998). For example, a 17-year-old low income female can lower her risk for STI and pregnancy by using condoms. In terms of information, the youth needs developmentally appropriate information regarding what a condoms is, how to use a condom correctly, and where to access free or low cost condoms. She would also need some basic information regarding anatomy and physiology, STIs, and pregnancy.

The model asserts that motivation to take action on healthy behaviours has three factors: personal, emotional, and social motivation. The first factor, personal motivation, includes one's attitudes and beliefs about specific healthy behaviours (Fisher & Fisher, 1998). For example, positive personal motivation for a 17-year-old female to use condoms could include the belief that the condoms prevent STIs and HIV. Negative personal motivation for condom use could

include the belief that condoms take the spontaneity out of intercourse and detract from sexual pleasure. The second factor, emotional motivation, refers to the positive and negative emotions related to healthy behaviours (Fisher & Fisher, 1998). For example, positive emotional motivation for condom use could include feeling good about preventing STIs; whereas negative emotional motivation could include feeling embarrassed to obtain condoms or to speak with a partner about the use of condoms. The third factor, social motivation, refers to beliefs regarding social norms or social support for healthy behaviours (Fisher & Fisher, 1998). For example, positive social motivation could include having a support of peers that use condoms; whereas negative social motivation could include having a partner that does not like using them.

Finally, although applicable information and motivational aspects represent significant components in the adoption of healthy behaviours, possessing appropriate behavioural skills ensures that healthy behaviours actually occur (Fisher & Fisher, 1998). Behavioural skills consist of both objective abilities to induce healthy behaviours (e.g., correct condom use) and the self-efficacy for implementing those behaviours (Fisher & Fisher, 1998). For example, behavioural skills include developing the skills through applying the knowledge of where to access the condoms (e.g., actually going to an agency that supplies free condoms), applying the knowledge of how to use a condom (e.g., practicing opening the package and practicing applying one correctly), and practicing condom negotiation (e.g. role play).

S&RH Capacity Development for Service Providers

Service providers hold positions whereby they can implement the aforementioned recommendations. The likelihood of their success ultimately depends on the knowledge, comfort, and skills they bring to their interactions with SIY. There is limited research describing the capacity of service providers to address S&RH with SIY. To understand the dimensions of

the challenge requires an examination of the research pertaining to other service providers in the health and education sectors.

Research suggests that some service providers lack the ability to address sexuality with their clients. Habouri and Lincoln (2003) studied over 800 health professionals (e.g., nurses, doctors, occupational therapists, physiotherapists) and determined that although most participants (90%) agree that addressing sexuality is a part of holistic care, 94% seemed reluctant to address sexuality with their clients, and 86% said they lacked the appropriate training to do so. In Westwood and Mullan's (2006) study in the United Kingdom, school nurses expressed the belief that they had inadequate knowledge in terms of STIs, felt unprepared to provide guidance about STIs, and lacked resources and confidence to teach about sexuality. Lewis and Bor's (1994) investigation of hospital nurses in England revealed that 54% of nurses expressed discomfort about discussing sexuality with clients. Service providers, who feel discomfort addressing the S&RH needs of their clients, are less likely to discuss or educate clients regarding S&RH. This reluctance, in turn, can have adverse implications for service delivery (Weerakoon, Sitharthan, & Skowronski, 2008). Finally, Cohen, Byers, Sears, and Weaver (2004) asked Canadian teachers to rate their comfort, knowledge, and willingness to teach various sexual health topics (e.g., STIs and HIV, contraception, sexual diversity, etc.). Overall, respondents stated they were somewhat comfortable, somewhat knowledgeable, and somewhat willing to teach the various sexual health topics.

At a Calgary based community roundtable consisting of 55 health and social service providers, participants identified the importance of developing the capacity of front-line service providers working with SIY with regards to S&RH (Worthington et al., 2008). Similarly, the CPHA (2005), the Leading Together Championing Committee (LTCC, 2013), and the PHAC

(2008) emphasize the importance of enhancing the capacity of front-line service providers working with vulnerable populations to provide effective and accessible S&RH services. In this regard, formal training and continuing education programs are the primary mechanisms for capacity development (PHAC, 2008).

S&RH Training Programs

School-based sexual health education programming does not succeed without teacher training and support (Donovan, 1998; Weerakoon & Stiernborg, 1996). A study by McKay and Barrett (1999) indicates that 15.5% of Canadian Bachelor of Education programs provide mandatory training in sexual health education, and 26.2% of programs have optional courses. Studies suggest that teachers without a history of sexual health training are less comfortable (Cohen, Byers, Sears, & Weaver, 2004; de Almeida Reis & Goncalo Rei Vilar, 2006); are less knowledgeable about S&RH (Cohen et al., 2004; de Almeida Reis & Goncalo Rei Vilar, 2006); have less positive attitudes toward sexuality education (de Almeida Reis & Goncalo Rei Vilar, 2006); have less confidence to teach about sexuality (Mathews, Boon, Flisher, & Schaalma, 2006); are less likely to teach about sexuality (Mathews et al., 2006); and are less willing to teach various topics (Cohen, Byers, & Sears, 2012; Cohen et al., 2004) in comparison to their trained counterparts.

Although there are limited publications reporting the outcomes of S&RH training programs, research suggests that they do make a difference. They positively impact *teachers'* (Ahmed et al., 2006; Gonzalez-Acquero, 2006; Levenson-Gingiss & Hamilton, 1989; Lokanc-Diluzio et al., 2007; Tappe, Galer-Unti, & Bailey, 1997; Wight & Buston, 2003), *youth workers'* (Perry, Thursten, & Killey, 2005), *interdisciplinary school teams'* (e.g., school nurses, teachers, administrators) (Walker, Green, & Tilford, 2003); *interdisciplinary hospital teams'* (Higgins et

al., 2012); and *undergraduate students'* (Hay, Byrne, Cohen, & Schmuck, 1996; Dixon-Woods et al., 2002; Weerakoon, Sitharthan, & Skowronski, 2008) *knowledge* (Cohen et al., 1996; Dixon-Woods et al., 2002; Gonzalez-Acquero, 2006; Higgins et al., 2012; Lokanc-Diluzio et al., 2007; Perry et al., 2005; Walker et al., 2003), *skills* (Dixon-Woods et al., 2002; Higgins et al., 2012; Lokanc-Diluzio et al., 2007; Perry et al., 2005), *comfort* (Ahmed et al., 2006; Hay et al., 1996; Dixen-Woods et al., 2002; Higgins et al., 2012; Lokanc-Diluzio et al., 2007; Perry et al., 2005; Weerakoon et al., 2008), *confidence* (Ahmed et al., 2006; Walker et al., 2006), and *attitudes* (Dixen-Woods et al., 2002; Gonzalez-Acquero, 2006; Hay et al., 1996).

For example, Gonzalez-Acquero (2006) investigated the effectiveness of different types of online sexual health education and mental differing abilities workshops on teachers' attitudes, knowledge, and self-efficacy beliefs. The workshop provided up-to-date research and information related to sexuality education and mental differing abilities. The researcher used an experimental (pre-test, post-test) design and randomly assigned a total of 68 participants into three groups: a control group that received no intervention; an online group that received only information; and an online group that received information and reflective activities. The findings indicated that teachers in both experimental online groups scored significantly higher on attitudinal, knowledge, and self-efficacy measures compared to those in the control group. Teachers in the online information/reflective group scored the highest on the attitudinal measure.

Walker and colleagues (2003) investigated the effectiveness of a five day teacher workshop aimed at developing the capacity of individuals and interdisciplinary teams to deliver high quality sexual and relationship education. The researchers used a mixed methods pre-experimental design, consisting of pre- and post- questionnaires and semi-structured interviews with workshop participants and focus groups with students. Fourteen participants completed pre-

and post- questionnaires. The quantitative findings suggested an increase in perceived confidence and knowledge as a result of the training program. Semi-structured interviews with staff six months after the workshop revealed that a perceived change in behaviour occurred as a result of the workshop. Focus groups with students corroborated these findings, yet also revealed the need for more change. The researchers concluded that the interdisciplinary training program positively impacted the school community. That is, the program developed the capacity for the school to respond to the sexual health needs of students and promoted collaboration among school services, health services, parents and students.

Higgins and colleagues (2012) evaluated the effectiveness of a one day face-to-face sexual health training program for a group of interdisciplinary hospital staff working with individuals with acquired physical disabilities in Ireland. The researchers used a mixed methods design, consisting of pre- and post- questionnaires and interviews. Twenty-nine participants completed both questionnaires. The findings suggested there was an increase in perceived knowledge, comfort, and skills in relation to sexual health as a result of the training program. Twelve people participated in interviews two to three weeks after the training program. The interviews revealed that participants felt positive about the training program and reported a number of situations where they more willingly discussed S&RH with their clients while creating a supportive environment for clients to speak about their concerns.

Lokanc-Diluzio and colleagues (2007) conducted an evaluation of a six hour face-to-face teacher in-service to increase perceived knowledge, comfort, and ability of teachers to deliver the human sexuality curriculum. The program included PowerPoint presentation, group activities, video, discussion (question and answer sessions, facilitator led discussion, and small group discussion), resource presentation, and website activities. Eleven teacher in-services were

evaluated using a pre-experimental design (one group, pre- and post-test). Of the 127 teachers participating in the in-services, 118 participants completed the pre-survey, and 109 participants completed the post-survey. Analysis of pre- and post in-service data suggested self-reported increases in knowledge, comfort, and perceived ability to present accurate information.

Several studies indicate that the capacity development of service providers improves their knowledge and comfort in relation to S&RH. Nevertheless, there is a noticeable research gap regarding the effectiveness of capacity development programs for service providers that work with SIY. This may be due to the fact that those implementing the programs are front line workers that neither have the time nor skills to conduct the research and disseminate the results.

Limitations in Previous Research

There were several limitations noted within the literature reviewed. First, there were limited published evaluations of S&RH training programs (Ahmed et al., 2006; Gonzalez-Acquero, 2006; Hay et al., 1996; Higgins et al., 2012; Levenson-Gingiss & Hamilton, 1989; Lokanc-Diluzio et al., 2007; Tappe et al., 1997; Perry et al., 2005; Weerakoon et al., 2008; Wight & Buston, 2003; Walker et al., 2003). Of these published evaluations, only two were conducted in Canada (Hay et al., 1996; Lokanc-Diluzio et al., 2007). This is noteworthy because societal values and beliefs in relation to sexuality vary among countries. Clearly more research is needed from a Canadian perspective.

Second, most of the studies published targeted teachers (Ahmed et al., 2006; Gonzalez-Acquero, 2006; Levenson-Gingiss & Hamilton, 1989; Lokanc-Diluzio et al., 2007; Tappe et al., 1997; Wight & Buston, 2003) and undergraduate students (Hay et al., 1996; Weerakoon et al., 2008). Only two studies targeted an interdisciplinary group of service providers (Higgins et al., 2012; Walker et al., 2003). Similarly, most of the studies targeted service providers working

within the context of schools (Ahmed et al., 2006; Gonzalez-Acquero, 2006; Levenson-Gingiss & Hamilton, 1989; Lokanc-Diluzio et al., 2007; Tappe et al., 1997; Wight & Buston, 2003; Walker et al., 2003). Such studies exclude service providers working with marginalized groups such as SIY.

Third, the majority of the evaluated S&RH training programs used the traditional face-to-face learning approach (Ahmed et al., 2006; Hay et al., 1996; Higgins et al., 2012; Levenson-Gingiss & Hamilton, 1989; Lokanc-Diluzio et al., 2007; Tappe et al., 1997; Wight & Buston, 2003; Walker et al., 2003) versus an online approach (Gonzalez-Acquero, 2006; Weerakoon et al., 2008). There were no studies comparing the effectiveness of online approaches with face-to-face approaches.

Fourth, most studies were limited in source of data collection. For example, studies primarily collected data from solely the program participants (Gonzalez-Acquero, 2006; Lokanc-Diluzio et al., 2007). Only in one study (Walker et al., 2003) were data collected from different sources. Collecting data from different sources, such as participants and facilitators, could provide a more comprehensive picture of the research findings.

Finally, many studies used pre-experimental designs (e.g., one-group pre-test post-test design) (Hay et al., 1996; Levenson-Gingiss & Hamilton, 1989; Higgins et al., 2012; Lokanc-Diluzio et al., 2007; Perry et al., 2005; Walker et al., 2003), which are less rigorous than quasi experimental and experimental designs because they cannot control for external factors impacting the independent variables (Polit & Beck, 2012; Weerakoon & Steirnborg, 1996).

Training Approaches for S&RH Capacity Development

There are different training approaches to capacity development. For example, training can take place in traditional face-to-face learning environments, such as classrooms, boardrooms,

or conference centers. Alternatively, training can take place online, also known as web-based, internet and e-learning.

Face-to-Face and Online Training Comparisons

As previously noted, no studies could be found comparing S&RH training programs delivered face-to-face to those delivered online. However, there is an array of research describing successful training programs for various service providers across multiple disciplines and topics. These training programs use a variety of teaching approaches, such as face-to-face and online learning. A systematic review of continuing medical education programs determined that many of these training programs were successful at impacting cognitive learning, affective learning, and behaviour (Tian, Atkinson, Portnov, & Gold, 2007).

Additionally, there are numerous studies comparing distance education, including online learning, to face-to-face learning related to several topics. Russell (2001) compiled over 350 research studies, reports, and dissertations comparing student outcomes of courses delivered through the different modalities. Through his analysis, Russell determined that there was no significant difference in student learning outcomes when comparing different types of education delivery. The majority of the studies revealed that when teaching method and course materials were consistent, student outcomes were similar for both face-to-face and distance learning (Russell, 2001). This body of literature is now referred to as the "No Significant Difference Phenomenon."

Other experts in the area of online learning (Garrison, 2011; O'Neil, Fisher, & Newbold, 2004; Swan, 2003) contend that there are weaknesses related to the "No Significant Difference" body of research. For example there were methodological issues in several studies (e.g., the participants were not randomized, the instruments were questionable in terms of validity and

reliability) (O'Neil et al., 2004; Swan, 2003). Additionally, Garrison (2011) states the majority of the research lacked controlling for the "nature and quality of the learning outcomes" (p. 73). As well, most of the learning outcomes measured were "outcomes expected from low-level, information-assimilation educational experiences; that is, the re-statement of rote-learned facts and static information" (Garrison, 2011, p. 73).

Sitzmann, Kraiger, Stewart, and Wisher (2006) conducted a meta-analysis comparing online and face-to-face learning modalities. Ninety-six research reports were analysed that included instruction to either undergraduate students, graduate students or employees. The results showed: (a) overall, online learning was 6% more effective than face-to-face learning for teaching declarative knowledge (memory of the facts); (b) overall, online and face-to-face learning were equally effective for teaching procedural knowledge (information regarding how to perform an action or task); (c) overall, online and face-to-face learning produced equal learner satisfaction; (d) when similar instructional techniques were used, both learning modalities were equal in effectiveness at teaching declarative knowledge; (e) online learning was 19% more effective at teaching declarative knowledge when the learner took longer courses and was afforded control over learning, when the learner received feedback from instructors, and when the learner practiced; and (f) classroom instruction was 20% more effective at teaching declarative knowledge when an online course was short and did not allow for learner control, practice, and feedback. The last three points underscore the importance of online and face-to-face program design features in maximizing learner outcomes.

Strengths and Challenges of Face-to-Face Learning

Several strengths of face-to-face learning are outlined in the literature. One strength is the ability to interact with others in person, and in real-time. This provides the ability to read body

language and other non-verbal cues, so helpful during exchanges (Garrison, 2011; Meyer, 2003; Qiu & McDougall, 2013). Additionally, face-to-face learning provides the opportunity to get immediate responses to questions or comments (Qiu & McDougall, 2013). Some people appreciate the “speed," "spark," or "energy" in face-to-face discussions, or the manner in which one participant’s comments can build upon another’s (Meyer, 2003, p.61). Some participants like and benefit from the enthusiasm others bring to a discussion (Meyer, 2003). Others note that face-to-face learning is more conducive to forming relationships and collaborating as participants have the opportunity to socialize (e.g., grab a coffee and chat during breaks) (Qiu & McDougall, 2013). Some feel discussions are more cohesive, personal (Meyer, 2003), warm and/or intimate (Qiu & McDougall, 2013) in a face-to-face versus online learning environment. Finally, discussions in face-to-face learning environments take less time as it takes place during a structured timeframe (Meyer, 2003) and require less work of participants because they listen and speak versus read and write (Qiu & McDougall, 2013).

Face-to-face learning has its challenges. One challenge of face-to-face learning is the structured timeframe could inhibit one’s ability to reflect on content or discussion (Garrison, 2011). Face-to-face discussions force or require a person to think quickly with the potential for less thoughtful comments or superficial discussion (Qiu & McDougall, 2013). During face-to-face discussions, participants could spend some time socializing and get off topic (Qui & McDougall, 2013) or conversation could change directions several times leaving some participants wanting to comment on a subject already passed over (Meyer, 2003). Speed and competition for time could make asking questions or seeking clarification challenging (Meyer, 2003), especially for those less extroverted or those with English as a second language (Qiu &

McDougall, 2013). Finally, there is less opportunity to self-direct learning; the facilitator has most of the control (Garrison, 2011).

Strengths and Challenges of Online Learning

Online learning has its own unique strengths and challenges. Online learning provides the opportunity for flexibility (Garrison, 2011; Glogowska, Young, Lockyer, & Moule, 2011; Meyer, 2003; Murray, 2001), especially important with the multiple demands placed today on individuals' time (Glogowska et al., 2011; Meyer, 2003). The flexibility allows participants to complete their learning from anyplace, at anytime (Canadian Council on Learning, 2009). Additionally, there is participant autonomy and control and the ability to self direct learning (Canadian Council on Learning, 2009; Garrison, 2011; Murray, 2001). As a result, participants can customize the educational endeavour to meet their individual needs, go at their own pace, and focus on the content that meets their learning needs (Canadian Council on Learning, 2009; Murray, 2001).

When online learning incorporates an online asynchronous discussion, there is more time to think and reflect (Garrison, 2011; Meyer, 2003; Qiu & McDougall, 2013). As a result, some feel online discussions are more thoughtful (Meyer, 2003), in-depth, thorough (Meyer, 2003; Qiu & McDougall, 2013) and of higher quality (Qiu & McDougall, 2013). Additionally, some feel online discussions are more focused/stay on track, since the discussion is documented (Qiu & McDougall, 2013). The fact that there is a semi-permanent record of any interaction is another strength of the online discussion. Since messages stay posted for prolonged periods of time, one can follow and reflect upon a train of thought (Qiu & McDougall, 2013). Also, online discussions can encourage participation because everyone has an equal opportunity to speak

(Meyer, 2003; Qiu & McDougall, 2013). Online discussions also appeal to shy participants because of a perceived anonymity (Qiu & McDougall, 2013).

Facilitators also appreciate the flexibility of online learning (Meyer, 2003; Qiu & McDougall, 2013). Some facilitators believe online discussions provide additional time to think, reflect, and respond to participants (Meyer, 2003). Finally, from an employer's perspective, online learning allows employees to fit an educational opportunity within their schedule without the cost associated with travel, parking, or staff coverage (Glogowska et al., 2011).

Online learning is not without its challenges. One challenge relates to participant interaction with facilitators and other learners. It is a challenge to form connections and interact with others while communicating *via* the written word (Garrison, 2011). Some feel that online discussions are challenging because they lack nonverbal communication (Meyer, 2003; Qiu & McDougall, 2013). Others feel online discussions come across as "cold" because the personal connection is lost (Qiu & McDougall, 2013). This can be explained by the literature on social presence.

Social presence is defined as the ability of individuals to "…identify with a group, communicate purposefully in a trusting environment, and develop personal and affective relationships progressively by way of projecting their individual personalities" (Garrison, 2011, p. 23). Social presence can prove challenging in online learning because written communication does not have a sense of "immediacy," which refers to communication behaviours that promote psychological closeness to others (Garrison & Anderson, 2003; Swan, 2002; Woods & Baker, 2004). In a face-to-face learning environment, facilitators can use verbal (e.g., humour, praising, probing, asking for opinions) and nonverbal (e.g., self-disclosure, eye contact, gestures, facial expressions) behaviours to enhance immediacy. Immediacy is important to a secure and

supportive learning environment and "reduces personal risk and increases acceptance, particularly during critical discourse that questions ideas and understanding" (Garrison, 2011, p. 23). However, in discussing the importance of balance in any communication, Garrison and Anderson (2003) assert,

> ...there may be an optimal level of social presence. Too little social presence may not sustain the community. On the other hand, too much social presence may inhibit disagreement and encourage surface comments and social banter. After all, the primary goal is not simply social interaction and sustaining the group for the group's sake. The group sustained by social presence is a means to an end. The end being a quality learning experience for each and every [participant]. (Garrison & Anderson, 2003, p. 53)

Although time to reflect is a strength of online discussions, participants report they are laborious and time consuming as it takes time to read postings, craft responses, check responses prior to posting them (Meyer, 2003; Qiu & McDougall, 2013), and then check back to see if someone has replied to the posting (Meyer, 2003). There is also the time delay in relation to online discussions (Meyer, 2003; Qiu & McDougall, 2013). If a participant poses a question or comment, a response may not occur for days, after one participant has already moved on (Qiu & McDougall, 2013). Another challenge of online discussions is that participants need to have good writing skills (Qiu & McDougall, 2013) and an ability to convey enthusiasm for the topic (Meyer, 2003).

Facilitators also experience challenges with online learning. For example, some facilitators find online discussions more laborious in terms of starting a discussion and keeping it going (Qiu & McDougall, 2013). Others have difficulty with the lack of visual cues needed for effective communication (Qiu & McDougall, 2013).

For practicing professionals participating in online learning, there are different challenges. They can differ in regards to their computer literacy so important to online communication (Glogowska et al., 2011). Additionally, in order to participate in online learning, professionals need protected time during work hours. Finally, having anytime and anywhere access to learning threatens to decrease the boundaries between professional and personal lives (Glogowska et al., 2011).

Recommendations for S&RH Training Programs

Although limited, the literature provides some guidance for recommended practices regarding the development of face-to-face and online S&RH training programs. First, invite the program participants to provide input in the development of the program (PHAC, 2008; Weerakoon & Steirnborg, 1996). Second, use theory to guide the training program development and implementation (Weerakoon & Steirnborg, 1996). Constructivist learning and a complementary theory of adult learning, andragogy are appropriate for guiding both face-to-face and online training programs. (These are discussed in Chapter 3.) Third, it is important to have training facilitators and program developers experienced in both teaching approaches and the subject matter (Weerakoon, 2003). Fourth, there needs to be balance between flexibility and structure in terms of the approach to learning. In other words, allow some flexibility to enable the participants to meet their learning needs within structured goals of the program (McKee, Green, & Hamarman, 2012; Weerakoon & Steirnborg, 1996). Finally, employ a variety of learning strategies (McKee et al., 2012; PHAC, 2008; Weerakoon & Steirnborg, 1996). These recommendations were used to guide the online and face-to-face S&RH training programs for this research.

Summary

Five significant points from the above literature review are highlighted. These points support the importance of this research. First, SIY are a complex population with various strengths and challenges (Bender et al., 2007; Rew & Horner, 2003; Thompson et al., 2013). Due to their diverse life circumstances, SIY are at risk for pregnancy (McCreary Center Society, 2007), STIs, and HIV (PHAC, 2006a; 2006b). Second, service providers of SIY are well positioned to protect and promote the S&RH of SIY (Caputo et al., 1997). However, they need the adequate knowledge, skills and training in order to do so (CPHA, 2005; PHAC, 2008; Worthington et al., 2008). Fourth, research suggests S&RH training can improve participants' cognitive learning (knowledge) (e.g., Gonzalez-Acquero, 2006), affective learning (comfort) (e.g., Ahmed et al., 2006; Walker et al., 2006), and behaviour (e.g., Walker et al., 2003). However, there is limited published research evaluating S&RH training programs (Ahmed et al., 2006; Hay et al., 1996; Gonzalez-Acquero, 2006; Levenson-Gingiss & Hamilton, 1989; Lokanc-Diluzio et al., 2007; Tappe, Galer-Unti, & Bailey, 1997; Perry et al., 2005; Weerakoon et al., 2008; Wight & Buston, 2003; Walker et al., 2003), particularly from a Canadian perspective (Hay et al., 1996; Lokanc-Diluzio et al., 2007). Finally, there is no published research that compares the outcomes of face-to-face training with that of online training related to the S&RH of SIY.

CHAPTER 3: THEORETICAL PERSPECTIVES

This two-phased, mixed methods study focuses on developing and evaluating two types of training programs that develop the capacity of service providers to work with street-involved youth (SIY) regarding their sexual and reproductive health (S&RH). In phase one, the S&RH learning needs of service providers are assessed qualitatively. The data from phase one are then used to inform the development of face-to-face and online training programs, which are evaluated in phase two, using mixed methods. There are several theoretical perspectives informing this study: pragmatism guides the philosophy of science; constructivist learning and andragogy guide the training program design and implementation; and Kirkpatrick and Kirkpatrick's (2005) four level evaluation model guides the evaluation.

This chapter is divided into three sections. In the first section, pragmatism is discussed and contrasted to two other scientific paradigms (post-positivism and constructivism). Also, the challenges of conducting mixed methods research on both the paradigm and practical levels are discussed in addition to the strengths of conducting mixed methods research. In the second section, theoretical perspectives on learning are discussed, including constructivist learning and andragogy as well as their practical implications for practice. Finally, Kirkpatrick and Kirkpatrick's (2005) evaluation model is described.

Pragmatism, Post-Positivism and Constructivism

Pragmatism is the scientific paradigm that guides this study. A paradigm is “a set of interlocking philosophical assumptions and stances about knowledge, our social world, our ability to know that world, and our reasons for knowing it—assumptions that collectively warrant certain knowledge claims, and certain actions on those claims” (Greene & Caracelli, 1997, p.6). A paradigm directs a researcher’s perspective regarding social inquiry, such as the

research questions to ask, the research methods to use, and what constitutes high quality inquiry (Greene & Caracelli, 1997). Discussion regarding mixed methods research typically entails a discussion surrounding the post-positivist paradigm, which is linked to quantitative research methods, and the constructivist paradigm, which is linked to qualitative methods.

Post-positivism and constructivism each have corresponding assumptions or knowledge claims, which guide the research process. Those practicing from a post-positivist research paradigm believe that inquiry should be objective and therefore attempt to remain detached from the phenomenon of interest, while aiming to remove their biases from the inquiry (Creswell, 2014; Johnson & Onwuegbuzie, 2004; Monti & Tingen, 1999; Tashakkori & Teddlie, 1998). They believe generalizations that are time and context-free are both wanted and plausible (Johnson & Onwuegbuzie, 2004) and "causes (probably) determine scientific outcomes" (Creswell, 2014, p. 7). These researchers use a deductive reasoning process where they develop precise "predictions from general principles" (Polit & Beck, 2012, p. 725). This involves testing or confirming a theory or hypothesis (Johnson & Onwuegbuzie, 2004). These researchers typically employ rhetorical neutrality which entails a formal style of writing (Johnson & Onwuegbuzie, 2004; Sandelowski, 2003).

Those practicing from a constructivist paradigm believe generalizations that are time and context free are neither wanted nor plausible (Creswell, 2014; Johnson & Onwuegbuzie, 2004; Monti & Tingen, 1999; Tashakkori & Teddlie, 1998). These researchers believe that research is value-laden, and it is not possible to distinguish causes from effects (Creswell, 2014; Johnson & Onwuegbuzie, 2004; Monti & Tingen, 1999; Tashakkori & Teddlie, 1998). Additionally, they contend that what is known cannot be disconnected from the knower, because "the subjective knower is the only source of reality" (Johnson & Onwuegbuzie, 2004, p. 14). These researchers

“recognize that their own backgrounds shape their interpretation, and they position themselves to acknowledge how their interpretation flows from their personal, cultural, and historical experiences” (Creswell, 2014, p. 8). These researchers use inductive reasoning to generate theory or a pattern of meaning (Creswell, 2014). Typically, these researchers have a preference for an informal and direct style of writing that is rich, detailed and provocative (Johnson & Onwuegbuzie, 2004; Sandelowski, 2003).

From the descriptions provided, one can see that post-positivism and constructivism each produce a distinctive type of research with inherent strengths and challenges. A pragmatic position contends that both approaches are valuable in guiding research. It offers a practical and applied philosophy of research: “Study what interests and is of value to you, study it in the different ways that you deem appropriate, and use the results in ways you can bring about positive consequences within your value system” (Tashakkori & Teddlie, 1998, p. 30). In effect, pragmatism acts like a springboard to various methods, philosophies, assumptions as well as types of data collection and analysis techniques (Creswell, 2014).

Some of the characteristics of pragmatism are listed below and the knowledge claims of pragmatism are listed in Table 1, and compared to that of post-positivism and constructivism.

1. Pragmatists believe that research is contextual (Creswell, 2014).

2. Pragmatists believe that truth is “what works at the time. It is not based in a duality between reality independent of the mind or within the mind” (Creswell, 2014, p. 11).

3. Pragmatists believe that knowledge is fallible (Johnson & Onwuegbuzie, 2004).

4. For pragmatists, the “how” and “what” to research is guided by the intended consequences of the inquiry. Knowledge claims “arise out of actions, situations, and consequences rather than antecedent conditions” (Creswell, 2014, p. 10).

5. Pragmatists reject the forced choice between constructivism and post-positivism and are not loyal to any one philosophy; they welcome both perspectives (Creswell, 2014; Tashakkori & Teddlie, 1998).

6. Pragmatists believe both qualitative and quantitative methods hold merit and may decide to use either method or both depending on the research question. Individual inquirers have the freedom to select the procedures, methods and techniques, which best meet their purpose and needs (Creswell, 2014; Tashakkori & Teddlie, 1998).

7. Pragmatists believe that personal values are important in the interpretation of the results (Tashakkori & Teddlie, 1998).

Table 1. Knowledge Claims of Post-Positivism, Pragmatism and Constructivism

	Post-Positivism	Pragmatism	Constructivism
Methods	• Quantitative (Creswell, 2014).	• Qualitative and quantitative (Creswell, 2014).	• Qualitative (Creswell, 2014).
Ontology ("the nature of reality") (Tashakkori & Teddlie, 1998, p. 10)	• Critical realism (an objective reality exists; however, it can only be comprehended probabilistically and imperfectly (Tashakkori & Teddlie, 1998).	• External world independent of the mind and reality within the mind (Creswell, 2014). • Absolute truth cannot be found. Evidence is fallible (Tashakkori & Teddlie, 1998).	• Relativism- realities are multiple and constructed (Tashakkori & Teddlie, 1998).
Epistemology ("the relationship of the knower to known") (Tashakkori & Teddlie, 1998, p. 10)	• Absolute truth cannot be found (Creswell, 2014). "Findings are probably objectively 'true'" (Tashakkori & Teddlie, 1998, p. 23). • "Modified dualism" (Tashakkori & Teddlie, 1998, p. 23). • Research endeavours to generate relevant truth statements (Creswell, 2014).	• Both subjective and objective viewpoints (Tashakkori & Teddlie, 1998). • Intersubjective (Morgan, 2007; Wheeldon, 2010).	• The known cannot be detached from the knower (Creswell, 2014; Tashakkori & Teddlie, 1998). • Subjective viewpoint (Tashakkori & Teddlie, 1998).
Axiology ("the role of values in inquiry") (Tashakkori & Teddlie, 1998, p. 10)	• Research is value-laden; however, the values can be contained (Tashakkori & Teddlie, 1998).	• Values are important in the interpretation of results (Tashakkori & Teddlie, 1998).	• Research is value-laden (Tashakkori & Teddlie, 1998).
Logic	• Deduction (Creswell, 2014).	• Induction, deduction and abduction ("uncovering and relying on the best set of explanations for understanding one's results") (Johnson & Onwuegbuzie, 2004, p.17).	• Induction (Creswell, 2014).

Challenges of Mixed Methods Research

It is important to note that there are tensions related to conducting mixed methods research on both philosophical and practical levels. Some researchers dismiss mixed methods because their respective differences preclude their combined use within a single study (Greene & Caracelli, 1997; Johnson & Onwuegbuzie, 2004). I, however, take a more pragmatic stance. I believe that post-positivism and constructivism do not represent opposing viewpoints; they offer different perspectives. As well, although there are important differences between post-positivism and constructivism, there are some similarities, as well. For example, (a) both types of researchers believe inquiry is value laden and that knowledge is fallible (Reichardt & Rallis, 1994; Tashakkori & Teddlie, 1998); (b) both types of researchers believe "the world is complex and stratified and often difficult to understand" (Reichardt & Rallis, 1994, p. 89); (c) both types of researchers describe and interpret data (Johnson & Onwuegbuzie, 2004; Monti & Tingen, 1999) and consider implications for practice; (d) both approaches are considered equally scientific (Monti & Tingen, 1999); (e) careful thought and consideration goes into the development of both types of inquiry (Monti & Tingen, 1999); (f) both approaches believe in the need to comprehend and enhance the human condition (Reichardt & Rallis, 1994); (g) both types of researchers believe in the importance of disseminating research findings in order to make informed decisions (Reichardt & Rallis, 1994); and (h) both types of researchers incorporate strategies into their inquiry in order to enhance the integrity of their findings (Johnson & Onwuegbuzie, 2004; Reichardt & Rallis, 1994).

There are tensions with conducting mixed methods research on a practical level. First, the researcher needs to be well versed with multiple forms of data collection and analysis (Bazeley, 2004; Johnson & Onwuegbuzie, 2004; Polit & Beck, 2012). Solid mixed methods research

entails a good understanding of the methods employed, "their assumptions, analysis procedures and tools, and an ability to understand and interpret results derived from those different methods" (Bazeley, 2004, p.8).

Second, mixed methods research is more time consuming, particularly when data are collected sequentially (Bazely, 2004; Johnson & Onwuegbuzie, 2004; Polit & Beck, 2012). Because there are two separate phases of data collection, the current study was time consuming but necessary. Researchers have to listen to the target population in any public health endeavour.

Third, mixed methods research is in its infancy (Creswell, 2014; Johnson & Onwuegbuzie, 2004; Teddlie & Tashakkori, 2003). "Much work remains to be undertaken in the area of mixed methods regarding its philosophical positions, designs, data analysis, validity strategies, mixing and integration procedures, and rationales, among other things" (Johnson & Onwuegbuzie, 2004, p. 15). I believe that this study provides a singular opportunity to undertake such work.

Finally, there are challenges in reporting results from mixed methods studies. Generally speaking, quantitative and qualitative research calls for different styles of writing (Bazeley, 2004; Sandelowski, 2003). Researchers and other consumers of research, who have an affinity for one research approach over the other, differ in their preferences (Sandelowski, 2003). Creating compelling mixed methods reports necessitates using language and words that appeal to different audiences (Sandelowski, 2003). That is, mixed methods researchers have "…to communicate with and thereby create one community from the diverse communities reading mixed methods studies" (Sandelowski, 2003, p. 345).

Strengths of Mixed Methods Research

As previously noted, this study is a two-phased mixed methods intervention study. Phase one informs the intervention, through qualitative interviews, while phase two evaluates it using quantitative and qualitative methods. Mixing methods in intervention studies can strengthen the study. Although qualitative research methods are typically omitted from intervention research, they can enhance the meaningfulness of the research by placing the findings in the real world (Sandelowski, 1996). Additionally, including clients in the development of nursing interventions is good nursing practice (Fogg & Gross, 2000; Gamel, Grypdonck, Hengeveld, & Davis, 2000; Lauver et al., 2002 ; Polit & Beck, 2012; Ray, 1999; Sandelowski, 1996) as it promotes client centered care (Gamel et al., 2000) and public participation, both of which provide critical insights about how to intervene most effectively (Polit & Beck, 2012).

Within the context of intervention studies, qualitative research can explain, clarify, add meaning to, or provide corroboration about quantitative findings (Fogg & Gross, 2000; Sandelowski, 2003; Sandelowski, 1996; Weinholtz, Kacer, & Rocklin,, 1995). Sandelowski (2003) eloquently stated,

> Here, the utility of qualitative research findings resides in their capacity to clarify, explain, verify, or show the instrumental utility (i.e. clinical significance) of quantitative research findings. Statistically significant findings are not necessarily clinically useful, and qualitative findings are said to show the tears that statistical accounts wipe off. Because qualitative research findings address the realms of experience that quantitative findings cannot reach, they may complicate or even refute quantitative research findings… Qualitative research findings close the gap not only between understanding and action but also between efficacy (or what works in research) and effectiveness (or what works in practice). (pp. 1373-1374)

Sandelowski (2003) makes an important point. It concerns the distinction between statistical significance and clinical significance. Determining if an intervention is clinically meaningful is ultimately a matter of opinion. Because qualitative research aims to obtain the perspectives of the study participants, it can be used to assist with interpreting statistical findings (Sandelowski, 1996, p. 360).

Summary

In summary, I chose pragmatism to guide this research because it offers the possibility of mixing methods in this two-phased intervention study. Mixing methods within this study gives a voice to those being studied. It provides a greater understanding of the target population in phase one, which allows for a clearer, client-centered intervention in phase two. Combining qualitative and quantitative methods in phase two provides a transparent, more comprehensive understanding of the outcomes and situates the findings in the practice world. For example, in phase two, the quantitative data could indicate significant differences between the respective training approaches. On the other hand, the qualitative data could identify the reasons for any differences. Ultimately mixing methods answers the research problem and provides information that is actionable.

Theoretical Perspectives on Learning

In this research, constructivism, a philosophy of education (Dewey, 1938/1997; Jonassen, 1999), and andragogy, a theory of adult learning (Knowles et al., 2012) together inform the design of the face-to-face and online training programs respectively. For the sake of clarity and consistency, within the context of this study, I use the term of constructivist learning, in lieu of constructivism, to distinguish between the philosophy of education and the philosophy of science, as discussed above.

Constructivist Learning

In order to understand the meaning of constructivist learning, it is helpful to understand what it is not. Beliefs regarding knowledge are often envisioned as a continuum with an objectivist viewpoint on one side and a constructivist viewpoint on the other (Jonassen, 1991). Objectivist learning is rooted in realism, which accepts that a real world exists, a world outside of the learner's mind, and separate from human experience. This belief depends upon "the existence of reliable knowledge about the world, knowledge that we, as humans, strive to gain" (Jonassen, 1991, p. 8). Objectivists assume that humans can obtain the same understanding regarding a particular phenomenon because we as learners can absorb this objective reality and store it in our minds (Jonassen, 1991). In other words, objectivists assume that educators or technology can transmit knowledge and knowledge can be passively acquired by learners (Jonassen, 1991; Jonassen, 1999; Jonassen, Peck, & Wilson, 1999; O'Neil et al., 2004). This type of thinking underlies the traditional style of teaching where knowledge is transferred to the learner from the lecturer, a video, a PowerPoint presentation, or technology (O'Neil et al., 2004).

Constructivist learning, on the other hand, asserts that the learner constructs or interprets a reality based upon his or her perceptions (Jonassen, 1991). Constructivist learning rejects dualistic thinking that the mind and the external world have distinct realities (Jonassen & Land, 2000). Constructivist learning supports that individuals construct their own distinct ideas of reality, depending on how they integrate mind, perception, behaviour and action (Jonassen & Land, 2000). In short, objectivism emphasizes "the object of our knowing," whereas constructivist learning focuses on how individuals "*construct* knowledge" (Jonassen, 1991, p. 10). Constructivist learning recognizes two aspects in the development of knowledge, "individual construction" and "social co-construction" (Jonassen, 1999, p.217). The learner

cannot construct knowledge without using his or her world experience and interpretations of past events (Jonassen, 1999). It is important to note that constructivism "does not preclude the existence of an external reality; it merely claims that each one of us constructs our own reality through interpreting perceptual experiences of the external world" (Jonassen, 1991, p. 10). In terms of experience, Jonessen and colleagues (1999) state,

> We learn from experiencing phenomena (objects, events, activities, processes), interpreting those experiences based upon what we already know, reasoning about them, and reflecting on the experiences and the reasoning… this process [is called] meaning making. Meaning making is at the heart of… constructivism. (p. 2)

There are several assumptions of constructivist learning; these assumptions and their implications for education are outlined in Table 2.

Table 2. Assumptions of Constructivist Learning and Implications for Education

Assumption	Implications for Education
Knowledge is constructed, not imparted (Jonassen et al., 1999; O'Neil et al., 2004).	The facilitator or technology can only facilitate learning by actively stimulating and engaging learners to think about the subject matter (Jonassen et al., 1999; O'Neil et al., 2004).The facilitator or technology are tools to engage people to learn.
The construction of knowledge is a result of activity (Jonassen et al., 1999).	Active learning (where learners are participating in meaningful tasks) is important (Jonassen et al., 1999; O'Neil et al., 2004).
"Meaning is in the mind of the knower… [t]herefore, there are multiple perspectives of the world (Jonassen et al., 1999, p.4).	It is important to recognize that people have different perspectives regarding phenomena based upon their experiences, values and beliefs. Have people share their insights.
Knowledge is anchored within the context in which learning occurs (Jonassen, 1999).	The learner utilizes contextual information they have constructed to explain or gain a better understanding of their experience. The context of an experience is important in the construction of knowledge. The learner utilizes contextual information they have constructed to explain or gain a better understanding of their experience (Jonassen et al., 1999). For example, if we experience something embarrassing while learning about a phenomenon, the feeling of embarrassment becomes a part of the knowledge constructed. An educator that gives facts without providing a context through the use of experiences reduces the likelihood of the learner creating meaning in relation to those facts (Jonassen et al., 1999). It is important to create a positive and memorable learning experience and provide information within the context of a situation, problem or scenario.
Meaning can be shared with other people; therefore meaning making can be an outcome of conversation (Jonassen et al., 1999).	Discussion and dialogue are important as they create the opportunity for people to learn from one another.

Assumption	Implications for Education
Meaning making is provoked by a question, problem, confusion, or the desire or need to know, and therefore involves ownership of that problem (Jonassen et al., 1999).	It is important to address the learning needs of those participating in the program and/or negotiate the goals of the program (Jonassen, 1991). While the ideas of others can be memorized, true knowledge construction comes from the desire to actively problem solve and make sense of the phenomena. Create opportunities for periods of question and answer; use authentic case examples that require resolution (Jonassen, 1999).
The building of knowledge necessitates the expression of what was learned (Jonassen et al., 1999).	It is important to include activities that provide the opportunity for reflection on past and present experiences, and the manner in which new information can be integrated into future experiences (Jonassen et al., 1999).
Not all "meaning is equally valid just because it is personally constructed" (Jonassen et al., 1999, p.6).	"If individual ideas are discrepant from community standards, they are not regarded as viable… Individuals are regarded as more knowledgeable because their understanding is constructed from a richer and more varied set of experiences" (Jonassen et al., 1999, p.6). This underscores the importance of using facilitators, who not only know how to teach but who are knowledgeable and experienced regarding the content.

Constructivist learning can be traced back to the ideas of John Dewey's philosophy of education (Jonassen & Land, 2000). Dewey emphasized learning as a lifelong opportunity for growth. He believed in the importance of creating an environment that fostered learning experiences, which built upon each other (Dewey 1938/1997). Dewey's philosophy substituted the typical authoritarian relationship between the educator and learner with an interactive one that valued the experiences of the learner and that portrayed the educator as a facilitator of learning.

Dewey's philosophy of education revolves around several key concepts, such as experience, interaction, democracy, growth, and continuity. Central to Dewey's (1938/1997) philosophy of education is the concept of experience. Dewey believed that experience represents the beginning point for all learning and not the end result. Dewey stressed the importance of the

educator creating quality experiences for learners that were not only positive in the present, but also lived "fruitfully and creatively in subsequent experiences" (p. 28).

Dewey believed that learning represented a social process that involved interaction with others and/or the environment (1938/1997; 1897/1998). He indicated that human experience was social in nature because it involved "contact and communication" (Dewey, 1938/1997, p. 38). Additionally, he stated, "experience does not occur in a vacuum. There are sources outside an individual which give rise to experience" (Dewey, 1938/1997, p. 40). In order to promote learning, learning needs to be active (Dewey, 1897/1998).

Dewey (1938/1997) believed in a democratic learning environment. He believed such an environment provides a more enjoyable learning experience compared to that of an autocratic environment. He spoke of a learning environment that values flexibility and learner freedom. He did not mean that the act of educating is a "planless improvisation," however (p. 22). He meant that educators have to achieve a balance between flexibility and control.

Growth was another key concept in Dewey's (1938/1997) philosophy. He believed that the objective and incentive for learning is further growth (Dewey, 1938/1998). In this regard, it is the role of the educator to understand which physical and social environments facilitate experiences leading to growth (Dewey, 1938/1997).

Dewey (1938/1997) said that learning experiences thrive within one another. What one learns from one experience is "carried over" into subsequent experiences. Therefore, the knowledge learned in one situation "becomes an instrument of understanding and dealing effectively with situations that follow" (Dewey, 1938/1997, p. 44).

It is important to note that although objectivism and constructivism are conceptualized as polar opposites, most educators adopt positions that lie in between. This is my position. I do not

concur with the extreme or radical constructivist position. Radical forms of constructivism have been criticized for being solipsistic, meaning that learning is completely individualistic (Jonassen, 1991; Merrill, 1992). Radical constructivists believe all learning is created in the mind, which creates the reality of the world one lives in; an objective reality completely separate from human mental activity, does not exist. Therefore, "the real world is a product of the mind that constructs" it (Jonassen, 1991, p. 10). If one concurred with the radical constructivist that no objective reality was consistently interpretable by all learners, then it would be impossible to assess the acquisition of this type of reality (Jonassen, 1991). I accept

> ...a less radical form of constructivism [which] holds that the mind is instrumental and essential in interpreting events, objects, and perspectives on the real world, and that those interpretations comprise a knowledge base that is personal and individualistic. The mind filters input from the world in making those interpretations. (Jonassen, 1991, p. 10)

Andragogy

Andragogy is the complementary educational theory adopted in this study. Andragogy is a learning theory associated with adult education. It is "any intentional and professionally guided activity that aims at a change in adult persons" (Knowles et al., 2012, p. 58). Andragogy has a set of principles that can guide educators in designing and facilitating adult learning programs, by selecting effective learning tools and processes (Knowles et al., 2012). The relationship between the facilitator and the adult learner is critical to andragogy. It is the role of the facilitator to "provide [a] caring, accepting, respecting, [and] helping atmosphere" (Knowles as cited in Merrill, DiSivestro, & Young, 2003, p. 142). Through his experience working with adults, Knowles ascertained that facilitators need to care and focus on the interests of the learners versus what the facilitators feel the learners needed to know (Blondy, 2007). Furthermore,

Knowles felt that the optimal educational experiences were cooperative and supportive guided exchanges between the learner and facilitator with many available resources (Blondy, 2007). Six principles guide those exchanges. Depending on the circumstances, the adult educators act accordingly (Knowles, 2012).

Principle one: Need to know. Adults prefer to understand the purpose of any learning activity. As such, facilitators first need to "help the learners become aware of the *need to know*" (Knowles et al., 2012, p. 63) in order to gain learner buy-in. "At the very least, facilitators can make an intellectual case for the value of learning in improving the effectiveness of the learners' performance or the quality of their lives" (Knowles et al., 2012, p. 63). This principle has led to a premise, now generally accepted, that "adults should be engaged in a collaborative planning process for their learning… Engaging adults as collaborative partners for learning satisfies their *need to know* as well as appeals to their self-concept as independent learners" (Knowles et al., 2012, p. 181).

Principle two: Self-directed learning. Many professional associations require members to undertake ongoing continuous professional development. These professionals take personal responsibility for and choose relevant learning activities. Adults are fully capable of making their own decisions and providing direction in terms of their learning; however, not all learners are fully capable of self-directed and autonomous learning in all settings. The capabilities and preferences of adult learners vary (Knowles et al., 2012). In terms of education programming, it is important to acknowledge that some people attend a program because they are interested in learning the content and have identified a personal gap in knowledge, whereas others may have a different agenda (e.g., told they have to attend). Self-direction is easier to achieve in an online versus a face-to-face, as the learner has more control over learning. Providing additional

readings, resources, and articles can provide opportunity for self-direction in both types of learning environments.

Principle three: Experience provides the foundation for learning. Life experience has an important role in adult learning (Knowles et al., 2012). For mature learners, the richest source of learning lives within "the adult learners themselves… [therefore] the emphasis in adult education is on experiential teaching techniques—techniques that tap into the experience of the learners, such as group discussions, simulation exercises, problem solving activities, case methods… instead of transmittal techniques" (Knowles et al., 2012, p. 64).

> Previous experiences can potentially have some negative effects, as well.
> As we accumulate experience, we tend to develop mental habits, biases, and presuppositions that tend to cause us to close our minds to new ideas, fresh perspectives, and alternative ways of thinking. Accordingly, adult educators [should] try [and] discover ways to help adults examine their habits and biases and open their mind to new approaches. (Knowles et al., 2012, p. 65)

In terms of education programming, any activity that encourages participants to share challenging experiences can help to identify individual biases. Problem solving activities building upon participants' previous experiences can engage individuals in the learning process. Reflective activities pertaining to how learners can apply the concepts to future experiences can encourage learners to utilize the concepts in practice. Additionally, it is important to make learning interesting and fun so that learners want to capitalize on future learning opportunities.

Principle four: Readiness to learn. Adults have a vested interest in learning content that has direct and timely relevance to their work or personal life. "Adults become ready to learn those things they need to know and be able to do in order to cope effectively with their real-life situations" (Knowles et al., 2012, p. 65). This principle is sometimes challenged since not all

learners can identify their learning needs, and not all educational activities are taken purely by choice (Knowles, 1996). In terms of education programming, it is important to recognize that participants enter the learning experience for many reasons: some need the information; some require the professional development hours; and sometimes employers demand some kind of continuing education. Whatever the reason, adult learners should identify their learning needs beforehand, especially when participation is mandatory.

Principle five: Adult learning is life, task or problem orientated versus content orientated. Adults learn best, when they believe learning will assist them with executing tasks or addressing real life problems. "Furthermore, they learn new knowledge, understandings, skills, values, and attitudes most effectively when they are presented in the context of real life situations" (Knowles et al., 2012, p. 66). For this reason, pedagogical strategies could include case example exercises and any opportunity for the adult learners to share personal experiences, stories and anecdotes that pertain to real life challenges.

Principle six: Motivation to learn. Although adults respond to external motivators (e.g., job promotion), the most potent motivators are internally orientated (e.g. improved job satisfaction) (Knowles et al., 2012). For this reason, facilitators should ask participants to share their reasons for attending any educational program and then make the appropriate adjustments to any teaching plans.

Constructivist Learning, Andragogy and the Research

I chose to use constructivist learning and andragogy to guide this research for several reasons. First, constructivist learning and andragogy complement one another. While constructivist learning and andragogy have similarities, they also have some differences (e.g., constructivist learning highlights the contextual nature of learning, andragogy highlights the

relational aspect of the learning experience). Together, they provide a holistic approach to the learning experience.

Second, constructivist learning and andragogy have been used to guide a variety of educational programs. For example, constructivist learning has been used to guide adult learning in academic (Jonassen, 1999) and in continuing professional education settings (Merriam et al., 2007). Additionally, constructivist learning has been recommended for use in the nursing literature for guiding online nursing education programs (Bristol, 2006; O'Neil et al., 2004). Similarly, andragogy has been used to guide a variety of adult education activities including online learning and traditional face-to-face activities in a variety of settings (Bristol, 2006; Knowles et al., 2012; Merriam et al., 2007; Merrill et al., 2003).

Third, face-to-face and online training programs benefit from both constructivist learning and andragogy thinking. Together, they can construct a learning environment that (a) meets the needs of the learner (learner centered); (b) enables the learner to learn from previous experiences; (c) allows the learner to interact with the content, the facilitator, and other learners; and (d) remains flexible in terms of the direction of the education program. Although both face-to-face and online learning environments can have flexibility, online environments have much more. These types of environments enable the learner to access the education program anytime, anywhere.

Fourth, both of these perspectives are appropriate for use with adult learners. Both recognize the importance of lifelong experience and how it can make for a rich learning environment.

Fifth, both perspectives complement the values held within public health nursing. For example, just as constructivist learning acknowledges the contextual nature of learning, public

health nursing practice acknowledges the contextual nature of health (CHNAC, 2008). Just as constructivist learning and andragogy promote collaborative learning environments (e.g., collaboration between facilitator and learner), public health nursing practice promotes the collaborative nature of care (e.g., PHNs "care with" versus "care for" clients) (CHNAC, 2008). Just as andragogy promotes the relational aspect of learning, public health nursing promotes the relational aspect of care (CHNAC, 2008). Just as constructivist learning and andragogy value the uniqueness of the individual learner, public health nursing values the uniqueness of individuals, families, and communities (CHNAC, 2008). Just as constructivist learning and andragogy perceive the facilitator or technology as a catalyst for learning, health care planners understand that public health nursing serves as a catalyst for health (e.g., they are *not* experts who "fix" health problems) (CHNAC, 2008).

To summarize, constructivist learning and andragogy are appropriate educational approaches to inform the face-to-face and online training programs developed and evaluated for the current study. Both approaches are appropriate for guiding face-to-face and online training programs, are orientated to adult learners, and are complementary to the values held within public health nursing practice.

Kirkpatrick & Kirkpatrick's Evaluation Model

In phase two of the research, the face-to-face and online training programs are evaluated by means of an evaluation model developed by Kirkpatrick and Kirkpatrick (2005). The model contains four levels of evaluation: reaction, learning, behaviour, and results. "Each prior level serves as a basis for the next level's evaluation, and each successive level represents a more precise measure of effectiveness and more rigorous and time consuming analysis" (Tian et al., 2007, p. 16). Level one, reaction, is a measure of participant satisfaction (Kirkpatrick &

Kirkpatrick, 2005; Kirkpatrick, 1996) or how participants regard their training experience (Guskey, 2000). A favourable reaction provides the foundation for level two, learning. "Learning can be defined as the extent to which participants change attitudes, improve knowledge, and/or increase skill as a result of attending the program" (Kirkpatrick & Kirkpatrick, 2005, p. 22). There are different types of learning: cognitive learning refers to the understanding of content (Guskey, 2000); affective learning refers to the "attitudes, beliefs, or dispositions" related to particular content (Guskey, 2000, p. 125). Without learning, a change in level three (behaviour) is unlikely. Behaviour is the extent to which a change in practice has occurred or how the knowledge has been used because of participation in the training program (Kirkpatrick & Kirkpatrick, 2005). Level four, results, is the culmination of the former three levels. It can be defined as the "final results that occurred because the participants attended the program. The final results can include increased production, improved quality… results like these are the reason for having a training program" (Kirkpatrick & Kirkpatrick, 2005, p. 25). This study confines itself to the first three levels because it focuses on educational outcomes and not service outcomes or results.

I chose to use Kirkpatrick and Kirkpatrick's evaluation model for two reasons. First, it is widely used in continuing medical education programs (Milne, Keegan, Westerman, & Dudley, 2000; Tian et al., 2007;). Second, the model is flexible in terms of outcomes. For example, level two (learning), allows for a variety of possible outcomes (e.g., knowledge, skills, confidence, comfort, attitudes, and beliefs) for evaluation. Such flexibility supports the pragmatic nature of the study.

As discussed earlier, the Information-Motivation-Behavioural Skills (IMB) model (Fisher & Fisher, 1998) can guide programming aimed at influencing S&RH behaviour. I rejected this

model for two reasons. First, although the authors contend that the model can be used with service providers, I could not find any studies that (a) tested the model with service providers; and (b) described how to use the model with service providers. Although the use of the IMB model is intuitive for addressing S&RH behaviours of high risk populations, it is not intuitive for addressing S&RH capacity development of service providers. Second, the IMB model does not take into account how learners react to a training program and if it is acceptable, which is an important aspect of this study. In terms of delivering face-to-face and online training programs to service providers under the auspices of a large organization, as with this study, it is not only important to understand if the program is effective, it is important to understand if the program is acceptable.

Summary

This chapter discussed the theoretical perspectives driving this research. Pragmatism is the overarching scientific paradigm that guides the research process (e.g., research questions, data collection, data analysis, and interpretation). Constructivist learning (philosophy of education) and andragogy (theory of adult learning) (Knowles et al., 2012) inform the design and implementation of the training programs. Finally, Kirkpatrick and Kirkpatrick’s (2005) evaluation model informs the evaluation of the training programs. The next chapter will address the methods for phase one of this research.

CHAPTER 4: METHODS PHASE ONE

This study is a mixed methods intervention study. Mixed methods studies deliberately blend qualitative and quantitative research methods, techniques, approaches or language within a single investigation (Creswell, 2014; Greene & Caracelli, 1997; Johnson & Onwuegbuzie, 2004; Morse, 2003; Polit & Beck, 2012; Tashakkori & Teddlie, 1998; Teddlie & Tashakkori, 2003). "If you visualize a continuum with qualitative research anchored at one pole and quantitative research anchored at the other, mixed methods research covers a large set of points in the middle area" (Johnson & Onwuegbuzie, 2004, p. 15). These various research methods combine to collect different types of information. Mixed methods researchers assume that both constructivism and post-positivism contribute to our understanding and knowing (Greene & Caracelli, 1997). The overarching reason for conducting a mixed methods study is that combining quantitative and qualitative approaches generate more comprehensive and meaningful insights than either method alone (Creswell, 2014; Greene & Caracelli, 1997; Morse, 2003).

This study employs a two-phased sequential and embedded mixed method design. Phase one informs the development of the intervention, through qualitative interviews with service providers and street-involved youth (SIY) and is on the constructivist side of the research continuum. Whereas phase two evaluates the intervention, using quantitative and qualitative methods (quasi-experimental design), and sits more on the post-positivist side of the research continuum. Due to the sequential nature of this study, the findings from phase one impact on the methods for phase two. To enhance the readability of this dissertation, Chapter 4 and Chapter 5 focus on the methods and findings for phase one respectively, and Chapter 6 and Chapter 7 focus on the methods and findings for phase two respectively.

This chapter begins by situating the researcher in the research. Next, the overall research purpose and design are discussed. Then, details regarding the methods of phase one are outlined including: sample selection and description of service provider participants; the sample selection and description of SIY participants; and data collection, data analysis, and ethical procedures. Finally, strategies used to promote the trustworthiness of the research are highlighted.

Situating the Researcher

To this study, I bring over 15 years of public health nursing experience, which entails working with youth and service providers in school and community settings as well as 12 years of experience working in the area of sexual health promotion. I have worked as a S&RH specialist with Alberta Health Services, Sexual and Reproductive Health in Calgary since 2002.

This research was influenced by my work at Sexual and Reproductive Health. The goals of the Alberta Health Services program are: (a) to promote optimal S&RH throughout the life span; (b) to assist clients with attaining positive sexual health outcomes (e.g., healthy relationships, adoption of healthy practices such as condom use and STI testing); and (c) to assist clients with preventing negative sexual health outcomes (e.g., unintended pregnancy, STI/HIV) (Alberta Health Services, Sexual and Reproductive Health, 2014). Values guiding my work at Sexual and Reproductive Health include client-centered care, comprehensiveness, accessibility, effectiveness, cultural sensitivity, capacity development, client-centeredness, multiple ways of knowing, practicality, evidence based decision-making, and respect.

Education remains important to me as both a student and as a facilitator. I have had several years experience working with undergraduate students, including nursing preceptorships, clinical instruction, and the development and implementation of a blended learning health promotion course to an inter-disciplinary group of university students. My experiences in

facilitating and participating in face-to-face, online, and blended learning courses has influenced my perspectives regarding education. I believe: (a) the learning environment should be learner centered; (b) the learning environment should have a balance between flexibility and structure, where the learner has opportunity to self-direct learning; (c) learning is contextual; (d) learning should be active and interactive; (e) learning involves reflection; (f) the "teacher" is the facilitator of the learning process; (g) learning should be relevant; (h) learning should inspire further learning; and (i) learning should be enjoyable.

It is important to acknowledge that all my experiences, my personal values as well as the values of the organization I work for have impacted all aspects of this study, including the conceptualization of the research questions to the types of information collected and the interpretation of the findings.

Overall Research Purpose

This study develops and compares two approaches for training service providers about the S&RH of SIY. The purpose of this two phased study is: (a) to assess the S&RH learning needs of service providers working with SIY (phase one); and (b) to explore the effectiveness of two kinds of programs (face-to-face and online) that train service providers to support SIY in addressing their S&RH needs (phase two). The research questions are:

1. What knowledge do SIY require from service providers to protect and promote their S&RH? (phase one)
2. Does participation in either an online or face-to-face training experience enhance the capacity of service providers to work with SIY regarding their S&RH? (phase two). The secondary questions for phase two are:

A. How do participants regard either their online or face-to-face training experience (learner reaction)?
B. Do participants experience an increase in cognitive learning (knowledge) after participation in either an online or face-to-face training experience?
C. Do participants experience an increase in affective learning (perceived comfort) after participation in either an online or face-to-face training experience?
D. How do participants reportedly use their training after participation in either an online or face-to-face training experience (practice behaviour)?
E. How do facilitators of online or face-to-face training approaches evaluate their experiences?

Overall Research Design

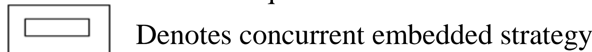
The study utilizes a two phased sequential and embedded design. Phase one is qualitative (interpretive and descriptive) whereas phase two uses a mixed method quasi-experimental design. Figure 2 portrays the research design. The figure shows that (a) there is a sequential form of data collection whereby the data collected and analyzed in phase one informs phase two of the research; (b) qualitative and quantitative data are collected simultaneously in phase two; and (c) there is an emphasis on the quantitative aspect of the research whereby the qualitative findings are intended to provide meaning, depth and clarity to the quantitative findings.

A mixed method approach addresses the research questions in a comprehensive manner. Mixing methods gives a voice to participants. It provides a greater understanding of service providers and SIY, in phase one, which allows for a clearer, client-centered intervention in phase two. Combining qualitative and quantitative methods in phase two provides "an understanding of participant views within the context of [a quasi] experimental intervention" (Creswell, 2014, p.

231). In other words, it provides a transparent, more comprehensive understanding of the intervention outcomes or how different training approaches develop the capacity of service providers in relation to S&RH.

Figure 2. Depiction of Study Design

Capitalization denotes emphasis on quantitative component


"→" Denotes sequential form of data collection

Denotes concurrent embedded strategy

Design and Objectives of Phase One

Phase one uses a qualitative design. Data are collected from service providers and SIY participants *via* semi structured in-depth interviews. Phase one assesses the S&RH learning needs of service providers working with SIY for the purpose of informing the development of the S&RH training programs evaluated in phase two. There are three related objectives. The first objective is to gather information about service providers' learning needs and perspectives regarding the S&RH of SIY. The second objective is to collect information from service providers on redesigning a standard curriculum of a S&RH program delivered under the auspices of Alberta Health Services, Sexual and Reproductive Health (Appendix A) (Lokanc-Diluzio et al., 2007). The service providers would advise how the standard in-service, which targets teachers working with mainstream youth, could be redesigned for service providers that work with SIY. The third objective is to gather information about the S&RH concerns faced by SIY.

Determining the S&RH concerns faced by SIY would provide valuable information in order to assist in designing case examples, problem solving activities and reflective activities for the training programs.

Sample in Phase One

This section is divided into four subsections: two pertain to the service provider participants; and two pertain to SIY participants.

Selection of Service Provider Participants

The sample inclusion criteria for service providers in phase one include: (a) Service providers currently working at a high risk/SIY serving agency/organization; and (b) Service providers employed at the agency/organization as a licensed nurse, licensed social worker, educator (e.g., community educator or teacher), or youth worker with a minimum of a high school diploma. The sample excludes service providers working for agencies that specialize in the area of S&RH because their learning needs would differ from other service providers.

Purposive sampling allowed for representation from different kinds of service providers from a variety of agencies/organizations. To recruit participants, I contacted selected agencies/organizations working with SIY. In one case, I spoke to the manager, explained the study and asked if the manager would forward the recruitment notice to probable participants (Appendix B). In the other cases, I contacted the agency, and directly explained the study to individuals that met the criteria and asked if they would participate. All participants contacted in this manner agreed to participate in the study.

Service Provider Characteristics

Given that the intention of the interviews was to inform phase two of the research, a smaller sample size of four to six service provider participants was the goal. In the end, six

service providers representing four different agencies/organizations were interviewed to produce ample ideas and sufficient data.

Prior to commencing the interview, the six interviewees completed a demographic form (Appendix C). All were female and ranged in age from 23 to 57 years, with a mean age of 39.67 years. In terms of education, three participants had undergraduate degrees; two participants had some college/university education, and one participant had a Master's degree. In terms of occupation, two participants were public health nurses; two participants were social workers; one participant was a youth worker; and one participant was a program manager with a social work background. It would have been beneficial to interview an educator or teacher working with SIY in an alternative school setting. However, it would require an additional ethics application to the Calgary Board of Education. Due to time constraints, a decision was made not to interview a teacher. However, the two nurse participants had direct knowledge of alternative schools since they were school nurses working in alternative and mainstream schools, although they were not employees of the Calgary Board of Education.

Selection of Street-Involved Youth Participants

The sample criteria included only SIY that spoke and understood English because of a lack of translator services. In addition, the youth had to meet one of the following: (a) Age between 18-24 years inclusive and had accessed a high risk/SIY serving agency; or (b) Emancipated minor, between the ages of 15-17 years inclusive and had accessed a high risk/SIY serving agency. (Emancipated minors were chosen so that they could personally consent to participate in this research); or (c) Age between 15-17 years inclusive and "in-care" or living with a parent/guardian. (These youth were chosen because the parent/guardian could provide consent). The service providers recruited for phase one assisted in the recruitment of the SIY.

Street-Involved Youth Characteristics

Insofar as the intention of the interviews was to inform phase two of the research, a smaller sample size of four to six SIY participants was the goal. In the end, nine youth accessing two different agencies/organizations were interviewed, to produce ample ideas and sufficient data.

Prior to commencing the interviews, the interviewees completed a demographic form (Appendix D). Six were male; three were female. Eight were between the ages of 18 and 24 years; and one was under the age of 18. The mean age was 21.33 years. In terms of education, the sample included one individual attending high school; two that had completed high school; five that had completed grades 8 to 11; and one that did not provide educational information. In terms of culture/ethnicity, the sample included four that identified themselves as Caucasian; three as Aboriginal; one as Black-Caucasian; and one as Aboriginal-Caucasian. Although it would have been beneficial to interview more youth under the age of 18 years, it proved unfeasible because of the challenges in obtaining parental consent.

Data Collection in Phase One

The semi-structured in-depth interviews (Appendix E) with service providers lasted between 30 and 110 minutes. The interviews took place in a private room or office at the providers' place of work.

The semi-structured, in-depth interviews (Appendix F) with youth lasted between 20 and 65 minutes. The interviews took place in a private room at the agencies that the youth accessed. In this way, the youth always had the assurance of help or support readily at hand if he or she became distressed. All interviews were recorded using a digital voice recorder.

Data Analysis in Phase One

Qualitative content analysis guided the analysis of the transcripts. Qualitative content analysis is defined as a "method for the subjective interpretation of the context of text data through the systematic classification process of coding and identifying themes or patterns" (Hsieh & Shannon, 2005, p. 1278). The purpose of content analysis is to enhance knowledge and comprehension of the phenomenon of interest (Hsieh & Shannon, 2005). Creswell (2014) describes six steps for qualitative data analysis. Although these steps are described sequentially, they are actually interactive in practice.

The first step involves preparing and organizing the data for analysis. For this research, this step entailed transcribing the interviews, giving pseudonyms to all participants, organizing the field notes, visually scanning all the data, and sorting the data into those pertaining to either service provider participants or SIY participants. Once the data were transcribed, I used the line numbering feature in Microsoft Word to number each line, of each transcript.

The second step entails reading all of the data (Creswell, 2014). This step presents an overall sense of the data and provides the opportunity to reflect upon what it means. During this step, the texts underwent a general review, so that I could become familiar with the content. As I reviewed the texts, I underlined passages that interested me, and I made brief notes in the margins of the transcripts. I considered the following: What general ideas did each participant express? What deeper meaning did each participant convey? Which stories moved me? Additionally, during this step, I chose to listen to the interviews to remind me of the tone of the conversation and connect me to the participants.

The third step involves coding the data (Creswell, 2014). Coding is defined as "the process of organizing the data by bracketing chunks (or text or image segments) and writing a

word representing a category in the margins. It involves taking text data... [and] segmenting sentences (or paragraphs) into categories with a term" (Creswell, 2014, p. 198). Tesch (1990) as cited in Creswell (2014) describes a number of steps researchers typically use to code data. Table 3 provides a modified version of the steps and how they were applied to the current study.

Table 3. Steps for Coding Data and how they were Applied to the Current Study

Tesche's Steps for Coding	Applying the Process to the Current Study
Step 1. Get a feel for all the data. Carefully read the transcripts and make notes.	• Reviewed the texts. • Gave each participant a pseudonym. • Made general notes in the margins of the transcripts. • Reflected on the transcripts. • Listened to the interviews.
Step 2. Pick a transcript, read it in detail. Write thoughts in the margins.	• Read one transcript in a very detailed manner. • Underlined or placed brackets around the participant's thoughts. Wrote a word or a few words, which represented the participant's thoughts in the margins.
Step 3. After completing step 2 for a few participants, make a list of all the topics written in the margins. Cluster similar topics.	• After completing step two for an additional four participants, the thoughts written in the margins of all five transcripts were typed up. • Similar topics were clustered together. Created a topic label for each cluster group.
Step 4. Take the list created in step 3, and go back to the data. Abbreviate the topics as codes, writing them beside the applicable sections of text. Use this as an initial way to organize the data, and determine if new categories and codes appear.	• Used the list created in step 3 for analyzing all transcripts. • Codes were written next to the text as well as the corresponding numbered lines of the transcripts.
Step 5. Use descriptive words to turn the topics into categories. If possible, reduce the list of categories by grouping topics that are related to each other.	• Topics turned into categories. • Reduced the number of categories by grouping related topics together.
Step 6. Collect the materials related to each category, so they are in one place. Perform a preliminary analysis.	• Created several Word Document tables. Each category of data had its own table. • Copied and pasted segments of text from each transcript that related to each category. Labeled each segment of text with the pseudonym and corresponding line numbers.

The fourth step entails using the coding process to generate themes (Creswell, 2014). Themes should represent various perspectives as substantiated by quotations. In this study, the themes represented the perspectives of SIY and/or service providers.

The fifth step involves consideration regarding how the thematic description will appear in the report (Creswell, 2014). I chose a narrative approach, which, according to Creswell (2014), appears most popular to researchers.

The final step in qualitative data analysis entails making an interpretation of the findings or results. Important in this step, is considering what lessons were learned. Creswell (2014) states that the "interpretation in qualitative research can take many forms; be adapted for different types of designs; and be flexible to convey personal, research-based, and action meanings" (pp. 200-201). For *this* study, interpretation included consideration of how these findings could and would be used to inform phase 2 of the research.

Research Trustworthiness in Phase One

Trustworthiness is a term that refers to determining if the qualitative findings are accurate from the perspective of the participant, the researcher, or the readers (Creswell, 2014). An assumption of pragmatism is that absolute truth cannot be found and evidence is fallible (Creswell, 2014). Qualitative researchers assume that reality has multiple interpretations and understanding depends upon subjective interpretation (Graneheim & Lundman, 2003). Nevertheless, in qualitative research, it is important for researchers to consider how to promote trustworthiness in an investigation. Some strategies to promote trustworthiness in this study include: bias clarification, reflexity, peer debriefing and member checking.

Bias clarification is important throughout the entire research process (Creswell, 2014; Elliott, Fischer, & Rennie, 1999). Understanding one's psychological baggage helps to identify

any personal biases that can influence data collection, analysis, and reporting of the findings (Creswell, 2014; Priest, 2002). Earlier in this chapter, I identified my work experiences as well as my values and beliefs in relation to public health nursing practice and education. Additionally, I discussed the goals of the Alberta Health Services program I work for. All of these are potential sources of bias. As I entered into the research process, I reflected upon my experiences and preconceived expectations of the findings. Acknowledging these sources of bias and reflecting upon them assisted me in remaining open to the data. In the end, some of the findings were expected; but many were not.

Related to the notion of bias clarification is reflexivity, which "refers to the active acknowledgement by the researcher that his/her own actions and decisions will inevitably impact upon the meaning and context of the experience under investigation" (Horsburgh, 2003, p. 308). I acknowledge that I am central to the phenomenon under investigation and that I cannot separate myself from all aspects of the research process (Horsburgh, 2003). My experiences, my personal values, as well as the values of the organization I work for have impacted all aspects of this study (e.g., the conceptualization of the research questions, the types of information collected, and the interpretation of the findings). I also acknowledge that my race, level of education, and socioeconomic status likely had impact on the interactions I had with the SIY participants. Although these experiences can produce findings cloaked with bias, I believe these experiences assisted in producing meaningful findings.

In order to enhance the trustworthiness of the qualitative findings, techniques that provided an external verification of the research process were also employed (Creswell, 2014; Polit & Beck, 2012). Peer debriefing and member checking provided external validation of the research. Peer debriefing entails a meeting with at least one objective peer to evaluate and

explore aspects of the investigation (Creswell, 2014). I debriefed with two peers regarding the results.

Member checking, also referred to as respondent validation, refers to sharing the report, the thematic analysis, or specific descriptions with the participants in order to increase accuracy of the results (Creswell, 2014; Horsburgh, 2003). I reported the findings back to two of the sampled service providers.

Ethics in Phase One

Ethics approval was obtained from the Conjoint Research Ethics Board of the University of Calgary (ethics id number: 22606). Participation in the study was voluntary. However, in order to assist with recruitment, all youth participants received a $20.00 gift card for food. All interviewees signed consent forms (see service provider consent form in Appendix G; youth consent form in Appendix H; and youth under the age of 18 years consent form in Appendix I). In presenting the findings in chapter 5, I used pseudonyms in lieu of actual names, to protect the anonymity of participants.

Summary

This chapter focused on the methods for phase one of the research. Phase one assessed the S&RH learning needs of service providers working with SIY. Six service providers and nine SIY participated in semi-structured, in-depth interviews. I used qualitative content analysis to analyze the transcripts. The results, presented in the next chapter, informed the S&RH training programs for service providers working with SIY.

CHAPTER 5: RESULTS PHASE ONE

This chapter presents the analyzed results from phase one of the study. The research question is: *What knowledge do street-involved youth (SIY) require from service providers to protect and promote their sexual and reproductive Health (S&RH)?*

In order to address the question, six service providers and nine SIY participated in semi-structured in depth interviews. Data underwent qualitative content analysis. Three major themes emerged from the interviews: providing culturally appropriate S&RH services; the importance of relationships; and providing S&RH support for service providers. Each theme and related sub-themes are discussed below.

Theme One: Providing Culturally Appropriate S&RH Services

A theme that emerged from service provider and youth interviews included the importance of providing culturally appropriate S&RH services. This means: (a) recognizing strengths of SIY; (b) understanding the S&RH challenges of SIY; (c) understanding the complex life circumstances of SIY; and (d) understanding the facilitators of S&RH protection and promotion.

Subtheme A: Recognizing Strengths of Street-Involved Youth

In order to provide culturally sensitive S&RH services, providers should recognize the strengths of SIY. It was evident in speaking to youth and service providers that SIY possess several strengths, including their ability to: learn from experience; access services and resources; ask for help; and survive while facing adversity. Jade, a homeless youth described the sharp learning curve that she experienced when she first came to live on the street.

> *It's true, you learn a lot about yourself, your strengths and weaknesses when it comes to depending on yourself… I noticed that I learned a lot about myself when I was homeless*

> *because it puts you to the test. It's like... are you gonna live or [are] you gonna starve or [are] you gonna ask for help? What are you gonna do? You have your choices, right? ...You learn a lot depending on what choice you make… it's an experience.* (Jade, Youth, Lines 103-108)

Grace, a service provider stated, "It's amazing, and you know they may not be book smart, but they are definitely street smart, and they know how to survive, and they know how to get by" (Grace, Service Provider, Lines 319-320). Additionally, Michelle said, "When you hear their…past history stories, the fact that they are completing high school in this site [is] amazing..." (Michelle, Service Provider, Lines 383-384).

Subtheme B: S&RH Challenges of Street-Involved Youth

In order to provide culturally sensitive S&RH services, it is imperative to have an understanding of the S&RH challenges of SIY. Youth and service providers identified eleven.

1. *Varied S&RH knowledge base*. Youth and service providers agreed SIY possess varied levels of knowledge with regards to S&RH. Many of the youth interviewed appeared knowledgeable regarding some aspects of S&RH and confident in their knowledge base. However, many of those youth admitted that they gained their knowledge over time, through experience, and upon their own initiation. For example, Carlos revealed,

> *It's pretty hard when you're a youth, right? Like I was raised in foster care, I was never taught anything about sex. I was always just told what to do. I was always treated as a second class person; like I was just living there. I wasn't a child. I was just living there. I was never taught anything about sex, and I had to learn on my own, which is really hard… There's a lot of confusion with that, you know?* (Carlos, Youth, Lines 29-34)

The older youth felt the younger ones needed more information regarding S&RH. They also reported that many youth think they know more than they actually do. For example, Sienna

said, "…they think they know, [but] I don't think they *really* know. Because… five years ago, when I was 16, I didn't really know too much [either]" (Sienna, Youth, Lines 180-181).

From the service providers' perspectives, youth possessed some knowledge; however, they have some misconceptions as well. One school nurse pointed out the youth she deals with lack a general understanding of the body − knowledge typically gained in school.

> *...because the other thing that I find with these kids and street kids too, they're all the ones that have skipped out of school, right? They haven't been to half their classes, or even a quarter, so what I find with these kids is their general knowledge about… their body… [is lacking because] they... have missed so much information about… general biology… and how things work.* (Michelle, Service Provider, Lines 188-193)

2. *Unprotected intercourse.* Several youth and service providers identified unprotected intercourse, a particular challenge for some youth. Most youth understood the importance of using condoms to prevent STIs and HIV, even if they did not always use them. Their reasons included intoxication from alcohol or drugs, lack of planning before intercourse, refusal of their partner, and a lack of sensation. One female gave a straightforward account of what can happen.

> *[Some are] peer pressured into not using [condoms], or they just think it's cool not to use them. Or some girls think it's cool to get pregnant young and have a kid. And sometimes guys don't use them because they think it feels weird, or something like that. It doesn't have the same feeling or I guess they could think that if they don't want to use them because everybody else is doing it and not using them…. When you're drunk and you mix alcohol and drugs together, your mind isn't thinking the same… A lot people do that. And they think sex is better on that, and they just don't think about using a condom. And they just get right into it, and it ends up happening. You know when you're drunk, you do forget sometimes there's a condom, let's use it.* (Katelyn, Youth, Lines 61-67; 134-139)

One youth discussed the option to use a female condom when her partner refuses to wear a male condom. Although female condoms are an option, they are more expensive and can be difficult to find. Sienna told, in her interview, how she approached the topic,

> *I've experienced that where a guy doesn't want to use condoms and then we just end up not doing it. But now... they have the female condoms out. If he doesn't wear a condom, then I wear a condom. So if you don't like wearing condoms, I don't mind putting a condom in to protect myself, right? I never used to do that, but then when they first came out with it, it's either you wear a condom or I wear a condom... But the female condom? I find [it]… hard to come across. It's not out there a lot… It's expensive at Safeway…* (Sienna, Youth, Lines 62-68)

Additionally, one youth said she and her partner did not use condoms because they were in a long term committed relationship. However, she did not use contraception either because she did not think she was at risk for pregnancy. In her opinion, her boyfriend likely could not impregnate her because he is a recovering addict.

> *Like me, I've been with the same person for two years. So like, I don't use protection anymore because ... we know that we don't sleep with other people… I don't use birth control myself. I never have. I don't know why I've never been pregnant by my [current] boyfriend... But I think it's because he's an ex-crystal meth addict… and that really messes up your system. So he's just getting his system built back so we don't really have too much to worry about yet.* (Jade, Youth, Lines 352-360)

3. *STIs and/or HIV.* Every youth and service provider reported that STIs and/or HIV presented challenges to SIY. In her interview, Jade shared her embarrassment when she learned that she had an STI, contracted when she had too much alcohol and had unprotected sex.

> *Actually… I had Chlamydia... one of my stupid mistakes. I got really, really drunk, and like we drank way too much alcohol... I was so intoxicated, and I slept with our friend. It sounds really, really bad, with no protection... I should have known better, but I was just*

so drunk… I don't know what I was thinking – I don't remember it... But he was a person that doesn't care, that doesn't take care of himself. He just kind of does, right? And so that's how I caught it. I didn't know he had anything until my gall bladder started contracting because I had had chlamydia for so long that my body was, I guess, trying to fight it... It hurt so bad, it was shorting my breath. I didn't know what was wrong... I never would have thought that it would actually relate to an STI in the end. So I went to the hospital... So I went in, and they did a test or whatever. And they're like, "Yah, you're positive for chlamydia, and you've had it for quite some time."... I learned from that definitely. 'Cause I felt horrible. Even though I had it, I was having sex with my partner unprotected. And I felt so horrible having to turn around and be like, "this is what's happened, and we need to both do this and fix it." It was horrible. I was embarrassed. I was ashamed. I felt really, really belittled. (Jade, Youth, Lines 577-605)

Matt, another youth, told of his experience with HIV,

> *Just HIV…I've had a couple of encounters with my last girlfriend – that's why we stopped dating…She kind of told me she had it,…and I was quite shocked. So I just kind of kept my distance from her. I didn't tell her anything. I just left.* (Matt, Youth, Lines 217-219)

The majority of youth acknowledged the importance of regular STI testing. Many of the youth reported that they received "regular" STI testing, although not all SIY do. Some said fear prevented some youth from seeking testing.

4. *Pregnancy and repeated pregnancy.* Youth and service providers agreed that SIY had problems avoiding pregnancy and repeated pregnancy. Katelyn has had three pregnancies.

> *... I have two kids... One lives with grandparents, and the other one the dad ran away with. There was no custody. He just up and disappeared... [I feel a] little stressed out [about this pregnancy] because [of] the situations of being on the street, but I was on the streets when I had my other ones. I'm hoping I won't be on the streets when this one comes out.* (Katelyn, Youth, Lines 24-30)

Youth and service providers described the issue of pregnancy as complicated. Although SIY took contraceptives, some became pregnant. For example, Katelyn stated, "I had the depo [depo provera], and I got pregnant on the depo. And I had the IUD [intrauterine device], [and] mine fell out. And I got pregnant on that" (363-364); whereas others get pregnant because they intend to. For example, Kevin said that he thought some females deliberately become pregnant.

> *...well [with] my personal experience, some girls... like to get together 'cause they're planning on getting pregnant. I find like more and more girls want babies. Like, in my situation, the last girl I slept with is now saying she's pregnant. So it's like I don't want that, but ...I know also it takes two to tango...* (Kevin, Youth, Lines 26-29)

On that point, Rachel, a service provider agreed,

> *…women, young, young women having babies, getting them apprehended by child welfare, getting pregnant again on purpose… but they want a baby because they think the baby will give them infinite love. Right? Not the other way around… So these are people, who their babies will keep being apprehended, and this is like seven babies in a row… And to see that is so soul destroying…* (Rachel, Service Provider, Lines 427-435)

5. *Relationships*. Some youth reported that maintaining relationships can prove challenging, when living on the streets. For example, speaking about issues such as condom use and STI testing with a partner can be difficult. Some spoke about feeling pressured to have sex or not use condoms. Both service providers and youth discussed power imbalances within the relationships. Kevin thought that young females proved very vulnerable to the advances of older males.

> *...like I don't know some of these younger girls. Like, they like the older guys, and they're like, "oh he's hot" or whatever. And then they'll just do whatever they want. However, it's like the guy [is] overpowering them. They might not necessarily want to [do it] or just [do it] to impress the guy or whatever.* (Kevin, Youth, Lines 74-77)

Service providers and youth alike spoke about abusive relationships, as well. In a very graphic account, Sienna retold one story of a violent relationship.

> *This girl told me this story the other day... She was telling me her boyfriend beat her up, but he made her pull down her pants and stick his fingers in her because he thought she was having sex with somebody else. And like he was putting his fingers in there to see if there was semen... She's scared, she didn't want to go anywhere and tell anybody. I was like, "Holy crap girl, what the hell? ...You gotta talk to somebody." She said she didn't know what to do or where to go. I didn't know what to say. I was speechless. I wish I could have helped her.* (Sienna, Youth, Lines 290-306)

Whereas Anne, a service provider told of the seeming contradictions that she witnesses in her work.

> *Some of the discussion[s] I've had with gals …absolutely curl my hair. Like they are in relationships with men who control them… Yet, they have been part of families where power, control, violence has been an issue. And I guess I naively thought…I just always thought [that] if you came from a family where there is a lot of family violence, why would you ever hang out with a guy that hits you? ...So I saw a girl, in clinic, the day that she came out of court with [the] abusive father of her child… so she was angry that the judge allowed this young man visiting privileges with their two year old…By the end of it she was crying and telling me how much she loved him, the father of her child. You've got a restraining order. You've been to court five times. He's put you in the shelter, I don't know how many times, with a blackened eye and beat you up.* (Anne, Service Provider, Lines 269-282).

Some service providers spoke about the difficulty youth have in recognizing that a relationship is unhealthy because of the fact that they have only been surrounded by unhealthy relationships. So to them, an unhealthy relationship is normal.

6. *Substance use and sex.* Nearly every participant agreed that substance abuse was problematic when it came to safer sex. Using substances not only made youth more likely to have sex, but it made youth more likely to have unprotected sex.

> *Using a condom, I guess that's hard sometimes. Like even myself, I've found, like I don't know, when you live on the streets… there's always like alcohol and drug involvement. Right? You know …when it just happens, it happens.* (Tony, Youth, Lines 19-21)

7. *Emotions Related to S&RH.* In terms of getting help related to S&RH, youth described feelings that can prevent them from seeking information or services. For example, Tony spoke about comfort. He said,

> *Like having comfort, feeling comfortable talking about [it] I guess is a very important issue. 'Cause a lot of people are shy and try to laugh it away. You know? Or try to tell jokes. You know? Like when the ladies come to talk about sexual health a lot of people keep goofing around...* (Tony, Youth, Lines 126-129)

Whereas Carlos spoke about embarrassment,

> *My buddies, they're not really too personal around here. Everybody's really protective and really distant. Like we don't really talk about stuff like that too much…Even when the sex lady was here, I could talk to a person one-on-one about it, but I can't talk about it in front of my friends. I won't. It's just embarrassing for me.* (Carlos, Youth, Lines 132-137)

Finally, Kevin spoke about fear.

> *...but there is the fear aspect… Right? Some people don't want to know. I know, like when I go in and I'm not sure... and I'm waiting... and even right before I get my [STI] results, it's like…ideas run through [my mind]… And… we got to...get a hold of everyone you slept with and stuff… I don't even know their names [or] some of them or whatever… Fear is a big thing for sure. No one wants to have like bad news brought on them, if they got something that's going to affect them for the rest of their life...* (Kevin, Youth, Lines 134-142)

8. Sexual exploitation. According to youth and service providers, some SIY fall victim to sexual exploitation. That is, in order to survive on the streets, they turn to prostitution. One service provider describes the revolving door in which some youth get caught.

> *…we have a lot of … prostitution... They need the money. They may still be going to school in the day time. Or they drop out of school for a while, and we hear that they're on the street some place. And then they'll come back again, and then they'll get pregnant.* (Michelle, Service Provider, Lines 369-373).

Others, like Jade, become involved in the sex trade to pay for their addiction.

> *I see [the sex trade] more with homeless people that are involved with drug life. A lot of that because… when you get addicted to drugs you kind of lose a sense of yourself. Definitely a very big part of yourself gets lost. Especially with crack cocaine. Crack cocaine, I'd have to say… because I'm an ex-addict... is a very powerful drug. A lot of people underestimate it. And half the time they don't even see how [bad] what they're doing is until after their addictions are over. Because you don't think about it... It's just work. It's just work... And it becomes a really, really depressing cycle. And you just want to get more high because of what you're doing. And it just goes around, around, around, around, around until you lose control of yourself... Because the easiest way to get money for your drug is to sell yourself.* (Jade, Youth, Lines 207-222)

9. *Acceptance in relation to Sexual Diversity*. Sexual diversity presented other challenges for some youth. Some youth, identifying as non-heterosexual, end up on the street because they face rejection at home. Although youth find more acceptance on the street, compared to at home, some still report a lack of acceptance.

> *My best friend, "John," he's gay. And he's having problems because a lot of people are like, "yah, we understand. We accept him for who he is." But a lot of [other] people are not [as accepting]. They're like teasing him or they're degrading him… There's another thing …about gays that I see is working the street. A lot of them go and work the street …because they're confused about their sexuality. Like me and John talked, and he said that he knew he was gay since he was little. His parents don't like it, but he's there. As*

> *his friends and as his family, we accept him for who he is. When people tease him, we get mad at them… He's a normal person, just like all the rest of us. Stop teasing him.* (Katelyn, Youth, Lines 236-250)

In terms of sexual diversity, another youth said, "In my opinion, I'm not close minded, but... I'm still not used to the concept; and it's unfamiliar and it's uncomfortable" (Tom, Youth, Lines 268-270).

10. *Access to S&RH services.* Nearly every participant described S&RH services as accessible. The problem for many came down to knowing where or how to access the services and then taking the initiative. Dave offered his observations regarding the accessibility of S&RH services,

> *There's a lot of help for the homeless people. If you don't know where to find what you're looking for, then it's pretty much your own fault 'cause you didn't look very hard... There's a lot of help, like you can get condoms anywhere. Like you guys come around and tell everybody they can go for STD tests and pregnancy tests and such and such.* (Dave, Youth, Lines 16-20)

For younger youth, or those newer to Calgary, there was uncertainty regarding what services are available.

> *Right now, just being new to Calgary, I don't know where to go [for all the services]. I usually just go on Google… That's where I get my information. And if I think I have anything serious going on with my body, I just go to CUPS... Is there a place out here where you walk in and get free condoms, like just regular condoms? Where would you get those?* (Sienna, Youth, Lines 127-137)

11. *Self care*. Those youth, using protection or receiving regular STI testing, spoke of the importance of self care and taking "responsibility" for their own health and that of their partners. In her interview, Jade spoke quite eloquently about responsibility,

If you're going to go out and have sex, then you should take the responsibility for your actions. That's just basically what I think everything in sex boils down to. Are you going to be responsible about it? Or are you going to endanger people around you that you might care about. (Jade, Youth, Lines 449-452)

Some youth and service providers acknowledged that not all youth are in the right space to self care and take responsibility. Michelle, a service provider, said, "Their lives are not easy. And so their self-esteem is sometimes so low, they don't care about themselves. So they don't use condoms, and it's hard to get them engaged or motivated regarding any health promotion topic" (Lines 137-139). Grace, a service provider, made a similar comment. She said, "it's hard for them to get into even thinking about making some changes... 'cause they're just stuck in this really hard place" (Lines 62-64).

Subtheme C: Complex and Diverse Life Circumstances of Street-Involved Youth

In order to provide culturally appropriate S&RH services, it is important to recognize that these youth have complex and diverse life circumstances and that disease prevention and health promotion can prove challenging. Some youth have direct knowledge of abuse or neglect; others come from poverty stricken families. Some leave home at their parents' insistence; others leave because they become involved in drugs and alcohol. With regards to abuse, Katelyn told her story.

I was living with my auntie... to the age of 13 because my mom gave us away. Then I went and relived with my mom when I was 13, and she chose a child molester over her kids, so I ran away from home. And I've been on the street since... Nobody in my family believed me about what was going on. So I don't really talk to them. (Katelyn, Youth, Lines 9-14)

Sexual health behaviours and outcomes are often a result of the complex life circumstances youth have experienced or currently face. One service provider shared her evaluation.

> *But I really see the whole teenage pregnancy issue… is not a birth control issue…. Why these girls get pregnant again…is so very complex... and has a lot more to do with…their life, their need for intimacy or love or to have something to love them… They're so ill-equipped to be parents. But you know, they get a lot of attention when they're pregnant; [and] they get a connection to the fellow they're involved with.* (Anne, Service Provider, Lines 260-264)

In the same vein, one youth spoke about the underlying reasons for the sexual behaviour of some youth,

> *… 'cause after you go back into like how they were raised… like if they were abused and then they grow up like that then they're really pushed over and they might be acceptable to that right, so it's…I don't think it's something you can just like sit a group of like eighteen year old girls down... [and say] "Ok, you have to be able to say **no** to them…"* (Kevin, Youth, Lines 309-313)

It is also important to recognize that survival represents the major, daily challenge facing some SIY. In this struggle, S&RH protection and promotion ranks distant second. One service provider said, "They're not thinking about the future. They're thinking about right now. What gets me through, what helps me survive today. Sometimes it's not using a condom" (Rachel, Service Provider, Lines 1082-1083).

Finally, "normal" for SIY differs from "normal" for a youth from a stereotypical middle class home. For example, if the youth come from families where their parents were teen parents, having children as teenagers can seem normal for them. If the youth only experience abuse, they have no reliable reference for what constitutes a healthy relationship.

Subtheme D: Facilitators of S&RH Protection and Promotion

Youth and service providers spoke about the importance of approaching the topic of S&RH with youth in a sensitive manner. Youth want and deserve information presented in an open, professional and factual manner. For example, one youth said, "The best approach …in my opinion would be the most forward…just say it as it is. Don't try to hide anything" (Tom, Youth, Lines 186-187). Youth also want respectful and non-judgmental treatment. They take offense when adults give them orders. Jade offered her advice about how adults should approach youth.

> *I can see, especially with homeless youth, because they're already put down by everyone else, so that's the last thing you want to do, is somebody coming in being boss-man. And then they're all "uhhh." The best way for a well-educated person to talk ...is just to do it more in an open fashion. ...where people can put in their say and their say is appreciated. Even if they're wrong, appreciate it... Put it in a way that is totally, you know, uplifting them even if they're wrong...* (Jade, Youth, Lines 494-504)

Youth also spoke about the importance of talking about S&RH in order to demystify and normalize it. They would welcome supportive conversations that respect confidentiality and create trust. In this regard, Kevin described how he interprets the usual conversation between provider and youth, regarding S&RH:

> *The more exposure, the more you talk about it and get it out there obviously the more people are going to be [open to sharing] ... if there's some way to make it so… people don't feel bad, like… if you get something… it's not the end of the world… don't just be like, "Oh you're the black sheep of society now because you got the clap" or something like that, right? ...[The] confidentiality is a big thing, right? Like you can't go sit downstairs and then be like "Ok, who's ever been tested...?" 'Cause then people will be like, "well I don't want anyone to think that I've had something..." So it's got to be yeah*

like a secure… People got to feel secure and feel like they can trust someone… right? (Kevin, Youth, Lines 111-116; 169-172)

Youth also spoke about the importance of getting information in a timely manner. For example, Carlos said,

> *…if [the workers here] could help [us] know and have the knowledge [themselves] of helping us... when we really need it; say at the time, that would be great. Because that way… I need condoms or I need help with a question…it would be a little bit more easier than waiting [until the sexual health workers come here] or not finding out ever.* (Carlos, Youth, Lines 249-258)

When discussing S&RH, the service providers spoke about the importance of recognizing the strengths that youth bring to these matters.

> *... we focus on… the strengths that the clients have brought to bear. 'Cause often times they've been coping with alcohol or substances, coping with other things in their lives, and it's scary to let go of that. And so we are looking at the strengths. What other things can you do? You can't build on failures. You can't build on condemnation that just shuts people down, and we're really good at doing that on our own anyways.* (Karen, Service Provider, Lines 378-384)

Additionally, the service providers spoke about the importance of avoiding assumptions regarding the S&RH of these youth. Rachel said, "it is our assumptions that get us in trouble. And it is… [mostly a matter of social class]… most of the workers are middle class, most of the people we work with are not..." (Rachel, Service Providers, Lines 813-815).

Theme Two: The Importance of Relationships

A second theme that emerged from the interviews was the importance of relationships in working with SIY. This means (a) connecting with youth; and (b) connecting youth to dependable services.

Subtheme A: Connecting With Youth

Youth and service providers spoke about the importance of relationships in promoting and protecting the S&RH of SIY. Inasmuch as the topic of S&RH is personal and often associated with discomfort and embarrassment, it is important to establish a relationship with youth so that they feel comfortable asking questions. For example, Tony said,

> *...if I'm in the area... and I got [a question related to S&RH], I'm pretty sure I would ask. I would throw it out there, but it would have to be with someone I'm comfortable with. Like someone I know isn't just...gonna laugh at me or something...* (Tony, Youth, Lines 299-301)

Anne, a service provider spoke about the importance of developing relationships with the youth in order to win their acceptance.

> *But you see sometimes, if you hang in with these kids ...because a lot of it is relationships, right? …You need to have that flexibility to be there, and in some cases they'll do the behaviour, not because they can intellectually understand that it's important, [but] it's because* ***you*** *say that it's important. Because they're... a kid and… an adult, and they sort of understand that the adults think it's important.* (Anne, Service Provider, Lines 384-390)

Rachel, a service provider, spoke about the importance of relationships, as well.

> *It's, like when they say "boyfriend," they might mean that old man who's letting them stay there, but they're calling him their boyfriend to normalize it so they don't feel like a prostitute everyday… This is why you need a relationship so that you have some history with them…* (Rachel, Service Provider, Lines 677-681)

Rachel went on to say that without knowing a client or their life circumstances, a service provider can unknowingly place a client in danger. Rachel shared a situation where she encouraged a client to negotiate the use of condoms with a partner, not knowing the youth was in an abusive relationship.

Subtheme B: Connecting Youth to Dependable Services

Another important aspect of relationships is the ability to connect youth with the S&RH services they require. For example, Heather said,

> *The accessing of regular medical care, that's huge! …we recently just connected with [an agency]... So there are some positive things there and that will hopefully bridge that gap a little bit... You know… small steps and we're hoping that perhaps alleviates some of the intimidation that comes from connecting with a regular medical practitioner... It's hard for a poverty stricken, low income, lack of skills (at times) family to navigate that system without a support system... but the access of regular medical care is huge.* (Heather, Service Provider, Lines 119-132)

Service providers also underscored the importance of making knowledgeable referrals. That is, they had to know which agencies and which people could be relied upon. Rachel admitted that she relied on personal contacts in making referrals.

> *It is about the reputation of agencies; like there's individual people… if I make a referral, I don't say, "go to [agency]" where you've never been before. I say "go see my friend, Fran. She works at [agency], [and] this is where it is." And so they connect with that individual because... people thinks she's ok, she's helped them before, so they can check it out ahead of time on the old accountability gossip mill and then that's a different thing for them to go and see her as a person, not the agency.* (Rachel, Service Provider, Lines 377-384)

Another provider, Anne described the intricacies of establishing professional relationships with providers and agencies, well-suited to working with SIY.

> *Like if you constantly say there's this really good place to go…where you can get free stuff… and in some cases, it's actually taking that kid there. So I know even as a high school nurse... I find it makes a really big difference if you can walk with them. You don't have to go all the way in, but just the fact that you walk over and get them in the door…They're still those frightened little kids [and] going to a new place is very scary.*

Now the thing is, as a care provider, you almost have to make all those connections to know. "I'm going to take you over to [the agency]. You're going to see one of my friends there.… They're going to treat you well, and I'm going to stay there with you, just for your first time ..." But you see that means that... [the agency has] got to come through for you... I know that even with my kids at [the alternative school], a lot of them come as mothers here, and they've asked me to vaccinate on site, and I could, but I've said, "[bringing a child to a clinic for vaccination] is something that mothers do." And so they have given me feedback that just your basic baby visit [at the clinic] is like the Spanish Inquisition....

We need to meet each other; we need to give ourselves the okay to drop in... And that's the advantage of being a front-line worker, [a] public health nurse that anybody can call. After a while you've met them all. (Anne, Service provider, Lines 384-437; 537-543)

Theme Three: Providing S&RH Support for Service Providers

The final theme that emerged from the interviews focused on the resources and support required by service providers. This means (a) providing the opportunity for capacity development; and (b) providing accessible resources and tools.

Subtheme A: Capacity Development Opportunities

All service providers acknowledged that they required more knowledge of S&RH to work with SIY. For some, these gaps in knowledge can prove uncomfortable and require consultations with the "experts."

But I just have found… even though I've dealt with high risk kids probably more than most other public health nurses… my level of knowledge and ability to perhaps answer some of their questions may not be enough so …I go looking for the experts too. Because… I'm not quite comfortable enough to really feel like I could handle that. (Michelle, Service Provider, Lines 20-24)

Rachel admitted that many service providers, like the youth that require assistance, experience embarrassment when speaking about S&RH. In her opinion, any embarrassment to discuss such matters can impact negatively on the youth.

> *So, when… the staff can't say "penis" without giggling, then what did we just teach that young man, who… could actually say "penis" without giggling? But if your role model can't, you will go backwards.... We have to help each other not be embarrassed. Like we have to talk about this… Of course some people are always going to be more embarrassed than other people, but if you're working with this population, it's in your face...* (Rachel, Service Provider, Lines 736-738; 1029-1034)

Upon reflection, the service providers identified several S&RH topics they need to learn about in order to better serve their clients. Service providers want:

1. *To better understand personal values, beliefs, and assumptions.* The service providers stated that it was important to gain understanding regarding their own values, beliefs, and assumptions regarding S&RH. For example, Karen said,

> *Well, I think you have to [understand your own values and beliefs], in order to figure out what you are going to be conveying to other people, so that you can stay objective, absolutely. 'Cause it's a pretty…like it's an emotionally laden topic, and you wouldn't want to take your own stuff into that. You could do some real damage, I think.* (Karen, Service Provider, Lines 241-244)

2. *Knowledge related to community resources/referrals.* All the service providers interviewed reported they wanted a better understanding of available community resources about S&RH in order to make appropriate referrals. Grace directly addressed this point in her interview.

> *I think the information, I would need, is just knowing where to refer these youth. Like a lot of questions [I get are] surrounding where can I get a pregnancy test? ...Just maybe*

knowing the agencies and the services that are provided regarding like sexual health. (Grace, Service Provider, Lines 106-109)

3. *Basic knowledge related to pregnancy awareness.* The majority of the service providers reported they needed additional knowledge related to the early signs and symptoms of pregnancy. One service provider pointed out that many of these youth do not know they are pregnant because stressful living can produce irregular menstrual cycles. Of course, any delay in determining a pregnancy can interfere with pregnancy options. Additionally, not knowing about a pregnancy can place the fetus at risk because of a lack of early prenatal care or because of the use of alcohol and other drugs. In this regard Rachel said,

> *It's really important... like I want early pregnancy testing, because that doesn't occur to a lot of people…like you get so used to not menstruating that that's the new normal. Right? So you're not going to go and get a pregnancy test every time you miss your period because you missed it like four months in a row Right?* (Rachel, Service Provider, Lines 753-769)

4. *Basic knowledge related to STIs and HIV.* The majority of the service providers thought SIY need basic knowledge related to STI and HIV transmission, signs and symptoms, testing and treatment. On this point, one provider stated,

> *... I'm appalled at what little [service providers] know sometimes... So they know some basic information... they're not up-to-date on current STIs. They can barely tell you what chlamydia is, no less spell it... Treatment options, those kinds of things, they don't have a clue... The adults really need current, up-to-date, basic information... particularly about STIs, like what they are, how they present, signs and symptoms – basic and where they need to send people to, because I don't think they need to do any diagnosing... The basic overview – what's normal, what's abnormal, where you should go, how you should get treated, what kind of follow-up you need to have in the area of STI.* (Anne, Service Provider, Lines 497-513)

5. *Basic knowledge related to safer sex (contraception and condoms).* All the service providers spoke to the importance of having knowledge regarding contraception and condoms in order to prevent unintended pregnancies, STIs and HIV. Grace added that girls required guidance on how to discuss using condom use with guys.

> *[They require information about] how to safely use all of the birth control, condoms, how to safely use all of those. Maybe also... conversation starters... some positive ways for the girls to just…talk to guys about using birth control.* (Grace, Service Provider, Lines 176-178)

6. *Knowledge related to promoting healthy relationships.* Several of the service providers mentioned that they needed additional knowledge regarding how to assist youth in recognizing unhealthy relationships and forming healthy relationships. One stated, "I think a lot of it would be around boundaries, definitely and what is healthy sexuality. And yeah, how do I ask for what I want or need? How do I say 'no' appropriately? Those sorts of things…" (Karen, Service Provider, Lines 167-168).

7. *Knowledge related to sexual diversity.* The service providers identified a concern about their lack of knowledge regarding engaging non-heterosexual youth in discussions regarding their health. For example, Michelle said,

> *The other thing we see a lot with these kids is… different types of sexuality. I mean there are a lot of these kids that I see that are homosexual … or other variations of, and they will ask questions about that. They're much more open about it…. But…I'm sometimes hesitant to talk to the group of kids I know. Like, what are your issues? What are your concerns as an obviously gay male here? …I feel myself hesitant to open that conversation, and yet I'd like to. I don't know, maybe I just should sometime.* (Michelle Lines 355-366)

8. *Basic knowledge related to anatomy and physiology*. Some service providers felt that many youth and service providers need a basic understanding of anatomy and physiology in order to have an understanding of other S&RH issues. For example, to understand how hormonal contraceptives work, a basic understanding of female anatomy and physiology is required.

> *...but sometimes it involves an awful lot of explaining and a lot of anatomy and physiology… Maybe that would be another thing, how to explain in very basic terms... about how your body works. How sex makes it fit together… many of them miss that very basic [information], but a lot of adults don't know that either…* (Anne, Service Provider, Lines 862-867)

9. *Knowledge related to male sexual health*. There are more males than females classified as street youth. For this reason, service providers often have to address S&RH from a male perspective. Some service providers believe that a gap in knowledge exists in this area.

> *But there... [is] an issue of men and sexual health. How do we engage boys and that? That's just a whole other area. They just don't… what responsibility do guys have for sexual health in a relationship and to themselves? None, from what I can see (laughter). Or that's the perception [of] young men. There's a whole thing about young men.* (Anne, Service Provider, Lines 857-861)

10. *Basic knowledge related to prenatal care.* Some service providers want more basic knowledge about healthy pregnancy and prenatal care. One participant mentioned that her prenatal knowledge is outdated. Another said it would be helpful to have an understanding of recommendations for prenatal nutrition and vitamins.

11. *Substance use and sexual decision-making.* Some service providers mentioned that they required information about how to address the issue of substance use and sexual decision-making with their clients. Heather said, the use of substances "seems to be why a lot of our families get pregnant" (Heather, Service Provider, Line 389).

12. *Sexual exploitation*. Finally, some service providers identified the need for more information regarding sexual exploitation and harm reduction. For example, one said she needed information on how to counsel sex trade workers on effective condom use.

Subtheme B: Accessible Resources and Tools

Service providers reported they needed a toolbox, with appropriate information and teaching aids that are accurate, up-to-date, user- friendly and population appropriate. Additionally, they wanted immediate answers from a reputable source.

> *I think they need to have easily accessible tools... And I think that having [online] links or … a place or a something that's user friendly to the health care provider, but that has those links. You could sit down with a kid with how to use a condom. And we could sit through the little video clip, [and] then you could say "okay, so let's get one out…"* (Anne, Serve Provider, Lines 638-644)

Summary

In summary, six service providers and nine youth participated in interviews to determine the knowledge service providers require to protect and promote the S&RH of SIY. Three themes emerged from the interviews. First, it is important to have knowledge regarding providing culturally appropriate S&RH services. This means, service providers need to: (a) recognize the strengths of SIY; (b) understand the S&RH challenges of SIY; (c) understand the complex and diverse life circumstances of SIY; and (d) understand the facilitators of S&RH protection and promotion. Second, service providers have to understand the importance of relationships in terms of: (a) connecting with youth; and (b) connecting youth to services. Finally, service providers require support to better serve high risk youth including: (a) the opportunity for capacity development; and (b) accessible tools and resources. This information informs the methods (e.g., training program development) for phase two of the research.

CHAPTER 6: METHODS PHASE TWO

This chapter presents the methods used to complete phase two of the study. This chapter is organized into seven sections: design, study participants, data collection, procedures, data analysis, ethics, and research integrity.

Design of Phase Two

Using a mixed methods quasi-experimental design, phase two primarily explores the effectiveness of face-to-face and online S&RH training programs. The study evaluates the participants' overall reactions to both training programs as well as three specific outcomes related to capacity development: cognitive learning (knowledge), affective learning (perceived comfort) and use of training (practice behaviour). Besides collecting data from the participants, phase two also studies the experiences of the two facilitators responsible for both programs. Throughout this phase, the qualitative data assists in clarifying, explaining, and enriching the quantitative data so as to produce a more complete picture of how the two training approaches develop the capacity of service providers.

The primary research question in phase two is: *"Does participation in either an online or face-to-face training experience enhance the capacity of service providers to work with street-involved youth (SIY) regarding their sexual and reproductive health (S&RH)?"* The secondary questions are:

A. How do participants regard either their online or face-to-face training experience (learner reaction)?

B. Do participants experience an increase in cognitive learning (knowledge) after participation in either an online or face-to-face training experience?

C. Do participants experience an increase in affective learning (perceived comfort) after participation in either an online or face-to-face training experience?

D. How do participants reportedly use their training after participation in either an online or face-to-face training experience (practice behaviour)?

E. How do facilitators of online or face-to-face training approaches evaluate their experiences?

The independent variable is the type of training program: either face-to-face or online. Alberta Health Services, Sexual and Reproductive Health (Calgary Zone) employs both training approaches. The face-to-face training program consists of a one day, six hour program. The online training program consists of a six hour program that took place over two weeks. The content and design of both programs derive from the findings of phase one as well as what is known about pragmatism, constructivist learning theory (Dewey, 1938/1997; Jonassen et al., 1999; O'Neil et al., 2004), andragogy (Knowles et al., 2012), and Canadian best practices regarding S&RH. Both training programs are explained in detail in the "Procedures" section of this chapter.

The four dependant variables include participants' reaction, cognitive learning (knowledge), affective learning (comfort), and use of training (practice behaviours). The choice of the variables was based upon an evaluation model developed by Kirkpatrick and Kirkpatrick (2005) as discussed in Chapter 3.

Participants' cognitive learning (knowledge) as well as affective learning (perceived comfort) were measured three times *via* questionnaire: prior to the training program (time 1); immediately after the training program (time 2); and six weeks after the training program (time 3). Learner reactions were measured immediately after the training program (time 2), and self-

reported behaviour (use of the training) was measured six weeks after the training program (time 3). (Six weeks was chosen as a timeframe for feasibility reasons, largely due to concerns regarding attrition of participants.) Also three training program participants participated in interviews more than six weeks after their respective training programs.

All in all, these measurements provided data to answer four of the secondary questions, regarding learner reaction, knowledge, sense of comfort and use of the training. With regard to the final secondary research question, facilitators of both training programs participated in interviews once all the programs were completed.

Participants in Phase Two

In phase two, quantitative and/or qualitative data from learners (participants) and facilitators were collected. The two facilitators provided insights regarding facilitating both the face-to-face and online groups.

Participants of the Two Training Programs

The convenience sample inclusion criteria for training program participants included: (a) Service providers working with high risk youth, at selected SIY serving agencies/organizations; and (b) Service providers currently employed as a licensed nurse, licensed social worker, educator (e.g., community educator or teacher) or youth worker with a minimum of a high school diploma.

Three exclusion criteria for training program participants included: (a) Service providers that work for agencies that specialize in the area of S&RH; (b) Service providers that participated in a S&RH workshop during the past 12 months; and (c) Service providers unable to use the information in their work setting due to workplace policy (e.g., public health nurses working only in religiously affiliated schools).

To recruit participants, I contacted selected SIY serving agencies/organizations and spoke with the persons responsible for staff development. I described the study, and invited the agency or organization to participate in the training. If the contact persons agreed, they forwarded a recruitment notice to possible participants. (See Appendix J for face-to-face training recruitment notice; See Appendix K for online training recruitment notice.) The notice emphasized the voluntary conditions of participation in the research. Recruitment took approximately six months for both training programs. Of the two, the online program proved more challenging. It is noteworthy that decisions regarding the training modality were made in collaboration with the contact persons in order to obtain the desired sample size.

I initially calculated a sample size of 58 training program participants (29 per group) in order to achieve a power of .80. (See Appendix L for the sample size calculation and sample size table for time effect.) However, to account for participant attrition, an adjusted sample size was calculated. After reviewing previous studies regarding online S&RH training (Gonzalez-Acquaro, 2006a; Weerakkon et al., 2008), a re-calculation, using a conservative mortality of 20%, arrived at a new a sample size of 92 (46 per group). (See Appendix M for the adjusted sample size calculations and adjusted sample size table.)

Of the 92 enrollees, fifty-seven (61.96%) completed the study, by participating in either of the two training programs and completing questionnaires before the training programs (time 1), immediately after the training programs (time 2), and six weeks after the training programs (time 3).

Face-to-Face and Online Participants Completing the Study

The Demographic Information Form (Appendix N) collected data about all participants. Table 4 and Table 5 summarize the data.

Table 4. Demographic Information: Face-to-Face (F2F) and Online Participants Completing the Study (n= 57)

Characteristic	Group	Number	Mean (SD)	t (df) [P]
Age	F2F[a]	25	41.88 (11.67)	1.442 (52) [.155]
	Online	29	37.07 (12.69)	
	All[a]	54	39.30 (12.35)	
Years experience working with high risk/street youth	F2F[b]	27	12.44 (8.09)	2.008 (53) [.050]
	Online[b]	28	7.73 (9.25)	
	All[c]	55	10.05 (8.94)	
Rating of educational preparation to provide S&RH education to high risk/street youth	F2F[b]	27	3.04 (1.02)	1.257 (54) [.214]
	Online	29	2.72 (.84)	
	All[b]	56	2.88 (.94)	

[a]Missing data for three participants.
[b]Missing data for one participant.
[c]Missing data for two participants.

Table 5. Additional Demographic Information: Face-to-Face (F2F) and Online Participants Completing the Study (n= 57)

Characteristic		Total	F2F n (%)	Online n (%)	Fisher's Exact Test P
Gender [a]	Female	49 (89.09%)	20 (76.92%)	29 (100%)	.008
	Male	6 (10.91%)	6 (23.08%)	0 (0.00%)	
Occupation [b]	Community Educator	1 (1.78%)	1 (3.70%)	0 (0.00%)	<.001
	Nurse	20 (35.71%)	0 (0.00%)	20 (68.97%)	
	Social Worker	6 (10.71%)	4 (14.81%)	2 (6.90%)	
	Teacher	11 (19.64%)	11 (40.74%)	0 (0.00%)	
	Youth Worker	10 (17.86%)	6 (22.22%)	4 (13.79%)	
	Other	8 (14.29%)	5 (18.52%)	3 (10.34%)	
Role [b, c]	Direct Care Provider/ Frontline Worker	50 (90.91%)	23 (85.19%)	27 (96.43%)	.224
	Supervisor/Director/ Manager	4 (7.27%)	3 (11.11%)	1 (3.57%)	
	Other	1 (1.82%)	1 (3.70%)	0 (0.00%)	
Highest level of education completed [b]	High School Diploma	3 (5.36%)	3 (11.11%)	0 (0.00%)	.024
	College Diploma	10 (17.86%)	5 (18.52%)	5 (17.24%)	
	Bachelor's Degree	36 (64.29%)	13 (48.15%)	23 (79.31%)	
	Master's Degree	7 (12.50%)	6 (22.22%)	1 (3.45%)	

[a] Missing data for two face-to-face participants.
[b] Missing data for one face-to-face participant.
[c] Missing data for one online participant.

In order to meet the face-to-face training program recruitment goal of 46 participants, I conducted the training program on two occasions. The first time, 36 multiple disciplinary service providers, working at four alternative school sites, participated. The second time a multiple disciplinary group of 10 service providers, employed at an agency working with homeless families, participated.

Of the 46 participants initially enrolled in the face-to-face program, 28 (60.87%) completed the study; 18 (39.13%) withdrew. The 28 face-to-face participants that completed the study had a mean age of 41.88 years (SD 11.67), and had worked with high risk youth for an average of 12.44 years (SD 8.09). The majority of the face-to-face participants were female (76.92%), teachers (40.74%) or youth workers (22.22%), with bachelor's (48.15%) or master's degrees (22.22%).

In order to meet the online training program recruitment goal of 46 participants, I implemented the online program three times. The first time, 27 public health nurses, working for the same organization but at several different sites participated; the second time, 14 multiple disciplinary service providers, working for the same agency but in different programs participated; and the third time, five multiple disciplinary service providers from two different agencies participated.

Of the 46 online enrollees, 29 (63.04%) completed the research study, 17 (36.96%) withdrew. The participants had a mean age of 37.07 years (SD 12.69), and had an average of 7.73 years (SD 9.25) of experience working with high risk youth. All online participants completing the study were female. The majority of the participants were nurses (68.97%) or youth workers (13.79%) with bachelor's degrees (79.31%) or college diplomas (17.24%).

Among its questions, the Demographic Information Form had one: "How would you rate your education preparation to provide sexual and reproductive health education to high risk/street youth?" Participants responded in both groups to this question on a five point Likert scale ranging from 1.0 (“poor”) to 5.0 (“excellent”). The mean response of the face-to-face group to this question was 3.04 (SD 1.02), which corresponds to a rating of "average." The average rating of the online group was 2.72 (SD .84), even lower. See Table 4 and Table 5 for additional demographic information.

Table 4 and Table 5 provide the comparisons between face-to-face and online participants completing the study. Independent samples t-tests showed significant differences between the two groups in terms of years of experience working with high risk youth (the face-to-face group had more). Fisher’s exact tests showed significant differences between the two groups in terms of gender, occupation, and highest level of education completed.

Facilitators

Two facilitators were recruited to facilitate the training programs. Whenever possible, Alberta Health Services, Sexual and Reproductive Health (Calgary Zone) uses two facilitators for training programming, if only to allow for possible absences. The purposively chosen facilitators had worked at Sexual and Reproductive Health for a minimum of three years, and had experience with both online and face-to-face training programs.

Training Program Facilitator Characteristics

"Facilitator A" and "Facilitator B" consented to assist in developing and facilitating the face-to-face and online training programs and then participate later in an interview upon completion of the programs. Facilitator A has undergraduate education in psychology and sociology and a graduate certificate in education. Facilitator A works as a sexual health

promotion specialist and provides leadership in the area of education programming. Facilitator B is a registered nurse with a Master's Degree. Facilitator B works as a S&RH specialist and provides leadership in both clinical and health promotion settings.

Data Collection in Phase Two

I utilized two methods of data collection: questionnaires and interviews.

Questionnaires

Four questionnaires collected data about the outcomes of the training programs. Table 6 describes the questionnaires, the outcomes and timeline.

Table 6. Summary of Questionnaires

Questionnaire	What it Measures	Timeline
Learner Reaction Questionnaire: Face-to-Face Program (Appendix O) Learner Reaction Questionnaire: Online Program (Appendix P)	Reaction	Time 2: Immediate post-training
Knowledge about Sexual and Reproductive Health Questionnaire (Appendix Q)	Cognitive Learning (Knowledge)	Time 1: Pre-training Time 2: Immediate post-training Time 3: Six weeks post-training
Perceived Comfort Questionnaire (Appendix R)	Affective Learning (Comfort)	Time 1: Pre-training Time 2: Immediate post-training Time 3: Six weeks post-training
Training Follow-Up Questionnaire (Appendix S)	Use of Training	Time 3: Six weeks post-training

1. *Learner Reaction Questionnaire.* The questionnaire collects information on participants' reactions or level of satisfaction regarding their respective training programs. The face-to-face participants completed the Learner Reaction Questionnaire: Face-to-Face Program (Appendix O); and the online participants completed the Learner Reaction Questionnaire: Online Program (Appendix P).

Both versions of the questionnaire are organized into three parts. Part one contains six fixed alternative questions. Participants rated various items (e.g., content) on a five point Likert scale. The ratings ranged from 1.0 (“poor”) to 5.0 (“excellent”). Part two contains 10 fixed alternative questions. Participants indicated their level of agreement about various aspects of the training program (e.g., "participants were active learners"), on a five point Likert scale ranging from 1.0 (“strongly disagree”) to 5.0 (“strongly agree”). Part three contains five open-ended questions, assessing the strengths and challenges of the training program. The online questionnaire asks two additional questions such as: “...how many hours did you devote to your participation?” and "...how many times did you log on to Blackboard?" Some items from this questionnaire were derived from an Alberta Health Services measure (Lokanc-Diluzio et al., 2007), and some items were derived from other published measures (Guskey, 2000).

2. *Knowledge about Sexual and Reproductive Health Questionnaire.* The questionnaire (Appendix Q) measures participants’ level of knowledge regarding S&RH. The seventy item questionnaire, divided into seven sections, deals with seven different topics addressed during the training program: (a) knowledge related to reproductive health/anatomy and physiology (6 items); (b) knowledge related to pregnancy awareness (5 items); (c) knowledge related to sexually transmitted infections (STIs) and HIV (32 items); (d) knowledge related to contraception (11 items); (e) knowledge related to condoms (7 items); (f) knowledge related to sexual diversity/sexual orientation (6 items); and (g) knowledge related to community services (one open ended question, worth 3 points). To answer the first 67 items, participants read each statement, and then indicated if it appeared “true” or “false.” If participants did not know the answer for certain, they could choose "don’t know" − this strategy was meant to discourage guessing. Each item had an assigned value of one point. Correct answers received one point,

incorrect or don't know answers received zero points. The last item, an open ended question, had a value of three points.

The questionnaire consists of questions or adapted questions from a number of existing sources (e.g., Alderson, Orzeck, & McEwen, 2009; Weinstein, Walsh, & Ward, 2008; DelCampo & DelCampo as cited in Davis et al., 1998). I designed several others. In section C, "Knowledge related to Sexually Transmitted Infections (STIs) and HIV," questions 1-27 are taken from the Sexually Transmitted Disease Knowledge Questionnaire (STD-KQ) (Jaworski & Carey, 2007). According to the authors, the STD-KQ has validity, internal consistency ($\alpha = .86$) and test-retest reliability ($r = .88$). Dr. Carey granted permission to use the STD-KQ, on November 01, 2010 *via* email.

3. *Perceived Comfort Questionnaire.* The questionnaire (Appendix R) collects information regarding participants' perceived comfort about discussing various S&RH topics with youth. The questionnaire provides a list of eleven topics and asks participants to identify their level of comfort discussing each topic. The questionnaire states, "Below is a list of sexual health topics that you might discuss with high risk/street youth. For each topic, on a scale of 1 to 5, please identify the number that represents the extent to which you feel comfortable discussing this topic right now." On the scale, the number 1.0 represents not at all comfortable; the number 3.0 represents somewhat comfortable; and the number 5.0 represents extremely comfortable. The Perceived Comfort Questionnaire was based upon the work of Cohen and colleagues (2001; 2004).

4. *Training Follow-Up Questionnaire.* The questionnaire (Appendix S) collects information from participants about the usefulness of the training program six weeks after completing their

respective programs. The questionnaire includes both fixed-alternative and open ended questions, was developed by The Measurement Group, and adapted for this study.

Validity and Reliability of Measures

All questionnaires were adapted or newly created for this study. To ensure validity of the instruments, five experts (e.g., sexuality content experts, sexuality educators) in the area of S&RH reviewed the questionnaires. In addition, I pilot tested the questionnaires with five individuals similar to the training program target population for their perspectives.

To determine reliability, Cronbach's alpha was calculated on the Learner Reaction Questionnaires, the Perceived Comfort Questionnaire, and the Knowledge about S&RH Questionnaire. Table 7 provides the results.

Table 7. Cronbach's Alpha of Three Questionnaires

Scale		Number of Items	Time 1 Cronbach's α (n)	Time 2 Cronbach's α (n)	Time 3 Cronbach's α (n)
Perceived Comfort Questionnaire		11	.947 (56)	.917 (57)	.930 (57)
Knowledge about Sexual and Reproductive Health Questionnaire*	a. Reproductive health	6	.287 (57)	.477 (57)	.383 (57)
	b. Pregnancy awareness	5	.658 (57)	.488 (57)	.559 (57)
	c. STIs and HIV	32	.912 (57)	.781 (57)	.846 (57)
	d. Contraception	11	.608 (57)	.462 (57)	.586 (57)
	e. Condoms	7	.477 (57)	.590 (57)	.648 (57)
	f. Sexual orientation/ diversity	6	.642 (57)	.196 (57)	.256 (57)
Learner Reaction Questionnaire	a. Ratings	6	N/A	.906 (71)	N/A
	b. Level of agreement	10	N/A	.879 (71)	N/A

*Cronbach's alpha was not evaluated for section g: knowledge related to community services because it was an open ended question.

For the Perceived Comfort Questionnaire, Chronbach's alpha, calculated during the three data collection times, ranged from .917 to .947. For the Knowledge about Sexual and Reproductive Health Questionnaire, Cronbach's alpha calculated three times on six sections,

ranged from .196 to .912. Finally, for the Learner Reaction Questionnaire, Chronbach's alpha ranged from .879 to .906.

Interviews

I conducted semi-structured in-depth interviews lasting between 25 and 60 minutes with three training program participants ("Participant X," "Participant Y" and "Participant Z"). These interviews occurred more than six weeks after participants completed their respective training programs. Participant X participated in a face-to-face program, and Participants Y and Z participated in an online program. They clarified, verified and enriched the data from the questionnaires. After the completion of all the training programs, I also conducted two interviews, lasting between 35 and 45 minutes, with the two training program facilitators in order to obtain their perspectives regarding their facilitation experiences. All interviews were conducted at a location convenient for the interviewee. The interviews were recorded using a digital voice recorder. See Appendix T for questions that guided the facilitator interviews.

Procedures in Phase Two

The research proceeded in five steps. They are in sequential order: training program development; pre-training data collection; training program implementation; immediate post-training data collection; and six week post-training data collection.

Training Program Development

The two facilitators and I made up the program development team that designed the face-to-face and online training programs. In so doing, we relied on the existing Alberta Health Services S&RH training program used with teachers (Lokanc-Diluzio et al., 2007; Appendix A), although we made substantial adaptations to meet the needs of the participants targeted for this research.

Prior to developing the programs, I reported the findings from phase one to the two facilitators on the team. After reviewing the S&RH needs of SIY, we created the training program objectives (see Table 8) and designed the curriculum. Each member of the program development team took responsibility for different sections. I developed a detailed work plan with roles and timelines. All members of the program development team reviewed the content to ensure accuracy and, in the spirit of pragmatism, its usefulness in future training programs.

Table 8: Face-to-Face and Online Training Program Objectives

The objectives of the training programs were:

1. To increase awareness of the S&RH issues high risk youth/SIY face.
2. To increase comfort discussing sexual and reproductive health issues with youth.
3. To increase knowledge regarding reproductive health/anatomy and physiology.
4. To increase knowledge regarding pregnancy and early pregnancy awareness.
5. To increase knowledge regarding sexually transmitted infections and HIV, including transmission, signs and symptoms, treatment and prevention.
6. To increase knowledge regarding contraceptive methods/pregnancy prevention.
7. To increase knowledge regarding relationships (healthy/unhealthy).
8. To increase knowledge regarding STI prevention including condoms.
9. To increase knowledge related to sexual orientation and diversity.
10. To increase knowledge of community sexual health services.
11. To provide tools whereby service providers can use the knowledge gained from the training program.

The content of the training programs reflected evidence based information and practices. The source of the content primarily included www.tascc.ca (Talking About Sexuality in Calgary Communities), a website funded by the Alberta Center for Child, Family, and Community Research and developed in partnership with Alberta Health Services, Sexual and Reproductive Health; University of Calgary, Faculty of Nursing; and the Alberta Society for the Promotion of Sexual Health (ASPSH). The website, informed by the findings from phase one of the research,

contains best practice information about sexual health education and promotion for service providers working with high risk youth. The site utilizes information from the Public Health Agency of Canada (PHAC); the Society of Obstetricians and Gynecologists of Canada (SOGC); Alberta Health Services, Sexual and Reproductive Health; and the Government of Alberta.

Appendix U provides a detailed summary of: (a) the content included in the training program; (b) how the content addresses phase one of the research; (c) the learning strategies used for the face-to-face and online training programs; and (d) how the learning strategies reflect constructivist learning and/or andragogy. Up-to-date content from the training programs can be found at www.tascc.ca. Additionally, updated Adobe Presenter presentations of the various topics are posted on the website.

The program development team ensured that the content of both training programs remained the same, although they sometimes differed in their respective learning strategies. Ultimately, we endeavoured to use a variety of learning approaches to appeal to different types of learners. Additionally, we wanted to highlight the best features of face-to-face and online learning. Learning strategies for both face-to-face and online groups included:

1. *Participants were asked what they wanted to get out of the training program.* Although both programs had pre-selected content, the facilitators began by asking participants in the face-to-face and online programs what they wanted to get out of their respective training programs. This strategy provided participants the opportunity to direct their learning, and it provided the facilitators with the opportunity to tailor the program to the learning needs of the group. As it happened, participants typically requested what already appeared in the program curriculum.

2. *PowerPoint/Adobe Presenter.* The PowerPoint slides provided facts related to various S&RH topics. For the face-to-face group, the facilitators discussed actual PowerPoint slides. For

the online group, participants could read either the PowerPoint slides or listen to Adobe Presenter (PowerPoint with voiceover) presentations. In both the face-to-face and Adobe Presenter presentations, the facilitators shared anecdotes and experiences to expand on the information. In addition, to address different learning preferences, both programs included PowerPoint slides for visual learners and facilitator or Adobe Presenter presentations for those that appreciate both visual and auditory methods of learning.

3. *Values Quiz.* Learners also completed the Values Quiz, with which to reflect on the significance of the S&RH material. The quiz helped participants to uncover their own values, beliefs and biases regarding sexuality and consider how those could impact on interactions with clients. At the start of the quiz, it states,

> *Before discussing sexuality with your clients, it is important to reflect on your own values, beliefs and biases. This exercise will help you to become more aware of your sexuality values and beliefs and how they can potentially influence your interactions with clients.*

The quiz contains six statements (e.g., "I am conscious of my own attitudes and beliefs when discussing sexuality with others;" "I do not make assumptions regarding the sexual orientation or gender identity of my clients or the people I work with"). After reading the respective statements, participants indicated whether they agreed, disagreed or felt unsure about each statement. After reflecting on their own responses, they had the opportunity to read factual information regarding the statement. Figure 3 contains two examples.

Figure 3. Values Quiz Example

1. I am conscious of my own attitudes and beliefs when discussing sexuality with others.

AGREE UNSURE DISAGREE

Values are a personal inventory of what we consider being most important, and can be influenced by many factors such as family, peers, culture, religion, the media and personal experience. A person's values and beliefs will influence discussions regarding sexuality. Examining your own values and beliefs about sexual health before addressing clients is an essential part of addressing sensitive topics.

Assumptions to avoid:

- All youth are heterosexual.
- All youth are sexually active.
- All youths' sexual involvement is consensual.
- All youth who are sexually active are having intercourse.
- All youth have the same knowledge base.
- All youth have the same cultural and religious beliefs.
- All youth want to avoid pregnancy.

5. Youth always have a choice regarding whether or not they participate in sexual activity.

AGREE UNSURE DISAGREE

Some youth may not feel that participation in sexual activity is always a choice. For some youth, obtaining food and shelter or feeding their addiction to cigarettes, drugs and alcohol is the greatest priority, and therefore they participate in survival strategies such as trading sex or obligatory sex (PHAC, 2006). One Canadian study indicated that 35.6% of street youth participants reported trading sex for money, shelter, or cigarettes, drugs and/or alcohol. Additionally, 18.5% felt obligated to have sex after receiving shelter, money, food, or cigarettes, drugs and/or alcohol (PHAC, 2006).

Source: www.tascc.ca

To see the entire Values Quiz, see: http://www.tascc.ca/sexuality-topics/values-and-sexuality

4. *Individual reflective activities.* The facilitators encouraged reflection by asking participants to pause and think about their preconceived ideas and beliefs. For example, with regards to both the face-to-face and Adobe Presenter presentations, one facilitator said,

> *Probably one of the most difficult assumptions to recognize is heterosexism - the notion that being in a heterosexual relationship is the norm. Take a moment to imagine a fairy tale wedding, or the image of the cereal commercial with the 2.4 children. It is most likely heterosexist. Our society is heterosexist in nature and this makes it difficult for youth to question their sexuality when they do not have people they can feel comfortable talking to.* (Facilitator A)

5. *Use of personal stories.* The facilitators also shared their personal experiences to increase the practicality and meaningfulness of the material. For example, Facilitator B, who is a nurse working in S&RH Clinics, told a story about how a teenager cried unhappily when a pregnancy test came back negative. The story illustrated that not all youth want to prevent pregnancy, and we cannot assume they do.

6. *Virtual tour.* Adobe Presenter provided a virtual tour of the S&RH Clinics in both training programs. The virtual tour depicted what clients could expect when they come to the clinics.

7. *Humour.* Humour was used throughout both training programs by means of cartoons as well as YouTube video clips from television and movies (e.g., Friends, The Office, The Golden Girls, Mean Girls). The purpose was fourfold: (a) to keep participants interested; (b) to make learning fun; (c) to lighten the content; and (d) to demonstrate the pervasive nature of sexuality in our society.

8. *The voice of youth.* Both training programs relied on quotations and stories from the youth interviewed in phase one of the research. These quotations provided context, rationale and

meaning to the programs. For example, when discussing various types of contraception, one facilitator shared a statement made by a youth.

> *The Shot [Depo Provera, I find, is what a lot of homeless people go for, because the pill is like an everyday regular thing, and what if they do it one month, and they don't have it the next month or they get it late. Just because things happen, things change. That's the thing about homeless life it's so unpredictable… But for birth control, I think a lot of people use the shot.* (Jade, Youth, Lines 346-351)

The facilitator used the quote to make the point that service providers need to assist clients in making a decision that works in their circumstances.

9. *The voice of service providers.* Both training programs relied on quotations and stories from the service providers interviewed in phase one. Once again, these quotations provided context, rationale, and meaning to the programs. For example, when setting the context and rationale for the training programs, one facilitator shared the following statement made by a service provider,

> *But I just have found… even though I've dealt with high risk kids probably more than most other public health nurses… my level of knowledge and ability to perhaps answer some of their questions may not be enough so …I go looking for the experts too. Because… I'm not quite comfortable enough to really feel like I could handle that.* (Michelle, Service Provider, Lines 20-24)

10. *Demonstrations.* In the face-to-face program, the facilitators (with the assistance of some participants) demonstrated how a male condom, female condom, and dental dam work. The demonstrations modelled how participants could engage clients, and provide hands on learning for some individuals. The online program had links to video clips that demonstrated how to use male condoms, female condoms and dental dams.

11. *Question and answer.* Facilitators encouraged participants to ask questions throughout their respective training programs. Face-to-face participants asked questions in real-time. Online participants asked questions *via* an asynchronous discussion board.

12. *Short video*. In both modalities, participants could view a Canadian video entitled "It Gets Better," addressing the issue of homophobia.

13. *The use of pop culture*. Both programs incorporated pop culture to demonstrate how participants could engage youth, by using examples youth could relate to. For example, when discussing healthy and unhealthy relationships, a popular song by Eminem and Rihanna, entitled "Love the Way You Lie," was discussed. In the online program, participants could click on a link to see the music video. The following statement was written on the Blackboard,

> *People Magazine described the song/video [Love the Way You Lie] as "taking on" domestic violence as both artists have experienced violence in previous relationships. That said the explicit lyrics and images portrayed in the video likely send mixed messages to youth. Discussing and deconstructing the messages received via pop culture can be a powerful teaching tool for youth. Reflective Question: How can you use pop culture to capitalize on teachable moments with the youth you work with?*

14. *Additional information*. PowerPoint slides included links to resources and additional readings. In this way, participants could pursue self-directed learning.

Additional learning approaches for face-to-face participants included:

1. *Small group discussion*. In the face-to-face program, after completing the Values Quiz, participants shared their reflections with those sitting next to them.

2. *Large group discussion*. Throughout the training program the facilitators engaged the participants in unstructured dialogues to encourage problem solving and critical thinking.

3. *Information Packages.* All face-to-face participants received a package of information and resources, including the workshop objectives/itinerary, the training program PowerPoint slides, additional information, online links to readings and resources, condoms (for demonstration purposes), and a pen.

Online participants also had access to unique learning approaches. They included:

1. *Discussion board.* An online discussion board contained sequenced and structured questions. The discussion board allowed participants to: (a) articulate their reflections and experiences related to the program content; (b) learn from other participants' reflections and experiences; and (c) connect with the facilitators and with one another.

2. *Case example*. To promote problem solving and reflection, the facilitators provided case examples and questions and asked participants to articulate their responses on the discussion board. (A discussion of a case example planned for the face-to-face group never materialized because the group spent so much time on other discussions of their own choosing.)

All in all, the facilitators mostly used the same learning strategies with both groups (Table 9). They only differed for technical or logistical reasons.

Table 9. Summary of Learning Strategies for Face-to-Face and Online Training Programs

Learning Strategies	Face-to-Face	Online
Participants were asked, "What would you like to get out of this training program?"	✓	✓
PowerPoint/Adobe Presenter	✓	✓
Values Quiz	✓	✓
Individual reflective activities	✓	✓
Use of personal stories	✓	✓
Virtual tour	✓	✓
Humour	✓	✓
The voice of youth (quotes)	✓	✓
The voice of service providers (quotes)	✓	✓
Demonstrations	✓	✓
Question and answer	✓	✓
Short video	✓	✓
Use of pop culture	✓	✓
Additional information	✓	✓
Small group discussion	✓	×
Large group discussion	✓	×
Information package	✓	×
Discussion board	×	✓
Case example	×	✓

Pre-Training Data Collection

As stated earlier, we conducted the face-to-face training programs twice to meet the recruitment goal. The first occasion included a group of participants working at four alternative school sites. The training program took place on a "PD" or professional development day at one of the school sites, in a large room equipped with a Smartboard and internet access. Due to the large number of participants, the room was set up classroom style, with several rows of chairs.

The second occasion took place at an agency working with homeless families, in one of their meeting rooms, equipped with Wi-Fi, a round table, and chairs.

All face-to-face participants agreeing to participate in the research signed the consent form, and completed the pre-training questionnaires *via* paper and pencil. I supplied a cover letter (Appendix V) that included my contact information, a summary of the study and the expectations of participants. The questionnaires took approximately 10 to15 minutes to complete.

As mentioned earlier, we implemented the online training program three times to meet the recruitment goal. Anyone that wanted to participate in the study contacted me by email or telephone. I emailed participants a copy of the consent form, and participants faxed the signed consent back. If the participants gave consent, I emailed each participant a username and password for the Blackboard Learning System. Additionally, each online participant received a "Blackboard Instructions for Users" document. The document included screen shots of the Blackboard site, with typed instructions that explained how participants could logon, access documents, and participate on the discussion board. Once the training program went live, participants could access the Blackboard sexual health training site, where they received instructions on how to complete the pre-training questionnaires. Participants accessed the questionnaires by clicking on a link that directed them to the questionnaire created in and housed by surveymonkey.com, a secure survey development site. A cover letter (Appendix V) attached to the online questionnaires, included my contact information, a summary of the study, and the expectations of participants.

Training Program Implementation

The training programs differed in terms of scheduling for the two groups. For the face-to-face group, the training lasted approximately six hours and took place in one day with lunch and snacks provided. All participants received a package of information and resources. For the online participants, the training program took approximately six hours to complete over a two week period of time. Participants could access all learning materials on the Blackboard documents page. Each S&RH topic had its own folder of information.

Immediate Post-Training Data Collection

After completing the training program, participants completed the immediate post training questionnaires. A cover letter (Appendix W) was attached to the questionnaires. The questionnaires took approximately 15-20 minutes to complete.

For the face-to-face group, I distributed the questionnaires to participants once the training program ended. Online participants accessed the questionnaires on Blackboard, by clicking on a link that directed them to the questionnaire created in surveymonkey.com.

Six Week Post-Training Data Collection

Six weeks after the training program, participants completed the six week post-training questionnaires. The questionnaires took approximately 15-20 minutes to complete. Participants completed the questionnaires within a two week timeframe. Face-to-Face participants received hard copies of the questionnaires, with a cover letter attached (Appendix X), in an envelope at their work site. Participants then enclosed the completed questionnaires in a sealed envelope. The agency/organization secretary held the completed questionnaires until I picked them up. Online participants received an email with a link to the questionnaires and cover letter (Appendix X) created in surveymonkey.com.

Data Analysis in Phase Two

The data analysis included both quantitative and qualitative methods of analysis.

Quantitative Data Analysis

The quantitative components of the questionnaires underwent analysis using SPSS. I entered data into SPSS and later checked the data for accuracy. Demographic factors were analyzed with descriptive statistics. Independent samples t-tests and Fisher's exact tests were performed to determine if there were any significant demographic differences between the two groups.

Two way repeated measures ANOVA (one between subject factor – group of two levels and one within subject factor – time of three levels [2 x 3 design]) were performed on the outcome measures of cognitive learning (knowledge) and affective learning (perceived comfort). Based on this analysis, it was determined if there was (a) time effect; (b) group effect; and (c) time by group interaction effect. Testing of simple effect was also performed.

Independent samples t-tests and the non-parametric equivalent Wilcoxon tests were performed for group comparisons on the outcome measure of learner reaction. For the outcome measure, use of training, independent samples t-tests and Fisher's exact tests were used to compare the differences between groups.

All statistical tests for significance used an alpha level of .05. A statistician from the University of Calgary consulted regarding the quantitative aspects of this study. Most of these statistical procedures are discussed in more depth in the Chapter 6.

Qualitative Data Analysis

The qualitative data included the open ended responses from the questionnaires and the five interviews. Content analysis guided the analysis of qualitative data. Chapter 4 provides a

description of content analysis and the steps for analyzing and coding data. First, I transcribed the interviews (and checked them for accuracy), transcribed the open ended responses (and checked them for accuracy), gave pseudonyms to all participants, scanned all the data, and sorted the data according to sub-research question. (Data for each sub-research question underwent separate analysis for the respective training group.) Second, I read all the data pertaining to each sub-research question to familiarize myself with the content. As I reviewed the texts, I made notes in the margins. Third, I coded the data. Fourth, I generated themes. In phase two the themes represented the perspectives of face-to-face participants, online participants and/or the facilitators. Fifth, I considered how the thematic description would be integrated with the quantitative data. Finally, I interpreted the final results. For phase two, interpretation entailed considering how the findings could be used to make recommendations for future face-to-face and online S&RH training programs.

Integration of Quantitative and Qualitative Methods

Quantitative and qualitative data underwent separate and then integrated analysis. For this study, the qualitative data assisted in clarifying, explaining, and enriching the quantitative data to develop a more complete picture of the findings.

Research Trustworthiness in Phase Two

In order to ensure the trustworthiness of the qualitative findings, two techniques (e.g., peer debriefing and member checking) were employed that provide an external verification of the research process (Creswell, 2014; Polit & Beck, 2012). Various aspects of the results were discussed with one peer; and the findings from phase two were discussed with the two training program facilitators.

Bias clarification and reflexivity, as discussed in Chapter 4, were also used. One source of tension related to the fact that this research was conducted under the auspices of Alberta Health Services, Sexual and Reproductive Health, where I am employed. I had concern that this would bias my interpretation of findings. A critical service provided at Sexual and Reproductive Health is capacity building training programs. Additionally, the two facilitators who ran the training programs are colleagues. I had concerns that my history with Alberta Health Services could impact my interpretation of the findings. I dealt with this source of bias through reflection and discussion.

Ethics in Phase Two

The Conjoint Research Ethics Board of the University of Calgary (ethics id number: 23554) approved phase two of this study. For the alternative schools, the Calgary Board of Education (CBE) provided ethics approval. Participation in the study was voluntary. However, in order to keep attrition at a minimum, I planned to provide all participants the opportunity to win one of twelve $25 gift cards. Whereas the Conjoint Research Ethics Board approved the draw for gift cards, the Calgary Board of Education did not because it is against policy for staff to receive honorariums for participating in research. Thus, only non-CBE employees entered in the draw. All program participants and facilitators signed consent forms. See Appendix Y for the program participant consent form; see Appendix Z for the participant consent form for Calgary Board of Education (alternative school) participants; and see Appendix AA for the facilitator consent form.

Summary

This chapter focused on the methods for phase two of the research. Phase two used a mixed methods quasi-experimental design to explore the effectiveness of face-to-face and online

S&RH training programs. Learner reaction was evaluated as well as three kinds of outcomes related to capacity development: cognitive learning (knowledge), affective learning (perceived comfort) and practice behaviour. The next chapter presents the findings from phase two.

CHAPTER 7: RESULTS PHASE TWO

This chapter presents the analyzed results from phase two of the study. The primary research question in phase two is: *"Does participation in either an online or face-to-face training experience enhance the capacity of service providers to work with street-involved youth (SIY) regarding their sexual and reproductive health (S&RH)?"* The secondary questions are:

A. How do participants regard either their online or face-to-face training experience (learner reaction)?

B. Do participants experience an increase in cognitive learning (knowledge) after participation in either an online or face-to-face training experience?

C. Do participants experience an increase in affective learning (perceived comfort) after participation in either an online or face-to-face training experience?

D. How do participants reportedly use their training after participation in either an online or face-to-face training experience (practice behaviour)?

E. How do facilitators of online or face-to-face training approaches evaluate their experiences?

To follow, each secondary question is addressed as it relates to the face-to-face training modality, the online training modality, and a comparison of the two modalities.

Learner Reaction

This section addresses secondary question "A." It asks: *"How do participants regard their participation in either an online or face-to-face training experience?"*

The face-to-face participants completed the Learner Reaction Questionnaire: Face-to-Face Program (Appendix O); the online participants completed the Learner Reaction Questionnaire: Online Program (Appendix P). Both questionnaires contain the same sixteen

fixed-alternative questions. The participants rated each item, according to one of two five-point Likert scales: for the first six questions, participants were asked to rate the items on a scale ranging from poor to excellent; for the next 10 questions, participants were asked to indicate their level of agreement with a statement, ranging from strongly disagree to strongly agree.

The means were calculated for each item and the means were converted to percentages (e.g., if the mean score is 4.45 out of 5, the mean percentage is 89.00%). This serves to make the interpretation of the results more intuitive. The standard deviations (SD), calculated for each item, provide information regarding the average amount that scores deviate from the mean, and measure the amount of variability in a group of scores (Polit and Beck, 2012). In the context of this study, a smaller standard deviation indicates homogeneity among the responses and more agreement among the participants. Whereas a larger standard deviation means the responses are heterogeneous, and there is less agreement among the participants (Polit & Beck, 2012).

Differences between the groups were calculated using independent samples t-tests (alpha level of .05). The corresponding nonparametric procedure, Wilcoxon tests came to the same conclusions as the parametric t-tests. Statistically speaking, the nonparametric procedure is more appropriate to use because the questionnaire items are ordinal in nature. However, independent samples t-tests provide information that is practical and useful. For example, the Wilcoxon test uses "rankings of the values in the data rather than using the actual data. Knowing that the difference in mean rankings between two groups is [15] does not really help our intuitive understanding of the data" (Hoskin, n.d., p.4). Whereas knowing that on average, one group for example, rated their comfort with asking questions 15% higher than another group, is both intuitive and useful. The quantitative learner reaction results are summarized in Table 10, Table 11, and Table 12.

The learner reaction questionnaires also include five open-ended questions that gather qualitative data. The questions are: (a) “What were the best aspects of the training program?” (b) “What could be done to improve the training program?” (c) “Based on your experience with this training program, what are the strengths of face-to-face training programs?” **OR** “Based on your experience with this training program, what are the strengths of online training programs?” (d) “Based on your experience with this training program, what are the challenges of face-to-face training programs?” **OR** “Based on your experience with this training program, what are the challenges of online training programs?” (e) “Additional comments?” Table 13 contains a summary of the qualitative results, analyzed using content analysis.

Together the quantitative and qualitative data provide a more complete picture of the participants’ reactions. Below, the learner reaction results are arranged according to three subheadings: face-to-face learner reactions; online learner reactions; and comparison of face-to-face and online learner reactions.

Face-to-Face Learner Reactions

Table 10 summarizes the quantitative data from the Learner Reaction Questionnaire: Face-to-Face Program. Thirty-eight participants in the face-to-face group completed the questionnaire. This questionnaire was completed at time two, immediately after the training program. The number of participants is higher than the 28 face-to-face participants that completed the study due to the attrition of 10 participants that consequently occurred at time three (six weeks after the training program).

Table 10. Quantitative Learner Reaction Results: Face-to-Face Group

Category	Item	Sample Size (n)	Mean[a] (SD)	Mean Percentage[d]
Content of the program	Content[b]	38	4.45 (.555)	89.00%
	Resources[b]	38	4.42 (.642)	88.40%
	The topic targeted was adequately covered[c]	38	4.47 (.557)	89.40%
	The program content will be useful to me[c]	37	4.54 (.558)	90.80%
Instructional features of the program	Instructional techniques[b]	38	4.29 (.768)	85.80%
	Mode of program delivery (face-to-face)[b]	37	4.51 (.731)	90.20%
	Facilitators[b]	38	4.61 (.638)	92.20%
	The content was adequately delivered[c]	38	4.55 (.555)	91.00%
	The facilitators used time effectively[c]	38	4.55 (.645)	91.00%
	Participants were active learners[c]	38	4.21 (.741)	84.20%
	My questions were answered[c]	38	4.58 (.552)	91.60%
Comfort level in discussing S&RH	I was comfortable asking questions[c]	38	4.66 (.534)	93.20%
	I was comfortable discussing the content[c]	38	4.61 (.595)	92.20%
Overall rating of the program	The program overall[b]	37	4.51 (.692)	90.20%
	My understanding was enhanced[c]	38	4.63 (.589)	92.60%
	Overall, I was satisfied with my learning experience[c]	38	4.58 (.599)	91.60%

[a] Mean score out of five.
[b] Participants were asked to rate the items on a five point Likert scale ranging from poor to excellent.
[c] Participants were asked to indicate their level of agreement with the statement on a five point Likert scale, ranging from strongly disagree to strongly agree.
[d] Mean percentage calculated by dividing the mean score by five and multiplying by 100.

To facilitate the discussion of the findings, the qualitative and quantitative data are presented under four categories:

1. Content of the face-to-face program;
2. Instructional features of the face-to-face program;
3. Comfort level in discussing S&RH in the face-to-face program; and
4. Overall rating of the face-to-face program.

In this way, items with a similar focus undergo collective scrutiny that includes both quantitative and qualitative findings.

The qualitative data sources are drawn from the open-ended responses in the Learner Reaction Questionnaire. In the furtherance of completing the picture, I also conducted one in-depth interview with a participant from the face-to-face program ("Participant X").

Content of the Face-to-Face Program

The first component, *content of the face-to-face program*, includes four items: "Content;" "Resources;" "The topic was adequately covered;" and "The program content will be useful to me." The mean ratings of the four items range from 4.42 to 4.54 out of five, which correspond to percentages of 88.40% to 90.80%, and the SDs range from .555 to .642 (Table 10). The narrowness of these ranges suggests the responses are homogeneous, and there is agreement among participants regarding their opinions of the content. In their written answers to open-ended questions and the comments gathered from the one interview, participants described one predominant strength and one challenge related to the content.

Strength Related to the Content

Several participants identified the scope of the content as a strength of the training program. Using words such as "excellent" and "great," they commented favourably about the breadth and depth of information about S&RH. Furthermore, participants mentioned the relevancy and usefulness of the content in their work. Some participants mentioned the content refreshed their existing knowledge, whereas others said they gained new knowledge. One participant stated,

> *I think people found the information useful and certainly there were things that did get covered that were not things they already knew. Because I think people over about 15[years] tend to think they already know everything there is to know about sex, and I think there was a few surprises for them and that was good.* (Participant X, Lines 33-36)

Challenge Related to the Content

Some commented that the participants exhibited widely different levels of knowledge about the field and degrees of comfort with the sensitive nature of the material. Therefore, for some participants the information seemed too basic; whereas for others, it seemed on point. For example, Participant X, who agreed to the in-depth interview, appeared knowledgeable and comfortable with sexuality, stated she would have liked "less mainstream" information.

> *So we didn't talk a whole lot around non-heterosexual activities, which as we've come to understand the current young people population... are doing a lot more exploratory stuff. Just testing the waters and just seeing whether that is something that appeals to them... The how-to's of that... people are putting a whole lot of things into those openings besides their partner's parts. I don't know if any of that stuff will ever come up in questions, but I would like to think people would know the answers, and the answer might simply be if you're going to be doing that kind of thing, what are your risk factors? What's the possibility of doing damage? You know those openings were meant for soft things to be put in, not hard things. Just stuff that people will find awkward and uncomfortable to talk about because it's not anywhere they've gone themselves, and they really don't know what the answers [are]... So what do you do with the boy that says, "I'm into drugs now, and I'm paying for it by turning tricks"? What's the advice? What's the help? How do you answer his questions? What do I know about torn anuses? I don't know. A lot of us don't know very much.* (Participant X, Lines 57-71; 100-102)

The feedback certainly addresses the diversity of knowledge about sexual health among participants. This speaks to an important consideration in any adult education program. The program first has to establish knowledge of basic S&RH before any discussion of more complicated information. In a face-to-face learning environment, the onus is on the facilitators to create an experience that addresses the needs of the entire group, which presents certain challenges with a diverse group of learners.

Instructional Features of the Face-to-Face Program

The second component, *instructional features of the face-to-face program*, includes seven items about the face-to-face program: "Instructional techniques;" "Mode of program delivery (face-to-face);" "Facilitators;" "The content was adequately delivered;" "The facilitators used time effectively;" "Participants were active learners;" and "My questions were answered." The means range from 4.21 to 4.61, which correspond to percentages of 84.20% to 92.20%, and the SDs range from .552 to .768 (Table 10). The wider range in SDs among the items suggests that participants varied in their responses and varied somewhat in their evaluation of the instruction. In this regard, participants identified seven strengths and three challenges.

Strengths of the Instruction

The participants generally noted seven strengths of the instruction in the face-to-face program:

1. *Facilitators.* Several participants commented that the facilitators deserve much of the credit for the success of the face-to-face program. One participant stated, “They were very good. They were very competent and comfortable with their information. They knew what they wanted to get across to us, and they did a good job of presenting it. They responded well to our questions” (Participant X, Lines 13-15).

Participants described the facilitators as “competent,” “effective,” “comfortable,” “clear,” “engaging,” "good," “approachable,” “interesting,” and “informed.” They reportedly responded to questions skilfully and had the ability to keep the learners engaged. In this regard one participant said, “Good presenters - you kept our staff interested. That is hard” (Participant 38). Finally, the participants indicated their appreciation for the high level of knowledge

possessed by the facilitators as well as the anecdotes and personal experiences shared to make learning more meaningful.

2. *Personalized instruction*. Some participants commented the face-to-face training program benefited from the facilitators' ability to “personalize” or "modify instruction based on [the] groups' need and time” (Participant 41). At the commencement of the training program, the facilitators asked, "What do you want to get out of this workshop? What are your concerns?" Although a detailed training program was planned in advance, it appears that the facilitators approached the training program with an open mind, wanting to meet the needs of the group. For example, both face-to-face training sessions included a role play/case example activity. However, because the groups were having such good dialogue, the facilitators instead decided to continue with the dialogue and address the issues of the group and not carry on with the case example.

3. *Personal interaction*. Some participants reported that a strength of the face-to-face learning environment was the personal interaction, especially important when addressing the topic of sexuality. In this regard, one participant wrote, “Sex is a personal human thing - so should the instruction” (Participant 3). Furthermore, some participants expressed the belief that the topic of sexuality warrants personal interaction in order to get comfortable with the content. For example, one participant stated,

> *And I mean part of increasing people's comfort level with this, is doing it with the people around you. It's having me being up there and being a screwball and people being able to say goofy stuff to each other and see that the person next to them is not dying of embarrassment or mortification…This is a healthy happy fun part of our lives, and we shouldn't be feeling so uncomfortable talking about it... but to me, the point is to get more comfortable with other human beings... to get the information online and then show some*

> *kid how to get the information online. It makes it feel like it's some sort of secret cult of knowledge that we pass on, but never talk about.* (Participant X, Lines 240-255)

Personal interaction is also important because for some, participating in a training program with others is enjoyable. It provides a more real and authentic type of interaction, compared to the online learning environment. Finally, for some, the face-to-face environment not only provides the opportunity to learn, but it provides the opportunity to socialize and connect with others.

4. *Real-time (immediate) feedback.* Participants stated that face-to-face learning provides the opportunity to receive real-time or immediate feedback regarding one's state of knowledge. S&RH knowledge has advanced considerably over the past decade, and when it comes to the topic of sexuality, there are several myths and misconceptions. One participant noted that in a face-to-face program, facilitators can "confront stereotypes and misconceptions right away" (Participant 26). During face-to-face training sessions, myths, misconceptions, misunderstandings and misinformation arose during discussion. Facilitators then had the opportunity to address them in real-time.

5. *Real-time (immediate) Q & A and dialogue*. Several participants commented that they appreciated the opportunity to ask questions, receive answers, and have discussions in real-time in the face-to-face training program. For example, one participant stated, "...many of us have the same misunderstandings/[need for] instant answers to difficult questions" (Participant 20). During both face-to-face programs, the facilitators informed participants that they could ask questions freely throughout the day. Receiving answers to questions in a timely manner appeared important to participants. Some participants asked questions as they arose; others chose to ask questions during scheduled breaks or during lunch. Ultimately, people received answers to their questions quickly.

6. *Program structure and organization*. Some participants valued the organization of the face-to-face program. Each topic had its own PowerPoint. Planned breaks and activities provided opportunities to analyze the material. Comical video clips supplied comic relief. Different types of teaching modalities were interspersed throughout the program to prevent participants from getting bored or losing focus. For example, one participant noted there was “less lengthy 'instruction'… [and] timely breaks” (Participant 27).

7. *Multiple teaching approaches*. Participants commented that employing different teaching approaches also proved useful (e.g., condom demonstrations, discussion, humour, video clips, PowerPoint, handouts).

> *...it wasn't a full on lecture mode... the [video]clips... which were very well received, …you could feel people's comfort zone was there. They had the chance to laugh about it, and then talk about it. Something like that where you're bringing [up] a topic in a humorous way so people can go, "Okay. This is comfortable. It's relaxing, if it's fit for television I should be comfortable talking about it." Plus they've have a little laugh, and we're lightened... And then they'll be receptive to the information. And they were. It was good, well done.* (Participant X, Lines 301-305)

Another participant stated, "the benefit of seeing the material on paper, on the screen and hearing it helped reinforce the material" (Participant 2). Many participants felt that the movie and television clips lent humour, but also proved relevant. They stated that alternating between different learning strategies captured their attention. Furthermore, the "[l]anguage used was at the level that can be taken into the school setting" (Participant 23). They also stated there was good interactivity and that the facilitators "included us (the audience) in every topic" (Participant 5). The anecdotal information also helped the participants to learn.

Challenges of Instruction

In general, participants noted three challenges of instruction in the face-to-face program:

1. *Time and pace.* Participants largely agreed that the face-to-face program required more time because of the breadth and depth of the content. The training program lasted six hours and was delivered in one day. Several participants, particularly in Group 1, reported that they needed more time and/or that the program felt rushed. Taking an approach that welcomed questions, comments, and discussion took time. People with previous exposure to some of the material offered less criticism. Contrariwise, a small number of participants even commented that the pace of the program proved advantageous.

2. *No time to absorb the information.* Some participants commented that the rushed timeframe resulted in "not enough time to digest" or absorb the information (Participant 20). Additionally there was limited time to reflect upon what was learned and consider the implications for clients.

3. *Level of interactivity*. Another criticism of the face-to-face training program was the level of interactivity. Some recommended the addition of games, role play, problem solving activities or small discussion groups. That being said, one participant commented that small group discussions or role play activities would not have been the best use of time because participants would have chatted about something other than the material. In her opinion, the opportunity for small group discussion would only increase the opportunity to socialize. She explained,

> *If you give them 15 minutes [to discuss a topic] they will discuss it for the first three and then they will diverge off onto some interesting conversations of their own.... If you had you know one million days and you want to do role-playing, well again what you get out*

of role-playing is mostly somebody has the opportunity to be a hamburger and you watch either an ideal scenario where both people are on the same team and they make a nice comfortable easy role-play or you get somebody that you've asked to come in and ham it up. I mean it's so extreme….It ceases to be meaningful. It's hard to get something gritty and meaningful. (Participant X, Lines 273-276; 285-289)

<u>Comfort Level in Discussing S&RH in the Face-to-Face Program</u>

The third component, *comfort level in discussing S&RH in the face-to-face program*, addresses the participants' reactions to discussing sexual matters in a face-to-face setting. In this regard, participants responded to two statements: "I was comfortable asking questions;" and "I was comfortable discussing the content." The means range from 4.61 to 4.66 out of five, with corresponding percentages of 92.20% to 93.20%, and the SDs range from .534 to .595 (Table 10). The narrowness of the standard deviations suggests small variability in responses and therefore a strong agreement among the participants as to their level of comfort discussing S&RH during the training program. Related to their comfort in discussing S&RH, participants identified one strength and challenge.

Strength Associated with Comfort Level

In the face-to-face program, some participants commented that the facilitators created a positive learning space, a space that promoted comfort, trust, and openness. For example, one participant stated the facilitators "[made the discussion] … of 'sex' feel very comfortable – allowing me to feel more at ease with my knowledge, willing to learn more, thus delivering more info to my students" (Participant 19). Another said, "[the facilitators] created a safe, comfortable space to learn, ask questions, and grow" (Participant 2).

Challenge Associated with Comfort Level

Some participants find that any discussion of S&RH proves embarrassing or uncomfortable in a face-to-face setting. Consequently, they do not ask questions or seek clarification. As well, some of the information "can be a disconnect with people's values and social/religious views" (Participant 27), causing further discomfort.

Overall Rating of the Face-to-Face Program

The fourth component, *overall rating of the face-to-face program,* includes three items: "The program overall;" "My understanding was enhanced;" and "Overall, I was satisfied with my learning experience." The mean ratings range from 4.51 to 4.63, which corresponds to percentages of 90.20% and 92.60%, and the SDs range from .589 to .692 (Table 10).

Overall, participants apparently enjoyed their learning experience. They used words such as "excellent" or "great" to describe the content, resources and/or facilitators. Some participants commented, "Possibly [the] best training program I've attended in a while" (Participant 2); "I only wish all agencies can benefit from this program!" (Participant 5); and "The day went quickly and people said, 'wow, did that ever go fast? They didn't give us any time to get into trouble or get bored!' It was perfect" (Participant X, Lines 265-266).

Online Learner Reactions

Table 11 summarizes the quantitative data provided by the online participants that completed the Learner Reaction Questionnaire: Online Program. Thirty-four participants completed the questionnaire at time two, immediately after the training program. The number of participants is higher than the 29 online participants that completed the study due to the attrition of five participants that occurred at time three (six weeks after the training program).

In addition to responding to the fixed alternative and open ended questions, online participants reported the number of times they logged onto Blackboard. Participants reportedly logged on an average of 5.56 times (range of 2 to 10 times). Participants also reported the number of hours they devoted to their participation. Participants reportedly devoted an average of 6.87 hours (range of 1 hour to 27.5 hours) to their participation, with 33.30% spending less than six hours on the training and 36.70% spending more than six hours on the training.

The following discussion of the online program incorporates both quantitative and qualitative material under the similar four headings employed in the earlier discussion of the face-to-face program. The headings are:

1. Content of the online program;
2. Instructional features of the online program;
3. Level of comfort in discussing S&RH in the online program; and
4. Overall rating of the online program.

The qualitative data sources are drawn from the open-ended responses in the Learner Reaction Questionnaire as well as in-depth interviews with two online program participants ("Participant Y" and "Participant Z").

Table 11. Quantitative Learner Reaction Results: Online Group

Category	Item	Sample Size (n)	Mean[a] (SD)	Mean Percentage[d]
Content of the program	Content[b]	34	4.68 (.535)	93.60%
	Resources[b]	34	4.65 (.597)	93.00%
	The topic targeted was adequately covered[c]	34	4.47 (.563)	89.40%
	The program content will be useful to me[c]	34	4.53 (.563)	90.60%
Instructional features of the program	Instructional techniques[b]	34	4.21 (.687)	84.20%
	Mode of program delivery (online)[b]	34	4.38 (.739)	87.60%
	Facilitators[b]	34	4.38 (.697)	87.60%
	The content was adequately delivered[c]	34	4.53 (.507)	90.60%
	The facilitators used time effectively[c]	34	4.38 (.652)	87.60%
	Participants were active learners[c]	34	4.03 (.577)	80.60%
	My questions were answered[c]	34	3.79 (.808)	75.80%
Comfort level in discussing S&RH	I was comfortable asking questions[c]	34	3.82 (.904)	76.40%
	I was comfortable discussing the content[c]	34	4.09 (.668)	81.80%
Overall rating of the program	The program overall[b]	34	4.59 (.561)	91.80%
	My understanding was enhanced[c]	34	4.53 (.507)	90.60%
	Overall, I was satisfied with my learning experience[c]	34	4.56 (.561)	91.20%

[a] Mean score out of five.
[b] Participants were asked to rate the items on a five point Likert scale ranging from poor to excellent.
[c] Participants were asked to indicate their level of agreement with the statement on a five point Likert scale, ranging from strongly disagree to strongly agree.
[d] Mean percentage calculated by dividing the mean score by five and multiplying by 100.

Content of the Online Program

The first component, *content of the online program*, includes four items: "Content;" "Resources;" "The topic was adequately covered;" and "The program content will be useful to me." The means range from 4.47 to 4.68, which corresponds to percentages of 89.40% to 93.60% and the SDs range from .535 to .597 (Table 11). The narrowness of these ranges suggests a homogeneity in the responses and agreement among the participants regarding their opinions of the content. Related to the content, participants identified one predominant strength.

Strength Related to the Content

Participants reported that the scope of the content represents a strength of the online training program. They commented favourably about the breadth and depth of coverage on a wide variety of sexual health topics. They described the program as a "thorough" or "great" "overview" or "review" of several topics. One participant noted "…there were multiple opportunities to look deeper into the topics discussed if needed" (Participant 79). Another participant stated,

> *I was pleased with the scope, and I was particularly pleased with what I call the soft bits: the engagement, the appealing to the age group or their high risk situation ... all for engagement and practice. [In addition, I liked] ... the hard… information and update on anatomy and physiology...* (Participant Y, Lines 552-556)

Participants commented that the program provided new information, and it reviewed information they learned at another time. One experienced nurse commented that the unlearning of out-dated information was equally as important as the learning of new information.

Several participants described the information as "excellent," "great," "good," and/or "useful." One participant commented, "the information was very useful for our work in schools [and a] good review of information and update of changes" (Participant 65).

Instructional Features of the Online Program

The second component, *instructional features of the online program*, includes seven items: "Instructional techniques;" "Mode of program delivery (online);" "Facilitators;" "The content was adequately delivered;" "The facilitators used time effectively;" "Participants were active learners;" and "My questions were answered." The means range from 3.79 to 4.53, which corresponds to percentages of 75.80% to 90.60% and the SDs range from .507 to .808 (Table

11). The wider ranging standard deviations suggest that participants were heterogeneous in their responses and agreed less regarding their evaluation of the instructional features of the program.

It is important to mention that the mean rating and standard deviation for the last item, “My questions were answered," was 3.79 (75.80%) and .808 (Table 11) respectively. This was the only item in the instructional features component with a mean below 4.0. In their open ended responses, online participants did not address this point specifically. However, a related point under *comfort level in discussing S&RH* category, “I was comfortable asking questions," had a mean of 3.82 (76.40%) and a SD of .904 (Table 11), which suggests that some participants would likely not have had their questions answered because they did not feel comfortable asking questions. The largest SDs in Table 11 of .808 and .904 respectively pertain to these two items. Related to the instructional features, participants identified nine strengths and seven challenges.

Strengths of the Instruction

The participants generally noted nine strengths of the instruction in the online program:

1. *Program structure and organization.* Several participants praised the organization and structure of the online program. Participants said this feature assisted them in completing the program at a good pace, while optimizing their learning. For example, one participant said,

> *... I liked the way it was laid out... I found that when we got into the topics that were a little bit heavier, I found that I could maintain focus longer than if I was say in a class.* (Participant Z, Lines 7-10)

Additionally, it assisted the learners in fitting the program into their schedule. One participant said, “I like that it was broken down into topics where it listed how long the Breeze presentation is so I could determine whether I had time to complete it” (Participant 58).

2. *Multiple teaching approaches.* Several participants believed that the number of different teaching approaches, which ultimately appealed to different types of learners, proved particularly advantageous. On this point, one participant said,

> *I enjoyed the use of media, such as TV shows and music videos, as a means to teach and connect to the populations we serve while teaching them. The information was well spread out and covered many areas that refreshed or taught new information for myself. I think the mindfulness around different learning styles was well incorporated into this program.* (Participant 85)

3. *Discussion board.* The discussion board was seen as both a strength and a challenge of the online training program. The challenges are discussed below. Some participants commented that they "enjoyed" reading the comments. One participant mentioned, "I love[d] the discussions a lot and found them interesting and wanting to talk more!!" (Participant 49). Another participant commented that the discussion board provided the opportunity "... to connect/communicate with others; hear different perspectives" (Participant 49).

4. *Self-directed learning.* Several participants reported that the online modality had the added strength that it promoted self-directed learning. Many participants commented that they could complete the program at their own pace. Additionally, they could review and revisit the materials if they wanted. That is, participants could spend time focusing on the topic areas where they lacked knowledge or had an interest. Conversely, they could speed through sections they understood. This allowed them to think about the information and process it differently than in a face-to-face environment.

> *I liked that there was the PowerPoint [and] that you could print it off and have it there and that it was online because I could stop and start it [the Breeze],... if there was something that I wasn't quite sure about….In a group presentation you might not have someone stop and say "oh wait a second," they might not ask the question. There were*

> *times when I was able to go back and say "oh," and really look at that a bit more.* (Participant Z, Lines 147-151)

Another participant stated, "[this] format gave me time to think about information, read several times and review" (Participant 55). Another participant said, "this allowed adult learning, understanding and flexibility for learning at your own pace without others to judge you for what you may or may not already know" (Participant 85). Ultimately, the learners appreciated that they had control of their learning experience.

5. *Flexibility*. A majority of the participants commented on the flexibility of asynchronous online learning. Participants noted that the online learning could be done on their schedules, at their convenience. Finally, if they had a computer and an internet connection, they could access the online learning any time or any place. One participant stated, "[It] can be done at any time for however long. The program can be stopped for a bathroom break… It's very handy! No driving or parking fees. The online program does not assume that people's attention span is the same" (Participant 59).

6. *User-friendly.* Some participants commented that the online program proved user-friendly. For example, one participant stated, "And it was very easy. The Breeze presentations would just pop up, it was very user-friendly" (Participant Z, Line 205). Another participant stated,

> *The online experience was relatively easy and all that... So I feel like I did the study work, and I did the tests and all of that, and you made it as easy as it could be to do that…. And it was obvious the amount of, what I'd call, careful consideration and work that went into [making it easy for us]. I especially valued the [preparation] leading into and putting it in terms of the more productive or more successful. So I really appreciated that part of it particularly.* (Participant Y, lines 6-11; 41-43)

7. *Ability to print materials*. Another strength of the online training program related to printing materials. In this regard one participant stated, “I did appreciate that the PowerPoints were posted so that I could print these off and take them with me to a school” (Participant 56). It seems that the ability to print the materials has two advantages: first, it allows participants to focus on note-taking; second, it enables individuals without a computer and internet connection on hand to maintain hard copies in order to review the course materials at their convenience.

8. *Economical.* Some participants commented that the online learning provides an economical way for colleagues to work together across large distances. It saves on parking and driving costs. Finally, it allows participants to save, print and disseminate materials, and it provides an opportunity for discussion when doing the program at work. For example, one participant stated,

> *...doing it at the office, for people that weren't doing it when they saw some of the images/videos and stuff it brought people in and we ended up in conversation about the learning. So it was a different kind of benefit... the other staff learned that maybe weren't in the course.* (Participant Z, Lines 37-40)

9. *Facilitators.* The participants identified one other strength of the online training program, the role of the facilitators. Participants noted that they found the facilitators “engaging,” “interesting,” and “clear.” For example, throughout the Adobe Presenter presentations, the facilitators explained what was written on the slides and told corresponding anecdotes. Additionally, they responded to questions in a timely manner.

Challenges of Instruction

Online learning does have its challenges. The online participants raised seven:

1. *Missed or prefer face-to-face learning*. Some participants would have preferred for some of the training program, particularly the discussion, to take place in a face-to-face setting.

For example, one participant commented, “I do wish... we could [have] even had the time [to] sit down and have a conversation” (Participant Z, Lines 59-60). Another participant commented that online learning does not allow participants “…to evaluate or observe people's reactions to questions and answers” (Participant 90). Finally, another commented that the program material better lends itself to face-to-face learning. The person stated,

> *I think this course would be better if it was done in person rather than online…I don’t think that by just reading material people will be more open to discussing things with youth; they need to be comfortable with their own sexuality and boundary issues.* (Participant 88)

2. *Time.* Participants were told the program would take approximately six hours over a two week time period. A number of participants commented that they would have liked more than two weeks to complete the training program. For example, one stated, “More time would be appreciated. Often I did not have time to pull up and get through material let alone the discussion dialogue” (Participant 64).

3. *Timing.* Some participants said the timing of the program was not optimal. Some participants commented that it was a busy time of year, making it difficult to complete the program. One participant stated,

> *While we were told it would only take six hours to complete the program, it is a very busy time of year for school nurses. ...Six hours was a lot of time to devote to completing the program. I think uptake of participants may have been increased had it been a different time of year or shorter program. The time frame to complete everything was also challenging again due to the time of year.* (Participant 56)

That said, others commented it is *always* a busy time. For example, one participant said,

...I don't know that there is an un-busy time of year. So it's just a question of saying, "okay this is something in my practice that I would really value getting an update and a reboot, and I can do it." (Participant Y, Lines 26-28)

4. *Access to technology*. Some participants reported that having access to a computer and a suitable work space presented challenges. For example, one participant stated,

> *Having internet access was an issue. Not all school nurses have the capacity… to complete the program anywhere other than the office (e.g. some nurses have laptops with internet capability) so I had to take time away from my schools to complete it.* (Participant 56)

Additionally, some work environments have shared computer work stations, and therefore "a private/quiet space with access to a computer could be hard for some to find" (Participant 71). As well, some of the participants travel to various sites throughout the day without access to a computer, making it difficult to complete the program.

5. *Technological challenges*. Some participants stated that technological challenges were a challenge of the online program. A small number of participants criticized the poor sound quality of certain Adobe Presenter presentations. For example, one participant commented, "...Must have headphones when engaging the Breeze and video links. The volume comes on at very (painfully) high levels" (Participant 47). One person mentioned that some of the videos could not be accessed from their work server. Two people mentioned that they had difficulty posting on the discussion board. In this regard, one participant said, "I found issues trying to post to the discussion boards with my computer which deterred me from wanting to actively participate in the discussion boards" (Participant 60).

6. *Self-directed learning is not for everyone*. Another criticism speaks to the learning style of some adult learners, some of whom find self-directed learning challenging. Without a scheduled time to complete the program, some procrastinate. One participant stated,

> *[Online learning] requires motivation/effective time management - like a correspondence course; may not work for those who require more structure or guidance that maybe a face-to-face training could give or may not be completed on time if able to leave for completion at "own pace."* (Participant 49)

7. *Asynchronous discussion board.* Some found that participating in an asynchronous online discussion had its challenges. Because participants completed the program at their own pace, some people wound up either behind in the training or ahead—this often disallowed them the opportunity to discuss material. One participant stated, "The piece that was difficult was some people were ahead of me on the program, so then I felt like I was trying to catch up to them" (Participant Z, Lines 60-62). Additionally, asynchronous learning did not allow for spontaneous discussions or immediate answers to questions. In this regard one participant stated, "Technology issues aside, it does not allow for immediate spur of the moment discussion that you would have in a classroom/lecture type setting" (Participant 60). Furthermore, asynchronous learning did not permit for immediate clarification or correction of misinformation. Although at least one facilitator logged on to Blackboard every day to check for questions or clarify misinformation, asynchronous online learning did not provide the immediate responses of a face-to-face learning environment.

Finally, on this same point, some people felt that individuals made comments on the discussion board instead of participating in an actual discussion. For example, one participant stated, "Personally, a classroom discussion would be better for me because there is better back

and forth discussion. People's posted discussions were more comments than a discussion" (Participant 59).

Comfort Level in Discussing S&RH in the Online Program

The third component, *comfort level in discussing S&RH in the online program*, includes two items: "I was comfortable asking questions;" and "I was comfortable discussing the content." The means range from 3.82 to 4.09, with corresponding percentages of 76.40% to 81.80%, and the SDs range from .668 to .904 (Table 11). This category resulted in lower means and larger standard deviations in comparison to the other categories. The larger standard deviations suggest that participants were heterogeneous in their responses and had less agreement regarding their level of comfort discussing S&RH in the online training program. Participants identified one challenge associated with level of comfort.

Challenge Associated with Comfort Level

As identified earlier, as an instructional feature of the online program, the online discussion had both strengths and challenges. Some participants experienced discomfort. One participant mentioned, "I wasn't always comfortable on the Blackboard knowing that people could see and judge what I had to say" (Participant 63). Some participants commented that participating in an online discussion was more difficult than face-to-face as typing a response takes more time and thought to ensure accuracy and propriety. In an in-depth interview, Participant Z said,

> *…some topics… I was very open about, but more where I would have had to share my own personal bias. You didn't want to [share your personal bias] in order not to offend somebody else. But I think the conversation generated by that may have been good... So that is one of the things that had there been a big group discussion, I would have had an*

easier time. I think typing it up is harder to really get across the meaning. (Participant Z, Lines 79-81, 100-102)

Overall Rating of the Online Program

The fourth component, *overall rating of the online program*, includes three items: “The program overall;” "My understanding was enhanced;" and “Overall, I was satisfied with my learning experience.” The means range from 4.53 to 4.59 out of five, with corresponding percentages of 90.60% to 91.80%, and the SDs range from .507 to .561 (Table 11). The narrow range in standard deviation suggests that participants were homogeneous in their responses and agreed regarding their overall evaluation of the online training program.

Many participants commented that they “enjoyed” their learning experience. For example, one participant stated, “It was encompassing but succinct. I learned a ton of information, but did not feel inundated with boring material. It was interesting and a great brush up on prior learning. I'm sad it's over. I really, really enjoyed this!!” (Participant 61). Another wrote,

> *I enjoyed it!! The information was great... some was needed review, and some was definitely new! Again, I loved online training especially any course using Blackboard!! I love the discussions a lot and found them interesting and wanting to talk more!!* (Participant 49)

Some participants indicated a sense of surprise regarding what they learned as well as the instructional techniques used. One participant stated,

> *... this was different for me from other things that I've done correspondence. The images, videos… made it interesting. And so I found that engaging. And there were things I was surprised [about], like I was expecting certain things from the course because [of] the topic, but there were things regarding ethics or your beliefs and values that I wasn't expecting that really opened up... things in my practice.* (Participant Z, Lines 127-130)

Another participant commented,

> *Initially, I was not sure about the on[line]-learning, but really liked it because I had an hour to spare then I could spend an hour online. Honestly, [I] have never done an on-line course like this before with video clip[s] and PowerPoints and was highly impressed with technology. The material was well laid [out] and thought provoking!!!* (Participant 59)

Comparison of Face-to-Face and Online Learner Reactions

Before proceeding to the next secondary research question, a comparison of quantitative results for the face-to-face and online groups seems in order. Table 12 summarizes the quantitative fixed-alternative data provided by face-to-face and online participants. Of the 16 quantitative items, independent samples t-tests show significant differences between the two groups for three items only:

1. "*My questions were answered*." For this item, the face-to-face group has a mean of 4.58 (91.60%) and SD of .552, compared to the online group which has results of 3.79 (75.80%) and .808 respectively.

2. "*I was comfortable asking questions.*" For this item, the face-to-face group has a mean of 4.66 (93.20%) and SD of .534, compared to the online group which has results of 3.82 (76.40%) and .904 respectively.

3. "*I was comfortable discussing the content.*" For this item, the face-to-face group has a mean of 4.61 (92.20%) and a SD of .595, compared to the online group which has results of 4.09 (81.80%) and .668 respectively.

It is important to note that not only are the online means lower, but the SDs are higher for the online group, for each of the above items. The higher standard deviations suggest heterogeneity in the responses. Additionally, the fact that two items describe the participants' level of comfort with regards to discussing S&RH suggests that participants experienced less

comfort discussing the subject matter in the online learning environment. The nonparametric alternative, Wilcoxon test, also shows statistically significant differences between the two groups for those three items, and no others.

Table 12. Quantitative Learner Reaction Results: Face-to-Face and Online Group Comparisons

Category	Item	Modality (Sample Size)	Mean[a] (SD)	Mean Percentage	T (df) [P]
Content of the program	Content [b]	F2F (38)	4.45 (.555)	89.00%	-1.779 (70) [.080]
		Online (34)	4.68 (.535)	93.60%	
	Resources [b]	F2F (38)	4.42 (.642)	88.40%	-1.541 (70) [.128]
		Online (34)	4.65 (.597)	93.00%	
	The topic targeted was adequately covered[c]	F2F (38)	4.47 (.557)	89.40%	.023 (70) [.981]
		Online (34)	4.47 (.563)	89.40%	
	The program content will be useful to me[c]	F2F (37)	4.54 (.558)	90.80%	.084 (69) [.934]
		Online (34)	4.53 (.563)	90.60%	
Instructional features of the program	Instructional techniques[b]	F2F (38)	4.29 (.768)	85.80%	.488 (70) [.629]
		Online (34)	4.21 (.687)	84.20%	
	Mode of program delivery[b]	F2F (37)	4.51 (.731)	90.20%	.751 (69) [.455]
		Online (34)	4.38 (.739)	87.60%	
	Facilitators[b]	F2F (38)	4.61 (.638)	92.20%	1.416 (70) [.161]
		Online (34)	4.38 (.697)	87.60%	
	The content was adequately delivered[c]	F2F (38)	4.55 (.555)	91.00%	.185 (70) [.854]
		Online (34)	4.53 (.507)	90.60%	
	The facilitators used time effectively[c]	F2F (38)	4.55 (.645)	91.00%	1.113 (70) [.270]
		Online (34)	4.38 (.652)	87.60%	
	Participants were active learners[c]	F2F (38)	4.21 (.741)	84.20%	1.164 (68.731) [.249]
		Online (34)	4.03 (.577)	80.60%	
	My questions were answered[c]	F2F (38)	4.58 (.552)	91.60%	4.757 (57.360) [<.001]
		Online (34)	3.79 (.808)	75.80%	
Level of comfort in discussing S&RH	I was comfortable asking questions[c]	F2F (38)	4.66 (.534)	93.20%	4.70 (52.297) [<.001]
		Online (34)	3.82 (.904)	76.40%	
	I was comfortable discussing the content[c]	F2F (38)	4.61 (.595)	92.20%	3.475 (70) [.001]
		Online (34)	4.09 (.668)	81.80%	
Overall rating of the program	The program overall[b]	F2F (37)	4.51 (.692)	90.20%	-.301 (69) [.764]
		Online (34)	4.59 (.561)	91.80%	
	My understanding was enhanced[c]	F2F (38)	4.63 (.589)	92.60%	.784 (70) [.435]
		Online (34)	4.53 (.507)	90.60%	
	Overall, I was satisfied with my learning experience[c]	F2F (38)	4.58 (.599)	91.60%	.147 (70) [.884]
		Online (34)	4.56 (.561)	91.20%	

[a] Mean score out of five.
[b] Participants were asked to rate the items on a five point Likert scale ranging from poor to excellent.
[c] Participants were asked to indicate their level of agreement with the statement on a five point Likert scale, ranging from strongly disagree to strongly agree.

Table 13 summarizes the *qualitative* face-to-face and online learner reaction comparisons regarding three areas. They include content, instruction and level of comfort.

Table 13. Summary of Strengths and Challenges of Face-to-Face and Online Learning Programs

	Face-to-Face Learning	Online Learning
Content Strengths	• Content scope	• Content scope
Content Challenges	• Participants had varied baseline knowledge	•
Instruction Strengths	• Facilitators • Personalized instruction • Personal interaction • Real-time (immediate) feedback • Real-time (immediate) Q&A and dialogue • Program structure • Multiple teaching approaches	• Facilitators • Program structure • Multiple teaching approaches • Economical • Flexibility • Self-directed learning • User-friendly • Ability to print materials • Discussion board
Instruction Challenges	• Time and pace • Level of interactivity • No time to absorb information	• Time • Timing • Missed or prefer face-to-face • Technological challenges • Access to technology • Asynchronous discussion board • Self-directed learning is not for everyone
Level of Comfort Strengths	• Comfortable learning environment	•
Level of Comfort Challenges	• Embarrassment related to content	• Discomfort discussing content

Participants in both groups rated the content in both programs highly. However, some participants in the face-to-face group found the disparity between levels of knowledge among participants a challenge in that for some, the content was too basic. The learners in the online

program reported no such difficulty. Due to the self-directed nature of the online program, participants had the freedom to skip or review the content based on their own learning needs.

With regard to the instructional features, participants in both groups identified the facilitators, program structure and multiple learning modalities as strengths of their respective programs. Additionally, the face-to-face group included the real-time dialogue, question and answer, and feedback that occurred during the face-to-face program. Conversely, the online participants identified the asynchronous online discussion board as a challenge. Asynchronous written discussion proved challenging because it apparently did not allow for immediate answers to questions or clarification of misinformation. Others found that composing ideas takes more thought, time, and effort.

The face-to-face program seemingly benefitted from the ability of the facilitators to personalize the instruction once they knew the group. With the online group, opportunity for self-directed learning gave the participant the control to create a program to meet their needs. As mentioned above, the participants had the freedom to skip or review materials as needed.

The amount of allotted time appeared as a limitation for both training groups. The face-to-face program included six hours of instruction in one day. The online training program included six hours of work over a two week period. Many face-to-face participants reported that the compressed timeframe impacted the pacing of information. Many felt "rushed," and some stated that there was not enough time to "digest" or "absorb" the information. Conversely, although the online participants would have liked more than two weeks to complete the training program, they did not feel rushed. Inasmuch as they could direct their learning, they felt that they controlled the pacing of information, enabling them to think about the information and process it.

Evidently, the self-directed nature of online learning gave the participant the control to complete the program at their own pace, and focus on content or skip through content according to their personal learning needs. For the face-to-face group, the facilitators had more responsibility to create a learning experience that met the needs of all participants.

With regard to level of comfort discussing S&RH, the face-to-face group stated that the facilitators created a comfortable learning environment. From the number of questions asked and the discussion that occurred throughout the day, participants were comfortable asking questions and discussing content. However, for the online group, although participants enjoyed reading the discussion board, they were not always comfortable asking questions or sharing their thoughts.

Cognitive Learning (Knowledge)

This section addresses secondary research question “B.” It asks: “*Do participants experience an increase in cognitive learning (knowledge) after participation in either an online or face-to-face training experience?"*

To address cognitive learning (knowledge), the participants completed the Knowledge about Sexual and Reproductive Health Questionnaire (Appendix Q). Participants completed the questionnaire three times: prior to the training program (time 1); immediately after completion of the training program (time 2); and six weeks after the training program (time 3).

The seventy item questionnaire, divided into seven sections, dealt with seven different topics addressed during the training program: (a) knowledge related to reproductive health/anatomy and physiology (6 items); (b) knowledge related to pregnancy awareness (5 items); (c) knowledge related to sexually transmitted infections (STIs) and HIV (32 items); (d) knowledge related to contraception (11 items); (e) knowledge related to condoms (7 items); (f) knowledge related to sexual diversity/sexual orientation (6 items); and (g) knowledge related to

community services (one open ended question, worth 3 points). At six weeks post training, participants also completed the Training Follow-Up Questionnaire that primarily addresses research question "D." In the questionnaire it asks, "Specifically, what behaviours, skills or strategies did you learn within the workshop?" Designed to elicit more information about the perceived knowledge accumulated, the responses are helpful in providing meaning to the quantitative results.

Two way repeated measures ANOVA (one between subject factor – group of two levels and one within subject factor – time of three levels [2 x 3 design]) was performed on the outcome measure of knowledge for the seven topics (alpha level of .05). Based on this analysis, it was determined if there was: (a) a time effect; (b) a group effect; and (c) a time by group interaction effect for each topic. Time effect refers to an overall statistically significant difference over time. Figure 4 depicts an example of time effect as there is a statistically significant difference between the means over *time* for both groups. Group effect refers to an overall significant difference in means *between the groups* across time. Figure 5 depicts an example of group effect in that there are statistically significant differences between the groups across time. When there is a time by group interaction effect, it means the group effect varies with the time or the time effect varies with the group and therefore the overall effects are not linear. Figure 14 can provide some clarity regarding time by group interaction effect. Although the repeated measures ANOVA shows an overall time effect, the time effect is group dependent (e.g., there were statistically significant changes in means for the online group only).

If statistically significant time or group effects exist in the presence of an interaction effect, those group and time effects are irrelevant. Therefore a testing of simple effect is necessary to have a clearer understanding of how the treatment impacted each group. In the

interest of comprehensiveness, testing of simple effect was performed for all seven knowledge topics even if there was no time by group interaction effect present. Testing of simple effect refers to the time effect broken down by group (e.g., for each group, is there a statistically significant difference in means between time 1 and time 2, time 1 and time 3, or time 2 and time 3?) and the group effect being broken down by time (e.g., at time 1, time 2, or time 3, is there a statistically significant difference between the knowledge scores of the groups?). The quantitative results for cognitive learning are summarized in Figure 4 to Figure 10 inclusive and Table 14 to Table 23 inclusive.

Below, the cognitive learning results are arranged according to three subheadings: cognitive learning for the face-to-face group; cognitive learning for the online group; and comparisons of cognitive learning for the face-to-face and online groups.

Cognitive Learning for the Face-to-Face Group

Table 14 provides details regarding the learning outcomes according to the seven topics for the face-to-face group and is a product of the repeated measures ANOVA. To summarize, the mean percent scores at time 1 (pre-test) ranged from 48.78% to 58.60%; the mean percent scores at time 2 (immediate post-test) ranged from 81.91% to 91.00%; and the mean percent scores at time 3 (six week post-test) ranged from 72.31% to 87.50%. The results suggest that participants demonstrated a statistically significant increase in learning for all topics between time 1 and time 2 as well as time 1 and time 3. However, it is important to note that for five out of the seven topics results also show a statistically significant decrease in learning between time 2 and time 3. This indicates some decrease in the retention of knowledge between the end of the training program and six weeks later. Notwithstanding the decrease in retention, the participants knew more six weeks after the program than before they participated in the program.

Table 14. Face-to-Face Cognitive Learning (Knowledge) Results

Topic	Time*	Mean (SD)	Mean Percent	Time X	Time Y	Mean Difference Time X - Time Y	P
Reproductive Health (6 items)	1	3.29 (1.150)	54.83%	2**	1**	2.179**	<.001
	2	5.46 (.744)	91.00%	3	2	-.964	<.001
	3	4.50 (1.036)	75.00%	3	1	1.214	<.001
Pregnancy Awareness (5 items)	1	2.93 (1.538)	58.60%	2	1	1.536	<.001
	2	4.46 (.922)	89.20%	3	2	-.500	.019
	3	3.96 (1.290)	79.20%	3	1	1.036	<.001
STIs (32 items)	1	15.61 (7.218)	48.78%	2	1	10.607	<.001
	2	26.21 (3.552)	81.91%	3	2	-3.071	<.001
	3	23.14 (4.544)	72.31%	3	1	7.536	<.001
Contraception (11 items)	1	5.93 (2.595)	53.91%	2	1	3.571	<.001
	2	9.50 (1.374)	86.36%	3	2	-1.321	<.001
	3	8.18 (1.589)	74.36%	3	1	2.250	<.001
Condoms (7 items)	1	3.79 (1.618)	54.14%	2	1	2.500	<.001
	2	6.29 (1.117)	89.86%	3	2	-.929	<.001
	3	5.36 (1.521)	76.57%	3	1	1.571	<.001
Sexual Diversity (6 items)	1	3.32 (1.634)	55.33%	2	1	2.071	<.001
	2	5.39 (.685)	89.83%	3	2	-.143	.952
	3	5.25 (.799)	87.50%	3	1	1.929	<.001
Community Resources (3 items)	1	1.54 (.922)	51.33%	2	1	1.000	<.001
	2	2.54 (.838)	84.67%	3	2	.214	.490
	3	2.32 (.819)	77.33%	3	1	.786	<.001

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.
**At time 2 (time X) the mean for reproductive health was 5.46. At time 1 (time Y) the mean was 3.29.
Time X- Time Y = 2.179

Six weeks after completion of the training program, participants provided their respective assessments on what they learned. Overall,

1. *Participants gained knowledge regarding S&RH subject matters.* Participants reported they knew more about topics, such as: contraception, safer sexual practices, relationships, sexual diversity and STIs. Reportedly they gained knowledge regarding how to access information and resources and where to refer clients. For example, one participant stated, "One of the more important things I learned in the workshop was how to access affordable birth control"

(Participant 4). Some participants identified that this knowledge was critical to supporting their clients.

2. *Participants gained knowledge regarding communication strategies.* Participants said they became more aware and sensitive in discussing sexual matters. For example, one participant said, “[I learned] ways to discuss [or] present difficult topics..." (Participant 2). Participants identified they learned to use gender neutral and inclusive language (e.g., using the term partner, versus boyfriend or girlfriend) when speaking with clients. Additionally, one participant identified they had greater awareness of homophobic language and in turn educated their clients about not using the expression "that's so gay" (Participant 37).

3. *Participants experienced a shift in their approach/attitude toward addressing S&RH with clients.* Some participants identified the importance of approaching clients in a non-judgemental, unbiased, open manner, without making assumptions. In this regard one participant stated, "[I learned] not to assume teen pregnancy is unwanted pregnancy" (Participant 5).

It is noteworthy that some participants reported they forgot some information because they had not used it on a daily basis. In this regard one participant mentioned, "It was excellent material; however, I find that if I do not use it I will forget. I think it is very useful and should be revisited as it is important to be up to date with information" (Participant 34).

Cognitive Learning for the Online Group

Table 15 provides details regarding the cognitive learning outcomes according to each topic, for the online group, and is a product of the repeated measures ANOVA. To summarize, the mean percent scores at time 1 (pre-test) ranged from 61.57% to 81.67%; the mean percent scores at time 2 (immediate post-test) ranged from 91.18% to 97.20%; and the mean percent scores at time 3 (six week post-test) ranged from 79.83% to 92.00%. The analysis suggests

statistically significant increases in cognitive learning for all topics when comparing test results between time 1 and time 2. Analysis indicates statistically significant increases in cognitive learning for all but one topic when comparing the results for time 1 and time 3. When comparing the test result means of time 2 to time 3, only two of seven topics show statistically significant decreases in knowledge. This indicates some decrease in the retention of knowledge between the end of the training program and six weeks later. Notwithstanding the decrease in retention, in most cases, the participants knew more six weeks after the program than before they participated.

Table 15. Online Cognitive Learning (Knowledge) Results

Topic	Time*	Mean (SD)	Mean Percent	Time X	Time Y	Mean Difference Time X- Time Y	P
Reproductive Health (6 items)	1	3.76 (.988)	62.67%	2**	1**	1.759**	<.001
	2	5.52 (.911)	92.00%	3	2	-.724	.001
	3	4.79 (.978)	79.83%	3	1	1.034	<.001
Pregnancy Awareness (5 items)	1	3.69 (1.228)	73.80%	2	1	1.172	<.001
	2	4.86 (.351)	97.20%	3	2	-.345	.152
	3	4.52 (.688)	90.40%	3	1	.828	.003
STIs (32 items)	1	24.38 (4.288)	76.19%	2	1	5.000	<.001
	2	29.38 (2.513)	91.81%	3	2	-1.241	.194
	3	28.14 (3.701)	87.94%	3	1	3.759	.002
Contraception (11 items)	1	7.03 (1.842)	63.91%	2	1	3.000	<.001
	2	10.03 (1.210)	91.18%	3	2	-.241	1.000
	3	9.79 (1.677)	89.00%	3	1	2.759	<.001
Condoms (7 items)	1	4.31 (1.618)	61.57%	2	1	2.310	<.001
	2	6.62 (.820)	94.57%	3	2	-.759	.001
	3	5.86 (1.274)	83.71%	3	1	1.552	<.001
Sexual Diversity (6 items)	1	3.79 (1.424)	63.17%	2	1	1.828	<.001
	2	5.62 (.622)	93.67%	3	2	-.138	.978
	3	5.48 (.738)	91.33%	3	1	1.690	<.001
Community Resources (3 items)	1	2.45 (.783)	81.67%	2	1	.414	.038
	2	2.86 (.441)	95.33%	3	2	-.103	1.000
	3	2.76 (.577)	92.00%	3	1	.310	.122

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.
**At time 2 (time X) the mean for reproductive health was 5.52. At time 1 (time Y) the mean was 3.76. Time X- Time Y = 1.76

Six weeks after completing the training program, participants shared their reflections on what they learned. In their written responses, the online participants made the same observations as the face-to-face participants. That is,

1. *Participants gained knowledge regarding S&RH subject matters.* Some participants indicated their learning extended to all the topics. Others stated that they learned about safer sexual practices, relationships, sexual diversity, STIs, community resources, and contraception. For example, one participant said, "... I was not aware that a female condom even existed. I don't remember learning that in school so that is neat" (Participant 78). Some participants indicated that the knowledge gained provided them with the confidence and comfort to address the topic of sexuality with their clients.

2. *Participants gained knowledge regarding communication strategies*. One participant said, "[I learned] skills around communicating with my clients regarding... sexual health. Some clients feel uncomfortable talking about it, but because [it's] an important aspect of their lives I [learned] strategies to have open and respectful conversations with them..." (Participant 75). Participants identified they learned to use inclusive language (e.g., using the term partner, versus boyfriend or girlfriend) when speaking with clients. For example, one participant said, "I learned how to speak inclusively so that youth who may identify as an alternate sexual orientation than heterosexual can feel included and normal. It is easy to assume sexual identity" (Participant 78). Additionally, some participants indicated that as a result of the program, they felt more able to communicate their knowledge in a manner that was appropriate for clients. For example, one participant stated, "[I learned] how to be open with questions and providing information. [I also learned the] specifics about STIs... and how to teach about them" (Participant 66).

3. Participants experienced a shift in their approach/attitude toward addressing S&RH with clients. Some participants reported that they learned the importance of approaching clients in an unbiased and open manner. Others said they learned the importance of not making assumptions regarding their clients. For example, one participant stated, "[I learned the] importance of not making assumptions, being open and listening to what the client is asking" (Participant 58). Finally, others stated as a result of the training, they are more willing to address sexuality with clients and therefore create opportunities for discussion.

It is worth noting that some participants said that they had forgotten some of the information from the online training program. For example, one participant said, "I have forgotten some of the specifics because I have not reviewed the info a second time. I do know, however, that the answers exist and know where to find them to refresh my memory" (Participant 71).

Comparisons of Cognitive Learning for the Face-to-Face and Online Groups

Table 16 provides details regarding the cognitive learning outcomes by group for each topic. To summarize, there was a statistically significant time by group interaction effect for the topics of STIs and community resources. There was a statistically significant time effect for the topics of reproductive health, pregnancy awareness, contraception, condoms and sexual diversity. Finally, there was a statistically significant group effect for the topics of pregnancy awareness and contraception. (Note: Although Table 16 shows statistically significant time and group effects for an additional two topics each, those findings are irrelevant when there is a significant time by group interaction effect.) Below, Figure 4 to Figure 10 inclusive and Table 17 to Table 23 inclusive provide additional details regarding the knowledge outcomes and group comparisons.

Table 16. Knowledge Outcomes by Group (ANOVA)

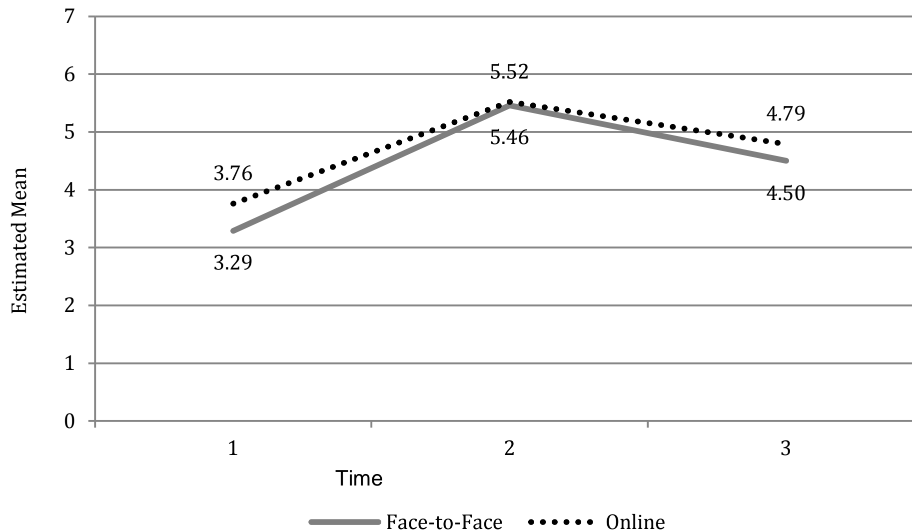
Outcome Measure	Time*	Face to Face mean (SD) [%]	Online mean (SD) [%]	Time Effect F(df) [P]	Group Effect F(df) [P]	Interaction F(df) [P]
Reproductive Health (6 items)	1	3.29 (1.150) [54.83%]	3.76 (.988) [62.67%]	89.098	1.982	1.014
	2	5.46 (.744) [91.00%]	5.52 (.911) [92.00%]	(2,110)	(1,55)	(2,110)
	3	4.50 (1.036) [75.00%]	4.79 (.978) [79.83%]	[<.001]	[.165]	[.366]
Pregnancy Awareness (5 items)	1	2.93 (1.538) [58.60%]	3.69 (1.228) [73.80%]	42.623	6.372	.738
	2	4.46 (.922) [89.20%]	4.86 (.351) [97.20%]	(2,110)	(1,55)	(2,110)
	3	3.96 (1.290) [79.20%]	4.52 (.688) [90.40%]	[<.001]	[.015]	[.481]
STIs (32 items)	1	15.61 (7.218) [48.78%]	24.38 (4.288) [76.19%]	75.885	36.731	9.551
	2	26.21 (3.552) [81.91%]	29.38 (2.513) [91.81%]	(2,110)	(1,55)	(2,110)
	3	23.14 (4.544) [72.31%]	28.14 (3.701) [87.94%]	[<.001]	[<.001]	[<.001]
Contraception (11 items)	1	5.93 (2.595) [53.91%]	7.03 (1.842) [63.91%]	78.605	9.857	1.947
	2	9.50 (1.374) [86.36%]	10.03 (1.210) [91.18%]	(2,110)	(1,55)	(2,110)
	3	8.18 (1.589) [74.36%]	9.79 (1.677) [89.00%]	[<.001]	[.003]	[.148]
Condoms (7 items)	1	3.79 (1.618) [54.14%]	4.31 (1.168) [61.57%]	99.866	2.765	.182
	2	6.29 (1.117) [89.86%]	6.62 (.820) [94.57%]	(2,110)	(1,55)	(2,110)
	3	5.36 (1.521) [76.57%]	5.86 (1.274) [83.71%]	[<.001]	[.102]	[.834]
Sexual Diversity (6 items)	1	3.32 (1.634) [55.33%]	3.79 (1.424)[63.17%]	82.050	2.401	.337
	2	5.39 (.685) [89.83%]	5.62 (.622) [93.67%]	(2,110)	(1,55)	(2,110)
	3	5.25 (.799) [87.50%]	5.48 (.738) [91.33%]	[<.001]	[.127]	[.715]
Community Resources (3 items)	1	1.54 (.922) [51.33%]	2.45 (.783)[81.67%]	23.226	13.377	4.094
	2	2.54 (.838) [84.67%]	2.86 (.441) [95.33%]	(2,110)	(1,55)	(2,110)
	3	2.32 (.819) [77.33%]	2.76 (.577) [92.00%]	[<.001]	[.001]	[.019]

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Knowledge of Reproductive Health

For both the face-to-face and online groups, there was a statistically significant increase in reproductive health knowledge between time 1 (pre-test) and time 2 (immediate post-test) and time 1 and time 3 (six week post-test). This suggests that knowledge was gained and sustained over the six week time period. That said, there was also a statistically significant decrease in reproductive health knowledge from time 2 to time 3, suggesting a loss of retention over time. There was not a statistically significant difference in knowledge between the groups at any time period. (See Figure 4 and Table 17.)

Figure 4. Knowledge of Reproductive Health: Face-to-Face and Online Mean Comparisons



6 items

Table 17. Knowledge of Reproductive Health: Face-to-Face and Online Comparisons

Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	2.179	<.001	1	.473	.101
	3	2	-.964	<.001			
	3	1	1.214	<.001	2	0.053	.811
Online	2	1	1.759	<.001			
	3	2	-.724	.001	3	.293	.277
	3	1	1.034	<.001			

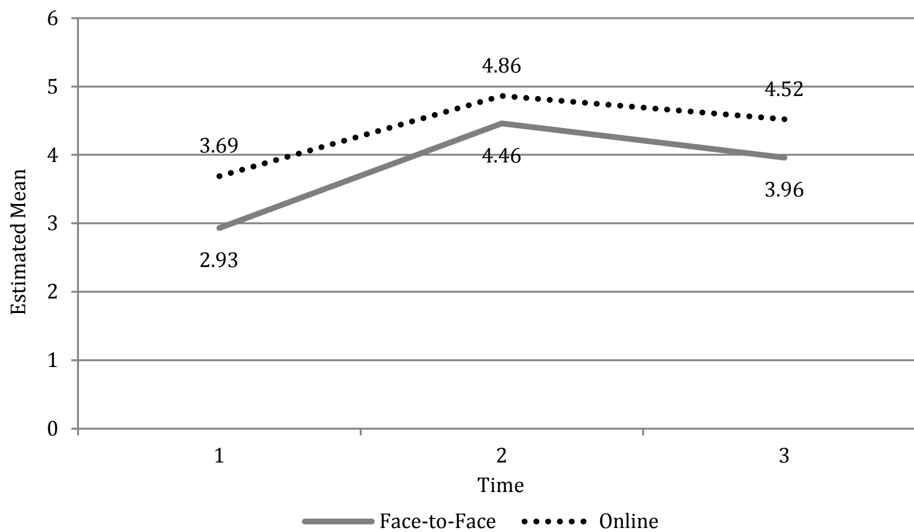
*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

<u>Knowledge of Pregnancy Awareness</u>

For both the face-to-face and online groups, there was a statistically significant increase in pregnancy awareness knowledge between time 1 (pre-test) and time 2 (immediate post-test) and time 1 and time 3 (six week post-test). This suggests that knowledge was gained and sustained over the six week time period. However, for the face-to-face group, there was also a statistically significant decrease in pregnancy awareness knowledge from time 2 to time 3; suggesting loss of retention over time. There was a statistically significant difference in

pregnancy awareness knowledge between the groups at all three time periods, the online group being higher. (See Figure 5 and Table 18.)

Figure 5. Knowledge of Pregnancy Awareness: Face-to-Face and Online Mean Comparisons



5 items

Table 18. Knowledge of Pregnancy Awareness: Face-to-Face and Online Comparisons

Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	1.536	<.001	1	.761	.043
	3	2	-.500	.019			
	3	1	1.036	<.001	2	.398	.035
Online	2	1	1.172	<.001			
	3	2	-.345	.152	3	.553	.047
	3	1	.828	.003			

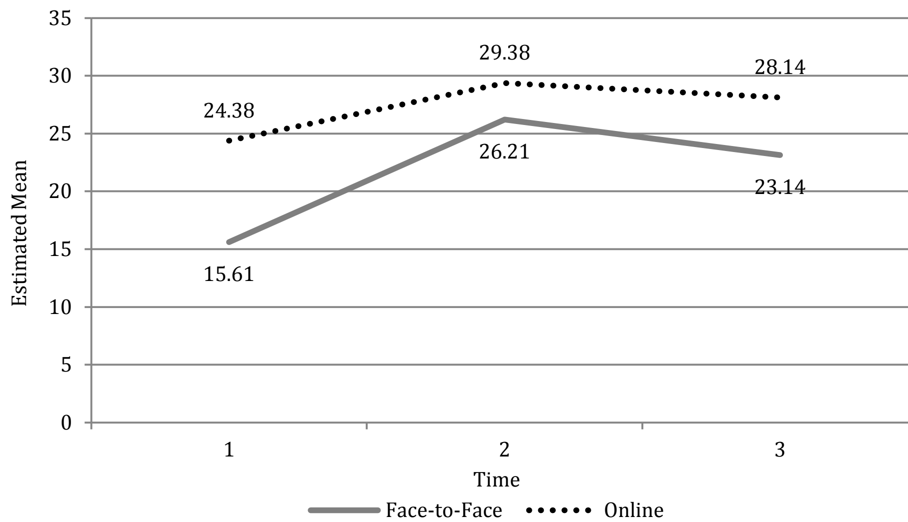
*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Knowledge of STIs

For both the face-to-face and online groups, there was a statistically significant increase in knowledge of STIs between time 1 (pre-test) and time 2 (immediate post-test) and time 1 and time 3 (six week post-test). This suggests that knowledge was gained and sustained over the six

week time period. However, for the face-to-face group, there was also a significant decrease in knowledge of STIs from time 2 and time 3, suggesting some loss in retention. There was a statistically significant difference in knowledge of STIs between the groups at all three time periods, the online group being higher. (See Figure 6 and Table 19.)

Figure 6. Knowledge of STIs: Face-to-Face and Online Mean Comparisons



32 items

Table 19. Knowledge of STIs: Face-to-Face and Online Comparisons

Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	10.607	<.001	1	8.772	<.001
	3	2	-3.071	<.001			
	3	1	7.536	<.001	2	3.165	<.001
Online	2	1	5.000	<.001			
	3	2	-1.241	.194	3	4.995	<.001
	3	1	3.759	.002			

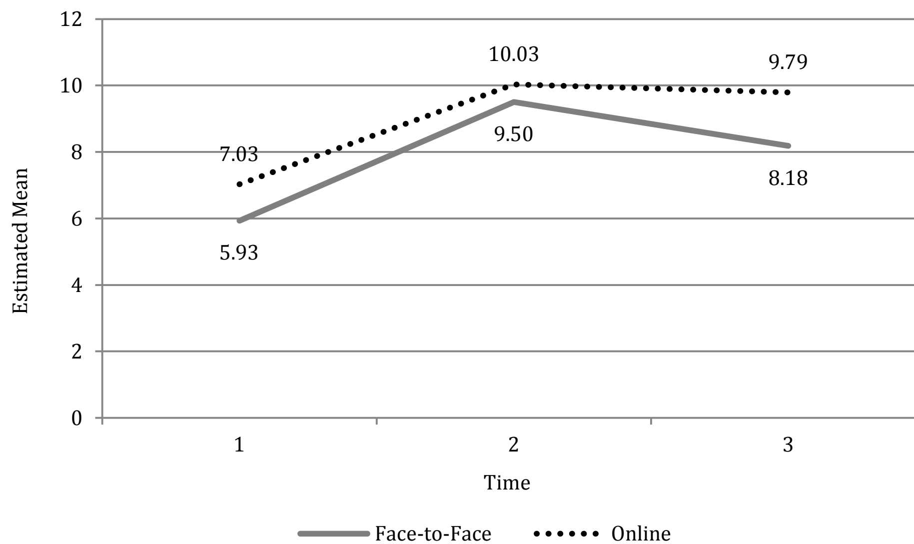
*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Knowledge of Contraception

For both the face-to-face and online groups, there was a statistically significant increase in contraceptive knowledge between time 1 (pre-test) and time 2 (immediate post-test) and time

1 and time 3 (six week post-test). This suggests that knowledge was gained and sustained over the six week time period. However, for the face-to-face group, there was also a statistically significant decrease in knowledge from time 2 to time 3, suggesting some loss in knowledge over time. There was a statistically significant difference in contraceptive knowledge between the groups at time 3 only, the online group being higher. (See Figure 7 and Table 20.)

Figure 7. Knowledge of Contraception: Face-to-Face and Online Mean Comparisons



11 items

Table 20. Knowledge of Contraception: Face-to-Face and Online Comparisons

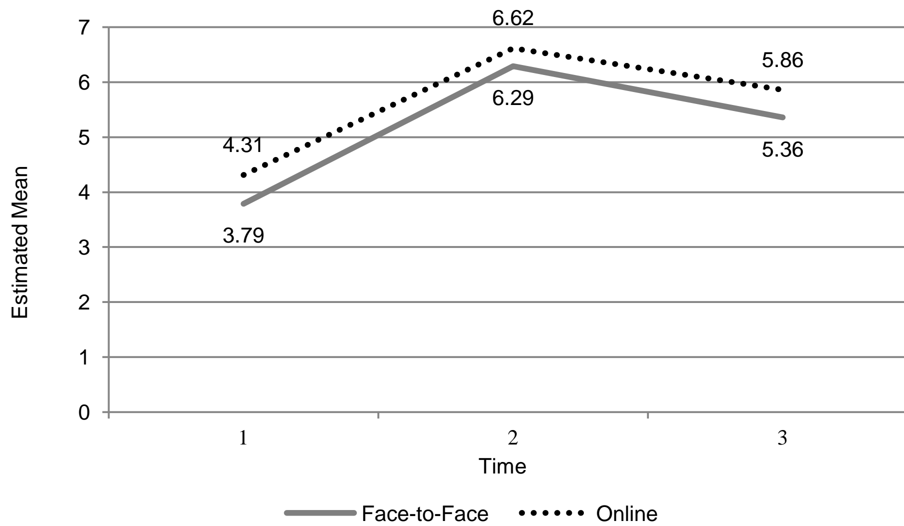
Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	3.571	<.001	1	1.106	.068
	3	2	-1.321	<.001			
	3	1	2.250	<.001	2	.534	.124
Online	2	1	3.000	<.001			
	3	2	-.241	1.000	3	1.615	<.001
	3	1	2.759	<.001			

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Knowledge of Condoms

For both the face-to-face and online groups, there was a statistically significant increase in condom knowledge between time 1 (pre-test) and time 2 (immediate post-test) and time 1 and time 3 (six week post-test). This suggests that knowledge was gained and sustained over the six week time period. That said there was also a statistically significant decrease in knowledge from time 2 to time 3, suggesting some knowledge was lost over time. There was not a statistically significant difference in knowledge between the groups at any time period. (See Figure 8 and Table 21.)

Figure 8. Knowledge of Condoms: Face-to-Face and Online Mean Comparisons



7 items

Table 21. Knowledge of Condoms: Face-to-Face and Online Comparisons

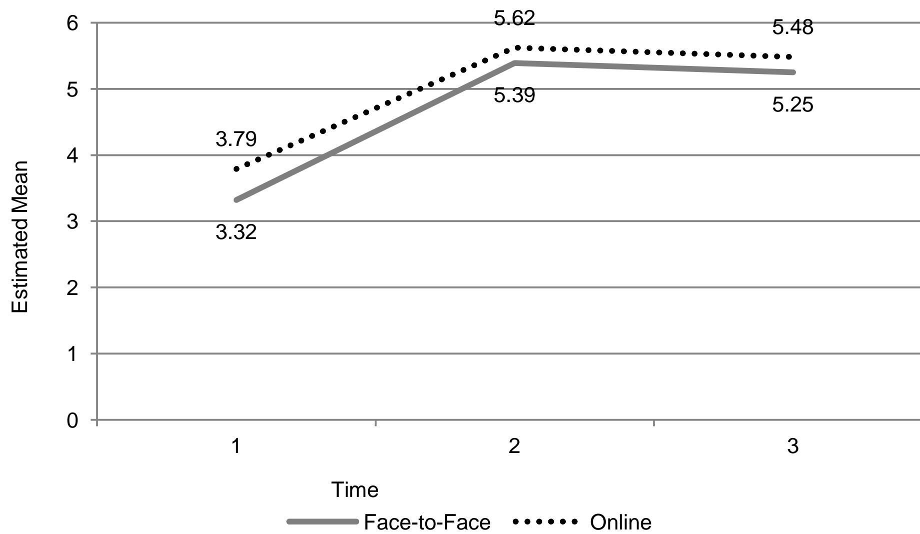
Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	2.500	<.001	1	.525	.165
	3	2	-.929	<.001			
	3	1	1.571	<.001	2	.335	.201
Online	2	1	2.310	<.001			
	3	2	-.759	.001	3	.505	.179
	3	1	1.552	<.001			

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Knowledge of Sexual Diversity

For both the face-to-face and online groups, there was a statistically significant increase in sexual diversity knowledge between time 1 (pre-test) and time 2 (immediate post-test) and time 1 and time 3 (six week post-test). This suggests that knowledge was gained and sustained over the six week time period. There was not a statistically significant difference in knowledge between the groups at any time period. (See Figure 9 and Table 22.)

Figure 9. Knowledge of Sexual Diversity: Face-to-Face and Online Mean Comparisons



6 items

Table 22. Knowledge of Sexual Diversity: Face-to-Face and Online Comparisons

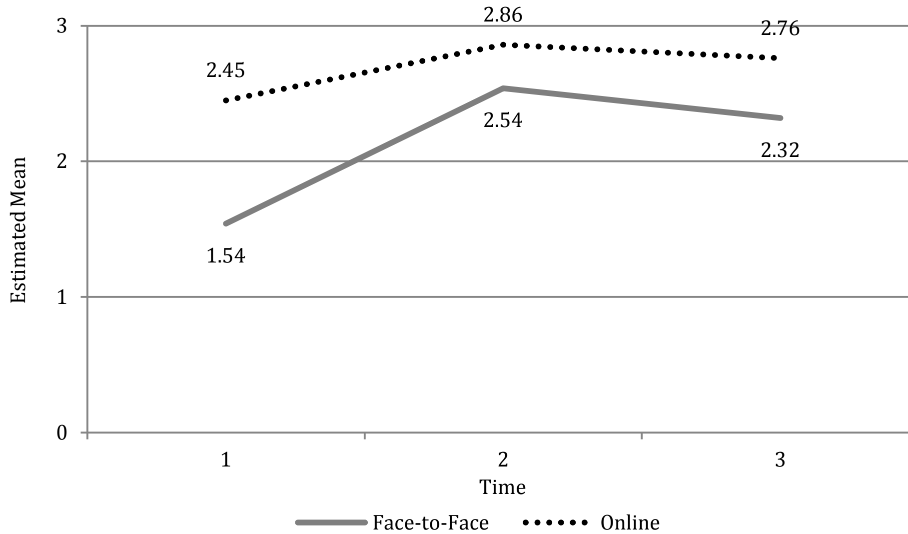
Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	2.071	<.001	1	.472	.250
	3	2	-.143	.952			
	3	1	1.929	<.001	2	.228	.194
Online	2	1	1.828	<.001			
	3	2	-.138	.978	3	.233	.258
	3	1	1.690	<.001			

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Knowledge of Community Resources

For the face-to-face group, there was a statistically significant increase in community resources knowledge between time 1 (pre-test) and time 2 (immediate post-test) and time 1 and time 3 (six week post-test). This suggests that knowledge was gained and sustained over the six week time period. For the online group, there was a statistically significant increase in knowledge only between time 1 and time 2. When comparing the two groups, there was a statistically significant difference in knowledge between the groups at time 1 and time 3, the online group having the higher scores. (See Figure 10 and Table 23.)

Figure 10. Knowledge of Community Resources: Face-to-Face and Online Mean Comparisons



3 items

Table 23. Knowledge of Community Resources: Face-to-Face and Online Comparisons

Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	1.000	<.001	1	.913	<.001
	3	2	.214	.490			
	3	1	.786	<.001	2	.326	.070
Online	2	1	.414	.038			
	3	2	-.103	1.000	3	.437	.023
	3	1	.310	.122			

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Affective Learning (Comfort)

This section addresses secondary research question "C." It asks: "*Do participants experience an increase in affective learning (perceived comfort) after participation in either an online or face-to-face training experience?*"

To address affective learning, the participants completed the Perceived Comfort Questionnaire (see Appendix R). The questionnaire was completed three times: prior to the

training program (time 1); immediately after the training program was completed (time 2); and six weeks after the training program (time 3).

The questionnaire provides a list of eleven topics and asks participants to identify their level of comfort discussing each topic. The questionnaire states, "Below is a list of sexual health topics that you might discuss with high risk/street youth. For each topic, on a scale of 1 to 5, please identify the number that represents the extent to which you feel comfortable discussing this topic right now." On the scale, the number 1.0 represents not at all comfortable; the number 3.0 represents somewhat comfortable; and the number 5.0 represents extremely comfortable.

Two way repeated measures ANOVA (one between subject factor – group of two levels and one within subject factor – time of three levels [2 x 3 design]) were performed on the outcome measure of perceived comfort for the eleven topics (alpha level of .05). Based on this analysis, it was determined if there was: (a) a time effect; (b) a group effect; and (c) a time by group interaction effect for each topic. When there is a statistically significant time by group interaction effect detected, testing of simple effect is performed. However, in the interest of comprehensiveness, testing of simple effect was performed for all eleven comfort topics even if there was no interaction effect present. The quantitative results are summarized in Figure 11 to Figure 21 inclusive and Table 24 to Table 37 inclusive.

Most of the data collected regarding perceived comfort level was quantitative. Participants did not have a specific opportunity to explain or comment on their comfort scores. However, within the open ended responses of the learner reaction questionnaires and the Training Follow-up Questionnaire, some participants chose to make comments regarding their level of comfort. Additionally, participants ("Participant X," "Participant Y," and "Participant Z") partaking in in-depth interviews provided commentary as well.

Below, the affective learning results are arranged according to three subheadings: affective learning for the face-to-face group; affective learning for the online group; and comparisons of affective learning for the face-to-face and online groups.

Affective Learning for the Face-to-Face Group

Table 24 below provides details regarding the comfort outcomes, according to topic, for the face-to-face group and is a product of the repeated measures ANOVA. To summarize, the mean scores at time 1 (pre-test) ranged from 3.22 to 4.37 out of five; the mean scores at time 2 (immediate post-test) ranged from 4.19 to 4.56 out of five; and the mean scores at time 3 (6 week post-test) ranged from 3.70 to 4.44 out of five. There were no statistically significant changes in comfort between time 1 and time 2 and time 1 and time 3 regarding three topics: healthy relationships, unhealthy relationships, and pregnancy awareness. Several other topics (e.g., reproductive health, STIs, sexual diversity, HIV, contraception, male condoms and female condoms) showed a statistically significant increase in comfort between time 1 and time 2. However, the increase was not sustained, since there was not a statistically significant difference between time 1 and time 3. There was only one topic (sexual health services) for which participants had a statistically significant increase in comfort between both time 1 and time 2 and time 1 and time 3.

Table 24. Face-to-Face Affective Learning (Comfort) Results

Topic	Time*	Mean (SD)	Mean Percent	Time X	Time Y	Mean Difference Time X-Time Y	P
Reproductive Health	1	3.85 (.989)	77.00%	2**	1**	.444**	.017
	2	4.30 (.609)	86.00%	3	2	-.148	.840
	3	4.15 (.818)	83.00%	3	1	.296	.264
Healthy Relationships	1	4.37 (.688)	87.40%	2	1	.185	.335
	2	4.56 (.506)	91.20%	3	2	-.111	1.000
	3	4.44 (.641)	88.80%	3	1	.074	1.000
Unhealthy Relationships	1	4.22 (.801)	84.40%	2	1	.296	.091
	2	4.52 (.643)	90.40%	3	2	-.185	.361
	3	4.33 (.620)	86.60%	3	1	.111	1.000
Pregnancy Awareness	1	4.07 (.997)	81.40%	2	1	.259	.328
	2	4.33 (.620)	86.60%	3	2	-.370	.035
	3	3.96 (.854)	79.20%	3	1	-.111	1.000
Sexually Transmitted Infections	1	3.59 (1.185)	71.80%	2	1	.630	.010
	2	4.22 (.641)	84.40%	3	2	-.444	.006
	3	3.78 (.751)	75.00%	3	1	.185	1.000
Sexual Diversity	1	3.67 (1.209)	73.40%	2	1	.630	.004
	2	4.30 (.609)	86.00%	3	2	-.444	.006
	3	3.85 (.818)	77.00%	3	1	.185	1.000
HIV	1	3.63 (1.149)	72.60%	2	1	.556	.010
	2	4.19 (.483)	83.80%	3	2	-.481	.002
	3	3.70 (.912)	74.00%	3	1	.074	1.000
Contraception	1	4.04 (.898)	80.80%	2	1	.444	.005
	2	4.48 (.580)	89.60%	3	2	-.407	.006
	3	4.07 (.730)	81.40%	3	1	.037	1.000
Male Condoms	1	4.00 (.877)	80.00%	2	1	.481	.001
	2	4.48 (.580)	89.60%	3	2	-.444	.009
	3	4.04 (.898)	80.80%	3	1	.037	1.000
Female Condoms	1	3.22 (1.396)	64.40%	2	1	1.259	<.001
	2	4.48 (.580)	89.60%	3	2	-.630	.001
	3	3.85 (.864)	77.00%	3	1	.630	.082
Sexual Health Services	1	3.56 (1.368)	71.20%	2	1	.815	.001
	2	4.37 (.688)	87.40%	3	2	-.222	.532
	3	4.15 (.864)	83.00%	3	1	.593	.033

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.
**At time 2 (time X) the mean for reproductive health was 4.30. At time 1 (time Y) the mean was 3.85.
Time X - Time Y = .44

Some participants from the face-to-face group stated that as a result of the training program, they felt more comfortable with their knowledge base and more comfortable discussing sexuality with clients. One stated, "[I can now say that] I don't know, and let's look it up together" (Participant 31). Additionally, some participants identified that their comfort level was linked to their knowledge and understanding of the subject matter. In this regard, Participant X stated in an in-depth interview,

> *... you need to be prepared to answer the questions. So some of us are more or less comfortable with just about any kind of question. Others are uncomfortable, and I would like to hazard a guess that part of the discomfort comes from a lack of any sense of really understanding and not wanting to be asked questions that, not that they wouldn't want to answer, but they aren't really comfortable answering because they don't know the answer.* (Participant X, Lines 52-56)

This same participant went on to discuss the importance of service providers having comfort with regard to the topic of sexuality. She said, "Kids are uncomfortable too, and I got to figure that some of that discomfort comes from being young, and it's new stuff; and part of it they're picking up the vibrations from the adults around them" (Participant X, Lines 196-198).

With regards to the training program modality, one participant felt that in order to increase service provider comfort speaking to youth, a person needs to have comfort speaking about sexuality around others. The face-to-face modality of learning provides the opportunity to have dialogue with others regarding the subject matter. She stated,

> *I mean part of increasing people's comfort level with this, is doing it with the people around you. It's having me being up there and being a screwball and people being able to say goofy stuff to each other and see that the person next to them is not dying of embarrassment or mortification. They're just going [that] this is a healthy, happy, fun*

part of our lives, and we shouldn't be feeling so uncomfortable talking about it. (Participant X, Lines 240-244)

Affective Learning for the Online Group

Table 25 below provides details regarding the comfort outcomes, according to topic, for the online group and is a product of the repeated measures ANOVA. To summarize, the mean scores at time 1 (pre-test) ranged from 2.93 to 4.10 out of five; the mean scores at time 2 (immediate post-test) ranged from 4.17 to 4.72 out of five; and the mean scores at time 3 (6 week post-test) ranged from 4.10 to 4.59 out of five. There were statistically significant increases in the reported comfort level for all topics when comparing the test result means of time 1 to time 2 and time 1 to time 3. Furthermore, there were no statistically significant decreases in reported comfort levels for any of the topics when comparing the means of time 2 and time 3. This implies that participants experienced an increase in comfort as a result of the training program, and it was sustained over time.

Table 25. Online Affective Learning (Comfort) Results

Topic	Time*	Mean (SD)	Mean Percent	Time X*	Time Y*	Mean Difference Time X-Time Y	P
Reproductive Health	1	3.55 (1.055)	71.00%	2**	1**	.931**	<.001
	2	4.48 (.575)	89.60%	3	2	-.138	.891
	3	4.34 (.614)	86.80%	3	1	.793	<.001
Healthy Relationships	1	3.93 (1.067)	78.60%	2	1	.414	.001
	2	4.34 (.769)	86.80%	3	2	.069	1.000
	3	4.41 (.628)	88.20%	3	1	.483	.004
Unhealthy Relationships	1	3.59 (1.268)	71.80%	2	1	.690	<.001
	2	4.28 (.797)	85.60%	3	2	.000	1.000
	3	4.28 (.797)	85.60%	3	1	.690	<.001
Pregnancy Awareness	1	3.83 (.889)	76.60%	2	1	.724	<.001
	2	4.55 (.506)	91.00%	3	2	-.034	1.000
	3	4.52 (.509)	90.40%	3	1	.690	<.001
STIs	1	3.34 (1.26)	66.80%	2	1	.862	<.001
	2	4.21 (.675)	84.20%	3	2	-.034	1.000
	3	4.17 (.658)	83.40%	3	1	.828	.001
Sexual Diversity	1	3.14 (1.481)	62.80%	2	1	1.034	<.001
	2	4.17 (.889)	83.40%	3	2	0.34	1.000
	3	4.21 (.774)	84.20%	3	1	1.069	<.001
HIV	1	3.21 (1.207)	64.20%	2	1	.966	<.001
	2	4.17 (.759)	83.40%	3	2	-.069	1.000
	3	4.10 (.724)	82.00%	3	1	.897	<.001
Contraception	1	3.72 (.960)	74.40%	2	1	.828	<.001
	2	4.55 (.572)	91.00%	3	2	-.103	1.000
	3	4.45 (.572)	89.00%	3	1	.724	<.001
Male Condoms	1	4.10 (.772)	82.00%	2	1	.621	<.001
	2	4.72 (.455)	94.40%	3	2	-.138	.973
	3	4.59 (.568)	91.80%	3	1	.483	.014
Female Condoms	1	2.93 (1.361)	58.60%	2	1	1.586	<.001
	2	4.52 (.634)	90.40%	3	2	-.276	.248
	3	4.24 (.689)	84.80%	3	1	1.310	<.001
Sexual Health Services	1	3.59 (1.119)	71.80%	2	1	.828	<.001
	2	4.41 (.628)	88.20%	3	2	-.069	1.000
	3	4.34 (.670)	86.80%	3	1	.759	.003

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.
**At time 2 (time X) the mean for reproductive health was 4.48. At time 1 (time Y) the mean was 3.55. Time X - Time Y = .93

Similar to face-to-face participants, some online participants stated that as a result of the training program they gained comfort speaking with clients.

> *I feel a lot more comfortable speaking with clients who need information about sexual health and STIs. I think the information given helps professionals be prepared for any questions that their clients might have and that improves the helping relationship.* (Participant 79)

Additionally, some recognized an association between an increase in perceived comfort with an increase in knowledge. For example, one participant said, "By increasing my knowledge I was able to be more comfortable approaching the subject with youth as well as being able to present it in an easy going and confident manner" (Participant 83).

That being said, one participant reported that for him/her, the online medium did not produce an environment that was conducive to enhancing comfort. He/she said that in order to enhance comfort discussing sexuality with clients, one needs to have a discussion with others. Although there was opportunity for discussion *via* the discussion board, it was not optimal for dialogue.

Comparisons of Affective Learning for the Face-to-Face and Online Groups

Table 26 provides details regarding the perceived comfort outcomes by group for each topic. To summarize, there was a statistically significant time by group interaction effect for six topics: reproductive health, unhealthy relationships, pregnancy awareness, sexual diversity/sexual orientation, HIV, and contraception. Additionally, there was a statistically significant time effect for five topics: healthy relationships, STIs, male condoms, female condoms, and sexual health services. Finally, there was a statistically significant group effect for the topic of male condoms. (Note: Although Table 26 shows a statistically significant time effect for an additional six topics, those findings are irrelevant when there is a significant time by group

interaction effect.) Figure 11 to Figure 21 inclusive and Table 27 to Table 37 inclusive provide additional details regarding the comfort outcomes and group comparisons.

Table 26. Comfort Outcomes by Group (ANOVA)

Outcome Measure	Time*	Face to Face mean (SD) [%]	Online mean (SD) [%]	Time Effect F(df) [P]	Group Effect F(df) [P]	Interaction F(df) [P]
Reproductive Health	1	3.85 (.989) [77.00%]	3.55 (1.055) [71.00%]	22.996	.025	3.519
	2	4.30 (.609) [86.00%]	4.48 (.575) [89.60%]	(2,108)	(1,54)	(2,108)
	3	4.15 (.818) [83.00%]	4.34 (.614) [86.80%]	[<.001]	[.874]	[.033]
Healthy Relationships	1	4.37 (.688) [87.40%]	3.93 (1.067) [78.60%]	6.962	1.799	2.613
	2	4.56 (.506) [91.20%]	4.34 (.769) [86.80%]	(2,108)	(1,54)	(2,108)
	3	4.44 (.641) [88.80%]	4.41 (.628) [88.20%]	[.001]	[.185]	[.078]
Unhealthy Relationships	1	4.22 (.801) [84.40%]	3.59 (1.268) [71.80%]	15.790	2.404	5.019
	2	4.52 (.643) [90.40%]	4.28 (.797) [85.60%]	(2,108)	(1,54)	(2,108)
	3	4.33 (.620) [86.60%]	4.28 (.797) [85.60%]	[<.001]	[.127]	[.008]
Pregnancy Awareness	1	4.07 (.997) [81.40%]	3.83 (.889) [76.60%]	9.960	1.283	6.592
	2	4.33 (.620) [86.60%]	4.55 (.506) [91.00%]	(2,108)	(1,54)	(2,108)
	3	3.96 (.854) [79.20%]	4.52 (.509) [90.40%]	[<.001]	[.262]	[.002]
STIs	1	3.59 (1.185) [71.80%]	3.34 (1.26) [66.80%]	15.869	.057	2.894
	2	4.22 (.641) [84.40%]	4.21 (.675) [84.20%]	(2,108)	(1,54)	(2,108)
	3	3.78 (.751) [75.00%]	4.17 (.658) [83.40%]	[<.001]	[.812]	[.060]
Sexual Diversity/ Orientation	1	3.67 (1.209) [73.40%]	3.14 (1.481) [62.80%]	24.529	.187	6.387
	2	4.30 (.609) [86.00%]	4.17 (.889) [83.40%]	(2,108)	(1,54)	(2,108)
	3	3.85 (.818) [77.00%]	4.21 (.774) [84.20%]	[<.001]	[.667]	[.002]
HIV	1	3.63 (1.149) [72.60%]	3.21 (1.207) [64.20%]	19.087	.004	5.442
	2	4.19 (.483) [83.80%]	4.17 (.759) [83.40%]	(2,108)	(1,54)	(2,108)
	3	3.70 (.912) [74.00%]	4.10 (.724) [82.00%]	[<.001]	[.952]	[.006]
Contraception	1	4.04 (.898) [80.80%]	3.72 (.960) [74.40%]	18.793	.080	5.437
	2	4.48 (.580) [89.60%]	4.55 (.572) [91.00%]	(2,108)	(1,54)	(2,108)
	3	4.07 (.730) [81.40%]	4.45 (.572) [89.00%]	[<.001]	[.779]	[.006]
Male Condoms	1	4.00 (.877) [80.00%]	4.10 (.772) [82.00%]	14.364	4.095	2.457
	2	4.48 (.580) [89.60%]	4.72 (.455) [94.40%]	(2,108)	(1,54)	(2,108)
	3	4.04 (.898) [80.80%]	4.59 (.568) [91.80%]	[<.001]	[.048]	[.090]
Female Condoms	1	3.22 (1.396) [64.40%]	2.93 (1.361) [58.60%]	38.479	.063	2.110
	2	4.48 (.580) [89.60%]	4.52 (.634) [90.40%]	(2,108)	(1,54)	(2,108)
	3	3.85 (.864) [77.00%]	4.24 (.689) [84.80%]	[<.001]	[.803]	[.126]
Sexual Health Services	1	3.56 (1.368) [71.20%]	3.59 (1.119) [71.80%]	19.705	.230	.219
	2	4.37 (.688) [87.40%]	4.41 (.628) [88.20%]	(2,108)	(1,54)	(2,108)
	3	4.15 (.864) [83.00%]	4.34 (.670) [86.80%]	[<.001]	[.633]	[.804]

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Comfort in Relation to Reproductive Health

For the face-to-face group, there was a statistically significant increase in perceived comfort related to reproductive health between time 1 (pre-test) and time 2 (immediate post-test) only. This suggests that comfort had increased after the training program; however, the increase was not sustained over time. For the online group, there was a statistically significant increase in perceived comfort related to reproductive health between time 1 and time 2 and time 1 and time 3 (six week post-test). This suggests that the comfort level had increased and was sustained over the six week time period. There was not a statistically significant difference in comfort between the groups at any time period. (See Figure 11 and Table 27.)

Figure 11. Comfort in Relation to Reproductive Health: Face-to-Face and Online Mean Comparisons

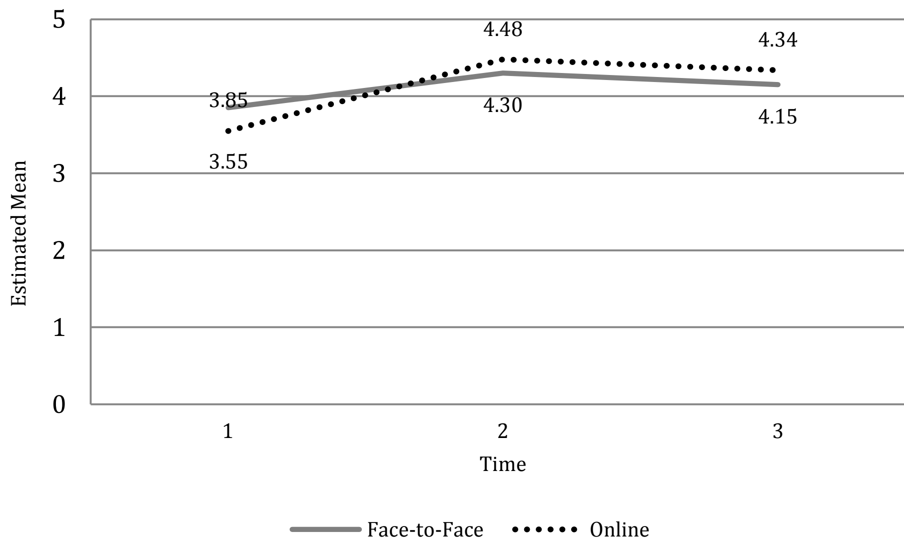


Table 27. Comfort in Relation to Reproductive Health: Face-to-Face and Online Comparisons

Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	.444	.017	1	-.300	.278
	3	2	-.148	.840			
	3	1	.296	.264	2	.186	.243
Online	2	1	.931	<.001			
	3	2	-.138	.891	3	.197	.311
	3	1	.793	<.001			

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Comfort in Relation to Healthy Relationships

For the face-to-face group, there was not a statistically significant change in perceived comfort related to healthy relationships over any period of time. For the online group, there was a statistically significant increase in comfort between time 1 (pre-test) and time 2 (immediate post-test) and time 1 and time 3 (six week post-test). This suggests that perceived comfort level had increased and was sustained over the six week time period. There was not a statistically significant difference in comfort between the groups at any time period. (See Figure 12 and Table 28.)

Figure 12. Comfort in Relation to Healthy Relationships: Face-to-Face and Online Mean Comparisons

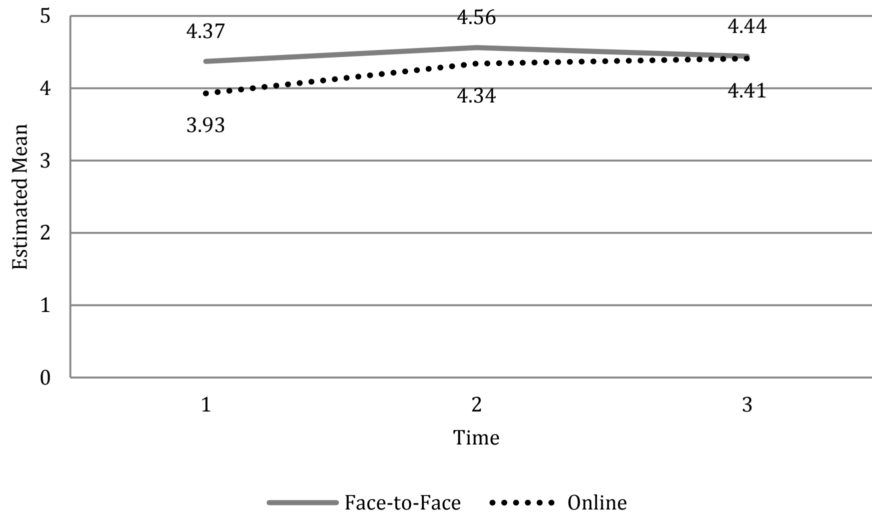


Table 28. Comfort in Relation to Healthy Relationships: Face-to-Face and Online Comparisons

Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	.185	.335	1	-.439	.075
	3	2	-.111	1.000			
	3	1	.074	1.000	2	-.211	.235
Online	2	1	.414	.001			
	3	2	.069	1.000	3	-.031	.857
	3	1	.483	.004			

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Comfort in Relation to Unhealthy Relationships

For the face-to-face group, there was not a statistically significant change in perceived comfort related to unhealthy relationships over any period of time. For the online group, there was a statistically significant increase in comfort between time 1 (pre-test) and time 2 (immediate post-test) and time 1 and time 3 (six week post-test). This suggests that comfort level had increased and was sustained over the six week time period. There was a statistically

significant difference in comfort between the groups at time 1, the online group being lower. (See Figure 13 and Table 29.)

Figure 13. Comfort in Relation to Unhealthy Relationships: Face-to-Face and Online Mean Comparisons

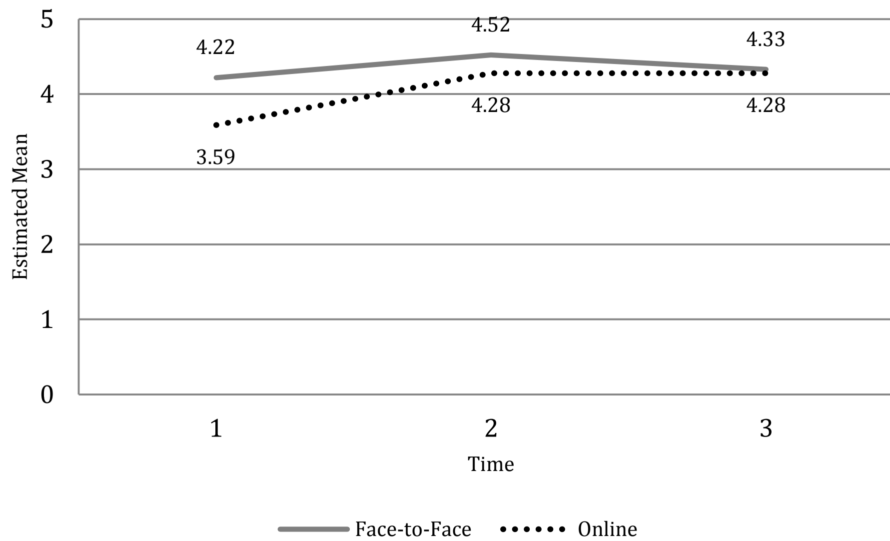


Table 29. Comfort in Relation to Unhealthy Relationships: Face-to-Face and Online Comparisons

Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	.296	.091	1	-.636	.030
	3	2	-.185	.361			
	3	1	.111	1.000	2	-.243	.217
Online	2	1	.690	<.001			
	3	2	.000	1.000	3	-.057	.766
	3	1	.690	<.001			

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Comfort in Relation to Pregnancy Awareness

For the face-to-face group, there was not a statistically significant change in perceived comfort related to pregnancy awareness between time 1 (pre-test) and time 2 (immediate post-test) and time 1 and time 3 (six week post-test). There was a statistically significant decrease in

comfort level from time 2 to time 3. For the online group, there was a statistically significant increase in perceived comfort between time 1 and time 2 and time 1 and time 3. This suggests that comfort level had increased and was sustained over the six week time period. There was a statistically significant difference in comfort between the groups at time 3, the online group having the higher score. (See Figure 14 and Table 30.)

Figure 14. Comfort in Relation to Pregnancy Awareness: Face-to-Face and Online Mean Comparisons

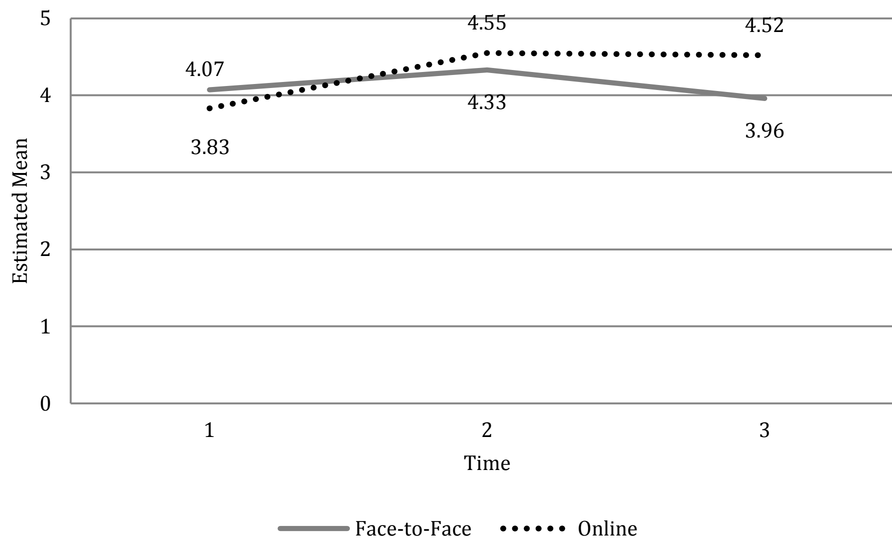


Table 30. Comfort in Relation to Pregnancy Awareness: Face-to-Face and Online Mean Comparisons

Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	.259	.328	1	-.246	.333
	3	2	-.370	.035			
	3	1	-.111	1.000	2	.218	.153
Online	2	1	.724	<.001			
	3	2	-.034	1.000	3	.554	.004
	3	1	.690	<.001			

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Comfort in Relation to STIs

For the face-to-face group, there was a statistically significant increase in perceived comfort related to STIs between time 1 (pre-test) and time 2 (immediate post-test). However, the increase was not sustained, since there was not a significant difference between time 1 and time 3 (six week post-test). For the online group, there was a statistically significant increase in comfort between time 1 and time 2 and time 1 and time 3. This suggests that comfort level had increased and was sustained over the six week time period. There was a statistically significant difference in comfort between the groups at time 3, the online group having the higher score. (See Figure 15 and Table 31.)

Figure 15. Comfort in Relation to STIs: Face-to-Face and Online Mean Comparisons

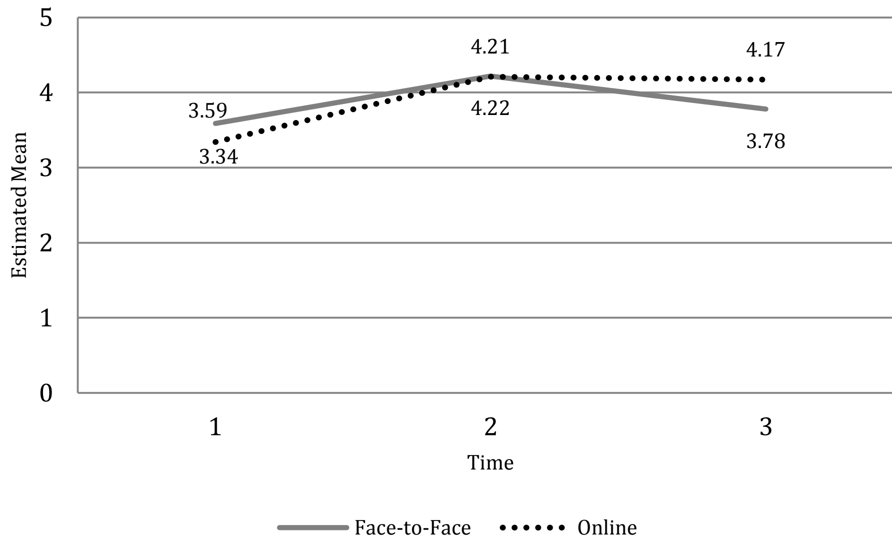


Table 31. Comfort in Relation to STIs: Face-to-Face and Online Comparisons

Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	.630	.010	1	-.248	.453
	3	2	-.444	.006			
	3	1	.185	1.000	2	-.015	.931
Online	2	1	.862	<.001			
	3	2	-.034	1.000	3	.395	.041
	3	1	.828	.001			

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Comfort in Relation to Sexual Diversity/Sexual Orientation

For the face-to-face group, there was a statistically significant increase in perceived comfort related to sexual diversity/sexual orientation between time 1 (pre-test) and time 2 (immediate post-test). However, the increase was not sustained, since there was not a statistically significant difference between time 1 and time 3 (six week post-test). For the online group, there was a statistically significant increase in comfort between time 1 and time 2 and time 1 and time 3. This suggests that comfort level had increased and was sustained over the six week time period. There was not a statistically significant difference in comfort between the groups at any time period. (See Figure 16 and Table 32.)

Figure 16. Comfort in Relation to Sexual Diversity/Sexual Orientation: Face-to-Face and Online Mean Comparisons

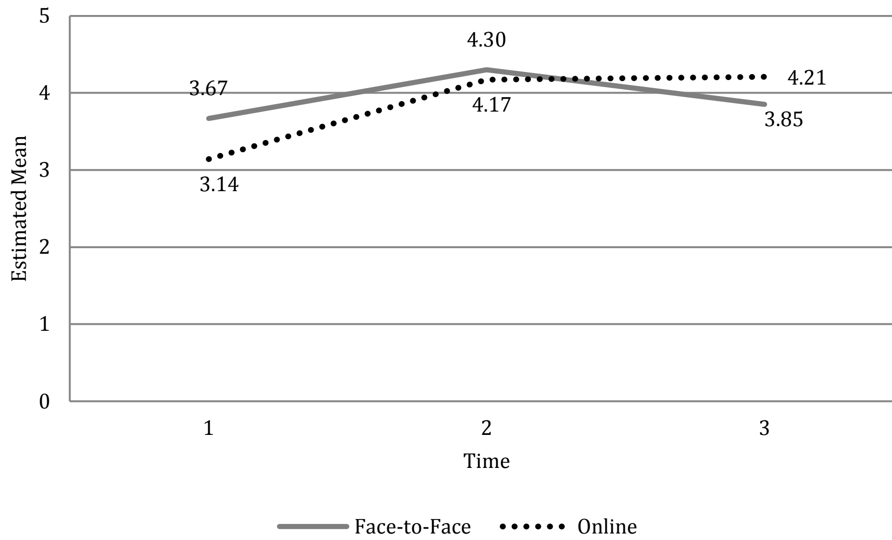


Table 32. Comfort in Relation to Sexual Diversity/Sexual Orientation: Face-to-Face and Online Comparisons

Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	.630	.004	1	-.529	.151
	3	2	-.444	.006			
	3	1	.185	1.000	2	-.124	.548
Online	2	1	1.034	<.001			
	3	2	0.34	1.000	3	.355	.101
	3	1	1.069	<.001			

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

<u>Comfort in Relation to HIV</u>

For the face-to-face group, there was a statistically significant increase in perceived comfort related to HIV between time 1 (pre-test) and time 2 (immediate post-test). However, the increase was not sustained, since there was not a statistically significant difference between time 1 and time 3 (six week post-test). For the online group, there was a statistically significant increase in perceived comfort between time 1 and time 2 and time 1 and time 3. This suggests

that comfort level had increased and was sustained over the six week time period. There was not a statistically significant difference in comfort between the groups at any time period. (See Figure 17 and Table 33.)

Figure 17. Comfort in Relation to HIV: Face-to-Face and Online Mean Comparisons

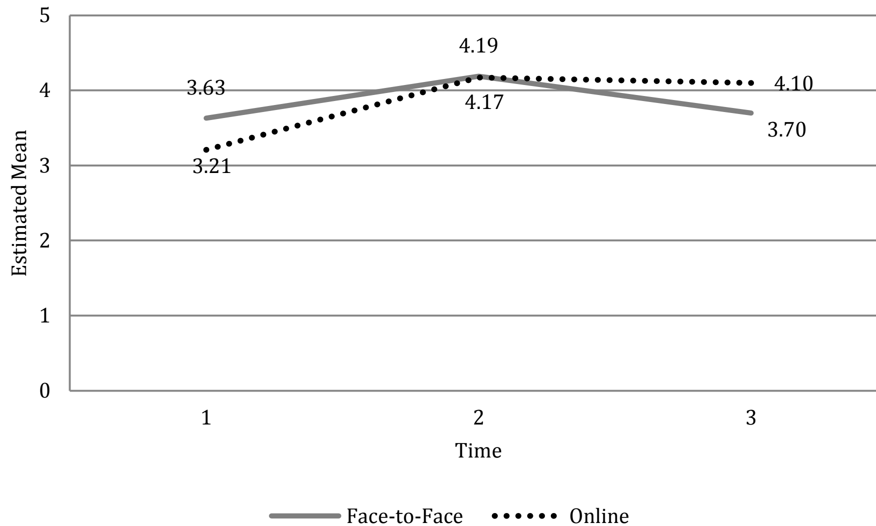


Table 33. Comfort in Relation to HIV: Face-to-Face and Online Comparisons

Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	.556	.010	1	-.423	.186
	3	2	-.481	.002			
	3	1	.074	1.000	2	-.013	.941
Online	2	1	.966	<.001			
	3	2	-.069	1.000	3	.400	.074
	3	1	.897	<.001			

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Comfort in Relation to Contraception

For the face-to-face group, there was a statistically significant increase in perceived comfort related to contraception between time 1 (pre-test) and time 2 (immediate post-test). However, the increase was not sustained, since there was not a statistically significant increase

between time 1 and time 3 (six week post-test). For the online group, there was a statistically significant increase in comfort between time 1 and time 2 and time 1 and time 3. This suggests that perceived comfort level had increased and was sustained over the six week time period. There was a statistically significant difference in comfort between the groups at time 3, the online group having the higher score. (See Figure 18 and Table 33.)

Figure 18. Comfort in Relation to Contraception: Face-to-Face and Online Mean Comparisons

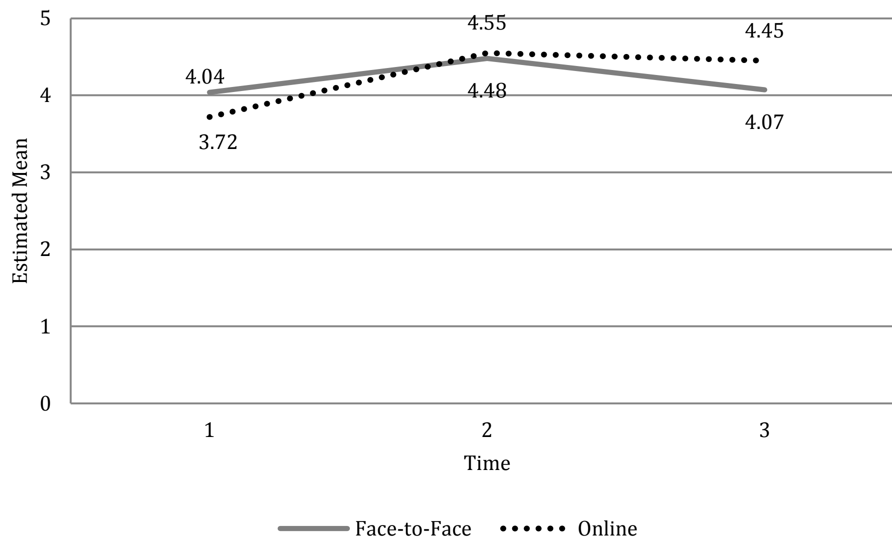


Table 34. Comfort in Relation to Contraception: Face-to-Face and Online Comparisons

Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	.444	.005	1	-.313	.214
	3	2	-.407	.006			
	3	1	.037	1.000	2	.070	.650
Online	2	1	.828	<.001			
	3	2	-.103	1.000	3	.374	.037
	3	1	.724	<.001			

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Comfort in Relation to Male Condoms

For the face-to-face group, there was a statistically significant increase in perceived comfort related to male condoms between time 1 (pre-test) and time 2 (immediate post-test). However, the increase was not sustained. For the online group, there was a statistically significant increase in comfort between time 1 and time 2 and time 1 and time 3. This suggests that perceived comfort level had increased and was sustained over the six week time period. There was a statistically significant difference in comfort between the groups at time 3, the online group having the higher score. (See Figure 19 and Table 35.)

Figure 19. Comfort in Relation to Male Condoms: Face-to-Face and Online Mean Comparisons

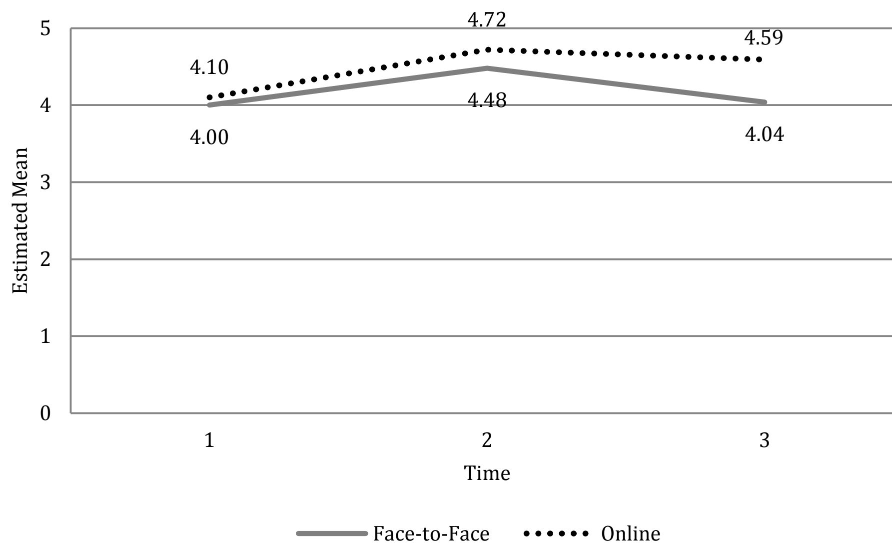


Table 35. Comfort in Relation to Male Condoms: Face-to-Face and Online Comparisons

Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	.481	.001	1	.103	.641
	3	2	-.444	.009			
	3	1	.037	1.000	2	.243	.086
Online	2	1	.621	<.001			
	3	2	-.138	.973	3	.549	.008
	3	1	.483	.014			

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Comfort in Relation to Female Condoms

For the face-to-face group, there was a statistically significant increase in perceived comfort related to female condoms between time 1 (pre-test) and time 2 (immediate post-test). However, the increase was not sustained, since there was not a statistically significant difference between time 1 and time 3 (six week post-test). For the online group, there was a statistically significant increase in perceived comfort between time 1 and time 2 and time 1 and time 3. This suggests that comfort level had increased and was sustained over the six week time period. There was not a statistically significant difference in comfort between the groups at any time period. (See Figure 20 and Table 36.)

Figure 20. Comfort in Relation to Female Condoms: Face-to-Face and Online Mean Comparisons

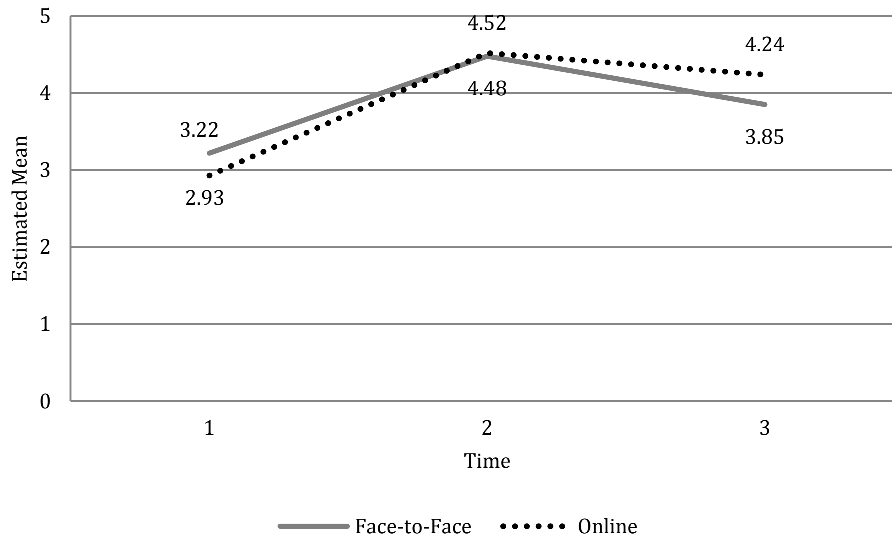


Table 36. Comfort in Relation to Female Condoms: Face-to-Face and Online Comparisons

Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	1.259	<.001	1	-.291	.433
	3	2	-.630	.001			
	3	1	.630	.082	2	.036	.827
Online	2	1	1.586	<.001			
	3	2	-.276	.248	3	.390	.067
	3	1	1.310	<.001			

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Comfort in Relation to Sexual Health Services

For both the face-to-face and online groups, there was a statistically significant increase in perceived comfort related to sexual health services between time 1 (pre-test) and time 2 (immediate post-test) and time 1 and time 3 (six week post-test). This suggests that comfort level had increased and was sustained over the six week time period. There was not a statistically significant difference in comfort between the groups at any time period. (See Figure 21 and Table 37.)

Figure 21. Comfort in Relation to Sexual Health Services: Face-to-Face and Online Mean Comparisons

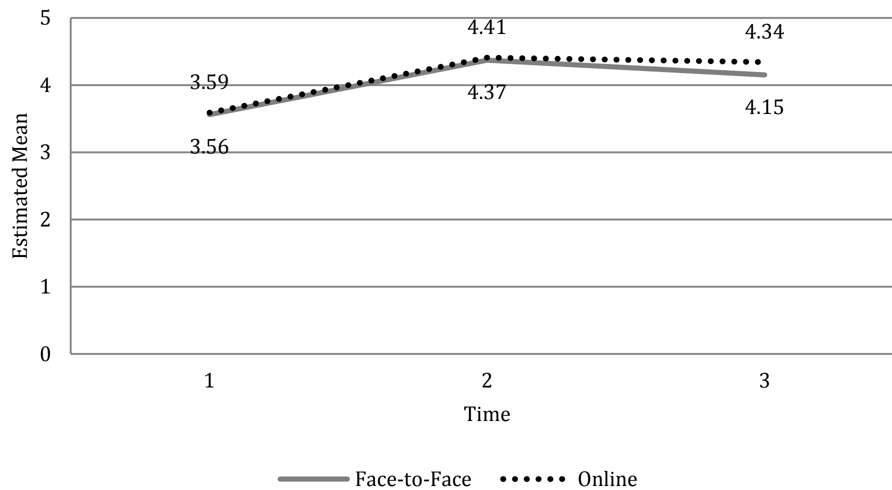


Table 37. Comfort in Relation to Sexual Health Services: Face-to-Face and Online Comparisons

Time Effect					Group Effect		
Group	Time* X	Time* Y	Mean Difference X-Y	P	Time*	Mean Difference Online-F2F	P
F2F	2	1	.815	.001	1	.031	.927
	3	2	-.222	.532			
	3	1	.593	.033	2	.043	.806
Online	2	1	.828	<.001			
	3	2	-.069	1.000	3	.197	.343
	3	1	.759	.003			

*Time 1 refers to pre-test; Time 2 refers to immediate post-test; and Time 3 refers to six week post-test.

Use of Training

This section addresses secondary question "D." It asks: "*How do participants reportedly use their training after participation in either an online or face-to-face training experience?*"

To answer the question, participants completed the Training Follow-Up Questionnaire**,** six weeks after the training program. The questionnaire included both fixed-alternative and open ended questions (See Appendix S).

Tables 38, 39 and 40 summarize the quantitative findings from the Training Follow-Up Questionnaire. The data are arranged according to three subheadings: practical use of the information; worthwhile use of time and effort; and ratings by participants. In addition to the questionnaire, qualitative data are also provided from an in depth interview with Participant Y.

Practical Use of the Information

The Training Follow-Up Questionnaire asks, "Have you used the information from the training? If yes, how did you use the information? If no, why not?" Percentages were calculated and differences between groups (alpha set at .05) were analysed using Fisher's exact test. Fisher's exact test was used because it is an accurate measure of the P value, especially when sample sizes are smaller. Although chi square test would have also been acceptable, it provides an approximate P value versus the exact P value (Afifi & Azen, 1979).

Quantitative data results are provided in Table 38; however, qualitative analysis provides more detail that elaborates on some of the reasons why participants in each group did not use the information in the six weeks after completing the program.

Table 38. Have You Used the Information?

Have you used the information?	Face to Face n (%)	Online n (%)	Fisher's Exact Test P
Yes	13 (46.4%)	21 (72.4%)	.061
No	15 (53.6%)	8 (27.6%)	

Below the results are presented as it relates to the face-to-face group, the online group, and a comparison of the two groups.

Practical Use of the Information by the Face-to-Face Group

Six weeks after the training program, 13 (46.4%) face-to-face participants reported that they had used the training information. They used it in two ways: to provide information or have

a dialogue with clients; and for personal use. In doing so, they mentioned six topics: STIs, birth control, healthy sexual contact, relationships, pregnancy options, and community S&RH services. One participant stated, "One of my students thought she was pregnant. I used my knowledge of the morning after pill and numbers provided" (Participant 19). Two participants identified that they personally used the knowledge gained, which included sharing unspecified information with family (wife and daughter) and sharing information regarding STIs with friends.

At six weeks after the training program, 15 (53.6%) participants from the face-to-face program had not yet used the information. When asked, the majority stated they had not yet had an opportunity. However, a few stated they had not yet used the information because discussing sexuality was not their primary role as a professional; they typically refer those questions to those whose role it is. For example, one participant said,

> *I have not had conversations with students beyond [the] basics. We work here as a team, and there are staff (support), whose job it is to fully address issues like this. My job focus is elsewhere so I often begin conversations and refer.* (Participant 25)

Practical Use of the Information by the Online Group

At six weeks after the training program, 21 (72.4%) online participants had used the training information in three ways. They provided information or discussed it with clients; they shared it with colleagues; or used the information in their personal lives.

> *I had a student who was sexually assaulted the week after the course was completed, and I was able to effectively assess and refer her and her family to the appropriate resources. I was able to use the knowledge also to answer their questions. It was definitely good timing for me.* (Participant 61)

The online participants reportedly used the information with individuals and groups. That is, they found it useful in discussions about topics such as: clients' privacy, pregnancy, birth control, STIs, sexual diversity, healthy pregnancy, community S&RH services, as well as sexual assault. One participant said, "Coincidentally, [I have received] a flurry of referrals at my high school in the last two months! Using the engagement strategies helped a lot as did the brushing up on current S&RH information" (Participant 47). Another participant said, "I was able to answer some questions regarding birth control, the different methods and how certain kinds might be better suited to different lifestyles... for some of the youth in our program" (Participant 83).

Some participants used their new knowledge to provide information at a group level, including a community fair and school based programming. One participant said, "I am preparing a presentation for safe grad for grade 12 where the knowledge will help" (Participant 63).

Participants also identified that they were able to share the information with other professionals. Some participants said they shared the information with their colleagues, whereas others said they shared the information with professionals from other agencies. For example, Participant Y stated in an in-depth interview,

> *... [There] was a young man who was new to the school, and he was so flamboyant in his homosexuality that it was almost like he was painting a target on his back. I just loved him, and thought he was a great young man... [I shared my] learning with others [including professionals] in the school who were like "Whoa" because he was all about wearing the purple shirt and forming a club and doing all that. So again about safety... and also then having a conversation with him [regarding] people have different levels of comfort and for your own protection... sort of scope out a situation for your own*

protection and know that there's acceptance, and there's diversity... in this milieu but it may not be 100%. It doesn't make it right that it's not 100%. (Participant Y, Lines 305-317)

A few participants also indicated they used information for personal use. They stated they used the information for the Canadian Nurses Association certification exam for Community Health Nursing.

At six weeks post-training, eight (27.6%) participants had not used the information. When asked why, the majority stated they had not had the opportunity. One reported, "[I'm] working with some teachers for [a] presentation… but scheduling and work load has hampered my participation until later this month and next" (Participant 64). Finally, another participant indicated it was not his/her role to address this issue with clients. He/she wrote, "We have people who are trained in the area to speak to the youth" (Participant 90).

Face-to-Face and Online Group Comparisons

As reported above, 13 (46.4%) face-to-face and 21 (72.4%) online participants stated they had used the information. Fisher's exact test (Table 38) indicates that the difference between the two groups is not statistically significant.

Worthwhile Use of Time and Effort

The questionnaire also asks, "Was this training worth your time and effort (yes, not sure, no)? Explain." Percentages were calculated. To determine if there was a statistically significant difference between the groups (alpha level set at .05), Fisher's exact test was used. Fisher's exact test was used for two reasons. First, it provides an exact measure of the P value. Second, four of the six cells in the table (Table 39) had counts of less than five; therefore it was the most appropriate choice.

Quantitative analysis of the data is provided in Table 39; however, qualitative analysis of the open-ended items on the questionnaire provides more information about the participants' perspectives regarding worthwhile use of time and effort.

Table 39. Was the Training Worth Your Time and Effort?

	Face to Face n (%)	Online n (%)	Fisher's Exact Test P
Yes	24 (85.7%)	28 (96.6%)	.080
No	0 (0.0%)	1 (3.4%)	
Not Sure	4 (14.3%)	0 (0.0%)	

Below the results are presented as it relates to the face-to-face group, the online group, and a comparison of the two groups.

Worthwhile Use of Time and Effort According to the Face-to-Face Group

Twenty-four (85.7%) participants completing the face-to-face training program believed the training was worth their time and effort. They offered three principal reasons: they experienced cognitive learning; they experienced affective learning; and the learning would benefit their clients.

Many participants identified that they experienced cognitive learning as a result of the training program. Participants reported that the training program assisted them in acquiring new knowledge and/or it reinforced existing knowledge. For example one participant stated, "My knowledge has been expanded. What I haven't retained, I can access the info, and present it with a client more easily"(Participant 32). Additionally, some participants found that the training program made them realize how much they did not know about sexual health and that they "needed to [be] better informed" (Participant 4).

Some participants indicated the training was worth their time and effort because they experienced affective learning. For example, participants stated they felt either more capable in

speaking with clients, more comfortable with their knowledge base or more confident in their ability to address sexual health with the clients they serve. Finally, some participants indicated the training was worth their time and effort because the knowledge gained was beneficial to their clients. Some participants stated that the information from the training program was relevant and useful to their clients.

Four (14.3%) participants were not sure if the training program was worth their time and effort. One participant stated that he/she already knew the information. Another participant stated that in his/her role, there is not the opportunity to speak with youth regarding S&RH. The participant stated, "Interesting but unless I get the chance to use it, then it will have been a waste of effort. My job does not typically welcome such opportunities" (Participant 31). Another participant stated he/she asks an outside agency to speak with youth regarding sexual health. Lastly, another participant stated he/she could not remember the specifics about the training program.

Worthwhile Use of Time and Effort According to the Online Group

Twenty-eight (96.6%) participants completing the online training program felt the training was worth their time and effort for four principal reasons: they experienced cognitive learning; they experienced affective learning; the online training appealed to their style of learning; and the learning would be beneficial to their clients.

> *This training was definitely worth the time. The information was educational and up to date and very relevant to where I work with high risk youth. It was good to find the areas that I do not have as much knowledge in so that I can be aware of that and keep reviewing information. Also the information was presented in kind of a fun way with the different video clips. Very well done.* (Participant 78)

Many participants said the training program was worth their time and effort because they experienced cognitive learning. Participants indicated that the training program assisted them in acquiring new knowledge and/or reinforcing existing knowledge. Some participants pointed out that although they have forgotten some of the information over time, they know where to find it.

Some participants identified that the training was worth their time and effort because of the affective learning that resulted. Some participants reported an increased comfort addressing sexual health with clients. For example, one participant said,

> *I appreciated that I was given the opportunity to participate in this training. It will help me be more at ease when working with clients who have specific questions about their sexual health. It is well worth the time and effort.* (Participant 79)

Other participants identified an increase in confidence as a result of the training. One participant stated,

> *It's an area where I had previously lacked skill - specifically in reproductive health and STI information. Rather than shying away from answering questions or [not] addressing the issues, I am able to communicate with clients, and know I can refer them to more specialized resources if necessary.* (Participant 74)

Several participants identified that the online training was worth their time and effort because it appealed to their style of learning. Having the ability to control the pacing of material was seen as a great benefit to learning. In this regard one participant said,

> *Could do it on my own time - more alert, learned and retained more in this manner (I think). Able to save information to go back and review later. Format gave me time to think about information. Read several times and review.* (Participant 55)

Others mentioned that the online delivery offered the flexibility to fit the learning into a hectic schedule. For example, one participant stated,

> *The online service delivery was fantastic, flexible, and met my needs as a person who is busy and may not have time to attend an in-class session. I thought the material was well thought-out and presented, and learned a lot. Thanks for the opportunity!* (Participant 74)

Additionally, participants also mentioned that the online learning experience was enjoyable. The use of humour throughout the program appealed to learners, as did the variety of learning strategies used. One participant said, "Having the videos were great because it helps to bring humour to the topic and having the presentation in Breeze form was easy to follow. Good to have different speakers. Thanks. It was well done" (Participant 58).

Finally, participants identified that the training was worth their time and effort because the learning that resulted was beneficial to their clients. Some participants indicated the information was "important" and "relevant" to the clients they served. Another participant said,

> *I committed to the project so was compelled to "get it done." Often there are many things put on the back burner so to speak, because of the feeling of overload. Because I committed myself, I deliberately carved out the time and gained the knowledge and honed my skills caring for the health of a very at risk population.* (Participant 47)

One participant (3.4%) did not feel the training was worth the time and effort because it is not his/her role to address sexual health with clients. He/she said, "I guess I have always relied on those with special training to handle this topic" (Participant 90).

Face-to-Face and Online Group Comparisons

As mentioned above, 24 (85.7%) face-to-face participants and 28 (96.6%) online participants reported that the training was worth their time and effort. Four (14.3%) of the face-to-face participants were "not sure" and one (3.4%) online participant said "no" the training was not worthwhile. Fisher’s exact test (Table 39) indicates that the differences between the two groups are not statistically significant.

Ratings by Participants

Finally, participants were asked to rate the usefulness of the training program for their work on a five point Likert scale, ranging from poor to excellent. Mean scores were calculated and differences between groups were calculated using independent samples t tests (alpha level set at .05). The results are provided in Table 40 below. The mean score for the face-to-face group was 3.96 whereas the mean score for the online group was 4.30. The independent samples t-tests indicated differences between the groups were not significant.

Table 40. How Would You Rate the Usefulness of the Training?

Group	Number	Mean (SD)	t (df) [P]
F2F	28	3.96 (.793)	-1.633 (55) [.108]
Online	29	4.30 (.806)	

Facilitators' Experience

This final section addresses secondary research question "E." It asks: "*How do facilitators of online or face-to-face training approaches evaluate their experiences*?"

At the conclusion of both programs, the two facilitators (Facilitator A and Facilitator B) provided their respective evaluations. Each did so in an in-depth interview (Appendix T), lasting approximately 35-45 minutes. Table 41 provides a summary of the qualitative results.

The results are arranged according to five subheadings: overall program evaluations by facilitators; strengths of both programs; strengths of the face-to-face program; strengths of the online program; challenges of the face-to-face program; challenges of the online program; and face-to-face and online comparisons.

Overall Program Evaluations by Facilitators

All in all, both facilitators found the experience of facilitating the face-to-face and online training programs professionally and personally fulfilling. They used terms like "positive," "enjoyable," and "rewarding" to describe their experiences. Facilitator A summarized,

> *I think it was all really positive. I think for me... you always learn, you always take stuff away, and it helps you solidify what you think you already know. Already I've actually utilized some of the material. I've actually used one of the Breeze presentations... for one of my online training programs and bits and pieces of other presentations because we wrote them together. It's been really good to have that information at hand and to share that. So I think it's not like this will die and fizzle out; this is going to continue; we'll continue to do these workshops, and hopefully grow them, and I think it's been a really good experience for the team and the program.* (Facilitator A, Lines 440-446)

From the interviews, one can infer that facilitation allowed for learning and growth. As well, it provided the opportunity to connect with participants working in the community. Both facilitators felt the programs benefited Sexual and Reproductive Health, Alberta Health Services, because the program materials could be used for future training programs, and the research findings could identify strengths and challenges of similar programs that require modification.

> *Whereas we had a real unique opportunity because we were the content developers and also facilitators and so... it was very rewarding as a facilitator to see that the items that maybe you identified as being important that other people cued in, and said, "Hey I didn't know about..." or "It's really good to know…" It was really validating both as a facilitator, but also as a writer of content.* (Facilitator B, Lines 355-358)

The facilitators also appreciated the immediate feedback provided by the participants. To see participants engaged in learning and to hear participants erupt with laughter during the face-to-face sessions proved rewarding. These types of informal feedback validated the choice of

content as well as the teaching techniques used. For example, Facilitator A recounted experiences that describe the relative merits of both programs. She stated,

> *…actually one of the [face-to-face participants] did come up to me afterwards, and she shared with me a personal experience of hers. ... Her son actually is in fact gay, and he's now... very successful, and about to graduate from [post-secondary]. She still worries about him and his safety every single day. And she remembers a very bad time when he was at senior high school of really feeling that things were not going well for him, wondering about his future. And she said that as a parent…that it was so good to have this brought up and to really focus on... specific populations and this is one population we need to support more than the others. So that felt good. That felt good. ....[and]someone that took the online course… she actually came to one of my sessions [in the community], and she asked if she could put a question in the question box because she felt the students really should know the answer to this, and it would really help them... Her question was, "how do I know if I'm gay?" And so that really struck a chord with her. And she's been nursing a really long time. I don't think she would have put that question in the question box, if she had not done that online. So she sees that as being really, really important,…addressing that whole issue of identity and orientation with these students. So that was really nice actually for that to happen.* (Lines 388-395; 420-427)

Strengths of Both Programs

The facilitators identified five reasons for their positive impressions about their overall experiences. Both programs benefited from having: two facilitators; facilitators from different disciplines; facilitators with a good working relationship; experienced facilitators comfortable with both learning modalities; and facilitators that shared responsibility for organizing and developing the content. With regards to the first reason, both facilitators indicated that having a co-facilitator enhanced their experience significantly. Facilitator A said,

…I think having two people to facilitate is really, really optimal. I mean I'm facilitating a few things right now, and it's just me... But having two people and also having someone that you can defer to. So some of those questions, which were more STI clinically-based, saying, "well [Facilitator B] can do those because... [she] could access that information." So I think having that interdisciplinary team and having more than one of you is really key. (Lines 142-147)

Having two facilitators also allowed for work-sharing. That is, the training program addressed nine sexual health topics, and each facilitator prepared the content for selected topics, and then facilitated that aspect of the training program. In the online training program, one facilitator checked in with participants *via* the discussion board at least once a day. The facilitators negotiated assignments between themselves, based on their workload, other commitments and any absences from work.

The interdisciplinary facilitation represented an additional strength of the training programs. The facilitators both believed interdisciplinary facilitation provided "best practice" and recommended it whenever possible. In their respective opinions, each facilitator brought a different disciplinary lens to the training program - as importantly, they each valued the other's perspective. As a result, the facilitators not only learned from one another, but they provided a more appealing and comprehensive learning experience for participants. Facilitator B explained,

... our strengths and our real lenses are very different… For example, [Facilitator A's] strength is pedagogy. She understands different learning styles and how to facilitate learning, and she's also done a significant amount of community education in large group settings. So she understands the dynamic of facilitating in a large group setting. Whereas my expertise is more the medical expertise, and because I'm a clinic nurse working in a sexual and reproductive health clinic I know the other side. So once they move from that large group setting and then go behind a closed door to have a conversation with a medical provider, I understand what happens in that piece. And so

for me it represented that whole continuum of what happens in the community to what happens inside of a medical system. So I thought it was a really nice complement....

My perspective is that it's absolutely best practice to have interdisciplinary teams [facilitating], especially if you're working with a multidisciplinary group because as we know with adult teaching and learning, people have different learning styles and key into different important issues based on their learning style. And I think when you have multiple facilitators from different perspectives you have a better opportunity to engage people more fully. So with [Facilitator A's] experience, with community and lay people, I mean that engages a certain population. Whereas... my perspective can be sort of linear and scientific and medical, some people want to hear that... But I think you really engage a fuller audience, and you have more opportunities to engage with a team based on multiple perspectives. (Lines 148-156; 274-282)

As importantly, interdisciplinary facilitation reflects the reality of interdisciplinary public health practice. In this regard, Facilitator A stated,

...none of us works in the community as an island. You know, even here at sexual and reproductive health, our program consists of an interdisciplinary team. So we have clinical services with nurses and doctors, but we also have health promotion. So we have education, and we have psychology, and we've had social work in the past. ...I think interdisciplinary is really, really important because that's how folks are working out as service providers in the community. So it's good to reflect that. And I think it was really good to have different people answering from different perspectives. You work with different clients at different levels. If you see them...as a nurse, you get to know different things about them than if you have a group of them together as an educator... For me, interdisciplinary is so important because I value the other disciplines and what they bring to the groups and that to me is very, very important... And I think that it's very grounding as well for everyone to think, "okay well I'm not a nurse, but I've done some education or I've never taught in a group, but I'm a nurse." There was someone for them to relate to on both sides. I think that our aim within health promotion is always to

promote interdisciplinary practice and to value those skills and information and experience that each brings to the table. (Lines 285-305)

Another aspect that enhanced the experience for the facilitators was the working relationship established between them. The facilitators had previous experience facilitating both online and face-to-face programs with one another. Each facilitator was familiar with the other's facilitation style. They had respect for one another and great synergy as co-facilitators. Furthermore, they had complementary philosophies of education, as well as S&RH promotion. In the end, this contributed to the success of the program and enhanced the facilitators' experiences. In this regard, Facilitator B said,

> *... [Facilitator A] and I had a working relationship, and we had facilitated learning classes together so we were really familiar with each other's strengths and facilitation styles. I think that made a big difference because we didn't have to learn how to read each other's cues or when we needed to jump in or who would take the lead on certain content... We had that relationship already so I think that probably contributed to the most success.* (Lines 132-136)

Another factor identified as enhancing the facilitators' experience was the fact that both facilitators had experience and felt comfortable in facilitating both face-to-face and online learning. Additionally they saw the value in both modalities, and have insight into the strengths and challenges from both the learners' and facilitators' perspective.

The facilitators identified the planning and organization of the training programs as another strength. The training program development team (consisting of the two facilitators and myself) created learning objectives for the face-to-face and online training programs, based upon the findings from phase one of the research. The team selected the person to take the lead on the various pieces of content, and devised a work plan that specified responsibilities and expected

timelines. After the team developed the content for both the online and face-to-face programs, both facilitators practiced delivering the face-to-face program to determine how long the program would take. Facilitator B stated,

> *…making sure that the learning objectives and the content for the face-to-face and the online we were in sync with each other....was a really smart thing to do at the same time. That really made it easy for us as facilitators to be able to know what comes next... But the other piece would be the organization...in terms of figuring out a work plan, which we followed, and then it clearly delineated who is responsible for what. So there were no grey areas in terms of who was going to do what. We really had a firm understanding of who was responsible for what content. And then when we delivered, before going into the delivery, we had discussions on how we would deliver that content, and so we had some dry runs going into it. I think that was really helpful to make sure that everyone had the same understanding of what content needed to be delivered and how we would deliver that.* (Lines 92-95; 136-143)

As a result of their collective efforts in the planning and organization of the training programs, the facilitators felt there was quality programming. The material was delivered in a way that was incremental and sequential so that information built upon each section. Additionally, they felt the multiple learning modalities as well as the incorporation of pop culture through the use of YouTube video clips were excellent. Facilitator A said,

> *I thought the stuff we used from "The Office," [and] the stuff that was used from YouTube online, was just amazing... I think that it really lightened the whole atmosphere. And also I think what it does, is it shows that there's so much more sexuality around us then we think. I think that using as many different medium[s] is really, really important.* (Lines 453-456)

Strengths of the Face-to-Face Program

The individual programs also exhibited specific strengths. That is, the face-to-face program took place in real-time and provided immediate feedback and the opportunity for real-time discussion/communication. Additionally, face-to-face learning also provided the opportunity to enhance comfort in relation to discussing sexuality.

Receiving feedback from learners in real-time had particular strengths. For example, facilitators heard the conversations and saw positive learner reactions to the content and teaching strategies. Facilitator A explained,

> *I think the real-time aspect is great; you know people being able to sort of pull you aside and have a conversation with you, ask you a question. And I guess you do get that sense of a positive feeling in the room; you get instant feedback. For a facilitator [it] is probably really key. You don't get that when you're on an online. People might say, "Oh, thank you so much. This is great." But you know, I think, there is...that instantaneous, "this is going well. What a great discussion." And yeah. I think it's that as an educator or facilitator feeling that there's movement in people's attitudes and values in the room. It's almost like it's palpable. Whereas you can't always feel that sometimes on an online.* (Lines 168-175)

In a face-to-face, facilitators can make eye contact and read body language, making it easier to engage participants in conversation. As well, they can see if participants look confused, uncomfortable or need clarification. For example, one facilitator said, "You can see if people are recoiling or there's a pained expression on their face or something" (Facilitator A, Lines 211-212). Receiving visual cues from participants assisted the facilitators with their teaching. Furthermore, because there is the real-time feedback regarding content and learning strategies, the facilitators could circle back to the strategies that elicited positive responses. Facilitator B explained,

And it's easier to bring the conversation back to… a specific video clip, like "The Office" clips for example. Then you can circle back to it during your conversations and bring out salient points. Whereas it's very difficult to do that in the online… because you don't know if people viewed it. You don't know how they responded unless somebody specifically commented on it. It was sort of lost in space. (Lines 184-188)

The real-time discussion represented another strength of the face-to-face program. As participants asked questions, or made comments, other participants provided their input, which resulted in a stimulating dialogue. In this regard one facilitator said,

In the face-to-face conversations, I felt that people really added to the comments or that it stimulated other ideas so that subsequent questions would come out of somebody's statement or comment... the synergy of the conversation really added to the depth. (Facilitator B, Lines 256-259)

Both facilitators reported that the face-to-face training program also provided an important opportunity for participants to talk about S&RH in front of other people. To enhance comfort discussing sexuality with youth, participants need to say the words out loud in front of other people. For example, Facilitator B said,

If you're trying to build comfort, for example, on how to talk or do a condom demonstration, to actually have the tactile hands-on experience that you can offer in a face-to-face is much different than, for example, watching a video online. (368-370)

Strengths of the Online Program

The online program had three unique strengths. Like other asynchronous learning online, it allowed facilitators more flexibility in scheduling their work, and it provided both facilitators more latitude in either raising or responding to questions, which made for a less stressful experience. Additionally, with the anonymity associated with online learning, participants may feel more comfortable discussing certain topics.

The facilitators gave high marks to the flexible nature of online learning. It allowed for time-shifting, associated with asynchronous learning. That is, participants and learners could engage with one another when time permitted. Facilitator A commented, "And I mean for me, the online pieces I could do at home. You know you've got a computer; you've got an Internet connection and that's the beauty of online learning. Right? You can do it in your pyjamas." (Lines 135-137).

The facilitators indicated that flex-time offers conveniences, not available in face-to-face settings. The asynchronous program allows for anytime and anywhere learning that affords balance in personal and professional lives. As it happened, during the online training program, both facilitators had out-of-town commitments, which they could attend to while they fulfilled their online commitments. For example, Facilitator B said,

> *[Facilitator A] ended up being in Vancouver for a couple of days, and then I was away a couple of days, and so facilitating asynchronous online is ideal for both the learner and also the teacher because you can make non-traditional hours work. You don't have to be stuck in the banker's hours to get the work done... I looked at it as an opportunity that I didn't have to get it done before 4 o'clock. ... I could do it at 8 o'clock or after my kids were in bed. ... I always looked at it as an opportunity for flexibility.* (Lines 166-168)

Another strength of online programming concerns the pace of learning and the demands made on facilitators and learners. The facilitators thought that online facilitation proved less stressful in comparison to face-to-face because the extensive preparation prior to the program going live. Facilitator A said, "For me, as a facilitator, when you do the online stuff, you know your efforts are before the workshop goes live. And then you kind of go, '[exhale], the workshop's live now. Off you go'" (Lines 74-75). Additionally, because of the self-directed nature of online learning, it is the learner, not the facilitator, that controls much of the pace of

learning, by making decisions about how much time to spend on the learning. As such, both facilitators and participants experience less stress, by co-sharing responsibility.

Finally, the facilitators felt that because of the anonymity associated with online learning, participants may feel more comfortable discussing certain topics. In this regard Facilitator B stated,

> *... by the nature of sexual health there's some activities that might be more comfortable doing online, such as talking about values or looking at values self reflection, because there… [is] some anonymity involved, and you're more likely to be forthright about what your beliefs are. Whereas when you're in a face-to-face, especially with people that you are with on a daily basis, you might not feel as transparent in talking about your values.* (363-367)

Challenges of the Face-to-Face Program

The facilitators identified some challenges of the face-to-face facilitation experience, including stress, the rushed timeframe, the physical environment, and group size.

The facilitators stated that face-to-face facilitation felt more stressful because they have to remain alert and focused the entire time. For example, when learners have questions or controversial topics arise, facilitators do not have the luxury to reflect at length; they need to provide feedback quickly. Other stressors include difficulties with equipment or group interactions that can sometimes interfere with learning. Other times, the pace of learning seems rushed. In this regard, Facilitator A said,

> *Because in real-time... I think the pace seems more frenetic because you're using a lot more energy, right to actually do the actual job...When you're a facilitator and you're a presenter, pretty much you're on the whole time... So I think that's the whole pace thing... I think it's interesting... I felt with the large group for the face-to-face that they did feel that we were rushed. In fact, somebody actually made a comment that "Wow…You've got*

a lot to get through." That didn't feel good talking ten dozen words to the minute; it didn't feel good to go at that pace to be honest. And I think that you always think to yourself: "what could we miss? What could we skip?" (Lines 79-98)

A second challenge of the face-to-face program was the six-hour timeframe. All in all, both facilitators agreed that more time was needed for the face-to-face program. Facilitator B said,

> *If there was one barrier... or what I'd do differently it was the rushed timeframe. But I think part of that being rushed was because there was such good group engagement. It was difficult to move on at certain points because we really felt that we wanted to be respectful and answer the questions of the group at the time. And so it's a pro and it's a con. We were rushed because there was group engagement, and also it was ambitious to do the course over a one day training period.* (Lines 60-66)

Sometimes the face-to-face environment presents special challenges. Both facilitators identified that the learning space was not optimal for Group 1 in the face-to-face training program. The room seemed overheated and small—the facilitators did not have space to move around as they normally would. It likely impacted on the quality of exchange between the learners and facilitators. Facilitator B explained,

> *The other barrier maybe to that big group was the space itself. It wasn't the ideal space for facilitating because people weren't at tables where you could sort of mingle with people or walk in between. It really was sort of classroom didactic style which isn't necessarily the best for facilitating group interactions. So I think if we could do it again, that would also be a change. Just the physical layout of the room wasn't ideal.* (Lines 231-235)

A final challenge was the group size. The first group in the face-to-face training program had 36 attendees that agreed to participate as well as other attendees that did not agree to participate in the study. With a larger group, there were more questions and more discussion

related to content. However, there was also more chatting unrelated to the content, as well. There were challenges with getting the group to refocus after taking breaks. For example, there were planned breaks at mid-morning, lunch, and mid afternoon. In all cases, participants took longer breaks than the time allotted. As Facilitator B said, with a large group, it is "harder to get people back to focus, back to task." (Line 223).

Challenges of the Online Program

Online learning has different challenges. Both facilitators felt there were challenges with regard to communication when facilitating online learning as well as the two week timeframe to complete the program.

Because the learners were not physically present, it was difficult to evaluate participants' reactions. Therefore, the facilitators could not judge whether the participants were engaged or enjoying their learning experience. For example, humour was incorporated throughout the training program with the use of cartoons and YouTube video clips. The facilitators could not tell how the learners reacted to those learning strategies. As Facilitator B mentioned, "It was sort of lost in space. I think that people probably appreciated the humour, but then it was difficult to capitalize on that" (Lines 188-189).

Additionally, the facilitators reported that written communication is more cumbersome than oral communication. In a face-to-face, the facilitators can be more colloquial with their language, and therefore the communication takes less effort. When communicating *via* written word, there is more thought involved to ensure clarity and avoid offense regarding sensitive sexual matters. In this regard, Facilitator A said,

...I think when you do post online, I mean, I know... I'm like this, I write, I reread, I reread again because I'm thinking, "how can I say this because I don't want to offend someone." I want it to be really clear what I'm trying to say. (Lines 182-184)

This presented challenges for the online discussion board. It lacked the stimulating exchange of ideas found in the face-to-face program. Facilitator B noted the online discussion were singular comments and not part of an actual discussion. In other words, the comments did not build upon one another. She said,

... I felt that there was a lot of group participation building on each other's questions in the face-to-face. Whereas on the online, they seemed to be really singular questions meaning it was a question from a participant and an answer from the instructor versus the...other peers feeding on to the questions or [asking additional] questions based on a primary question that a peer had asked. (Lines 33-38)

Although the facilitators agreed the discussion board had its challenges with articulating thoughts in writing, Facilitator A thought these challenges may have been beneficial. She felt there was more depth and reflection in the online comments compared to the face-to-face. She said,

... and I think that the online comments were probably more reflective, and also there was a bit more sharing about, "oh yeah, this reminds me of a client of mine." I don't think people are as prepared to do that face to face because they're with their colleagues, and they maybe feel there's confidentiality... So I think [face-to-face and online learning] have different strengths [in terms of] the comments and the quality and the depth and the reflection. Because I think when you're doing an online course, you do need to think really carefully about the words you choose. Whereas I think when you're talking, it's not that you're not mindful of what you're saying, but maybe you're more colloquial... (Facilitator A, Lines 184-191)

Another challenge of the online program was the two week timeframe to complete the program. Both facilitators felt that additional time was needed in order for participants to complete the program. More time was also needed so that the facilitators could have the opportunity to develop relationships with participants, making the experience more meaningful. Facilitator B said,

> *[Two weeks] didn't give us the full opportunity to get to know the participants of the online training... In the past, when I've done online training programs, they've usually been over the course of say a semester or three months. And so during that time you have an opportunity to really engage and relationship build with either a peer or an instructor. Whereas this was a compressed timeframe, so I did notice that we didn't have the opportunity to really develop relationships with those people in the classes.* (Facilitator B, Lines 10-17)

Face-to-Face and Online Comparisons

Table 41 provides a summary and comparison of the strengths and challenges of face-to-face and online facilitation based upon the facilitators' experiences.

Table 41. Strengths and Challenges of Face-to-Face and Online Learning: The Facilitator's Experience

	Face-to-Face	Online
Strengths	• Two facilitators • Interdisciplinary facilitation • Facilitators with a good working relationship • Experienced facilitators • Facilitators that shared responsibility for organizing and developing the content • Real-time feedback • Real-time discussion/communication • May enhance comfort in relation to discussing sexuality	• Two facilitators • Interdisciplinary facilitation • Facilitators' with a good working relationship • Experienced facilitators • Facilitators that shared responsibility for organizing and developing the content • Anonymity associated with online learning may produce an environment conducive to discussing sexuality • Asynchronous nature of online facilitation allows for flexibility and convenience • Online facilitation feels less stressful compared to face-to-face
Challenges	• Six hour timeframe • Face-to-face facilitation feels more stressful compared to online • Physical environment • Group Size	• Two week timeframe • Asynchronous communication

According to the facilitators, there were several strengths the programs had in common as outlined above as well as a common challenge in terms of timeframe. One important strength of the face-to-face program was the opportunity for real-time discussions, feedback and questions and answers. Additionally, the face-to-face provided opportunities for stimulating discussions and enhancing comfort in relation to discussing sexuality. The asynchronous nature of online

learning was advantageous in that it allowed for flexibility to facilitate the program at any time and from anywhere but sacrificed real-time feedback as a result.

Summary

In summary, this chapter presented the findings from phase two of the study. In phase two, face-to-face and online S&RH training/capacity development programs were evaluated. Quantitative and qualitative data were collected from participants regarding learner reactions, cognitive learning (knowledge), affective learning (perceived comfort) and practical use of information. Additionally, the interdisciplinary training program facilitators recounted their experiences facilitating the training programs and were able to identify several strengths and challenges of the respective training programs. In the final chapter of this dissertation, discussion of the findings and conclusions are presented as well as recommendations for practice and research.

CHAPTER 8: DISCUSSION AND RECOMMENDATIONS

This study examines selected outcomes of two capacity development programs, a face-to-face and an online training program, for various service providers that endeavour to protect and promote the sexual and reproductive health (S&RH) of street-involved youth (SIY). Capacity development involves the growth of knowledge, comfort, skills and abilities among service providers and “may include training of staff, providing resources... and developing structures for health promotion planning and evaluation” (Smith et al., 2006, p. 342). The study occurred in two phases: phase one assessed the S&RH learning needs of service providers working with SIY; and phase two explored the effectiveness of two kinds of programs (face-to-face and online) utilized to train service providers to support SIY in addressing their S&RH needs. The findings from phase one were used to inform the development of the face-to-face and online training programs evaluated in phase two.

This chapter discusses and interprets the findings of the study and provides recommendations for research and practice. This chapter is organized into eleven sections: summary of phase one and phase two; learner reaction; cognitive learning (knowledge); affective learning (perceived comfort); use of training; facilitators' experiences; summary of findings related to capacity development; strengths and limitations of the research; recommendations; evidence-based practice and knowledge translation; and significance of the research to public health nursing practice.

Summary of Phase One and Phase Two

In phase one, qualitative data were collected by means of semi-structured, in-depth interviews with six service providers and nine SIY. Phase one answers the research question, "What knowledge do SIY require from service providers to protect and promote their S&RH?"

Three themes emerged from the interviews. First, it is important to have knowledge regarding providing culturally appropriate S&RH services. That is, service providers need to: (a) recognize the strengths of SIY; (b) understand the S&RH challenges of SIY; (c) understand the complex and diverse life circumstances of SIY; and (d) understand the facilitators of S&RH protection and promotion. Second, service providers have to appreciate the importance of: (a) connecting with youth; and (b) connecting youth to community services. Finally, service providers require support to better serve SIY including: (a) the opportunity for capacity development; and (b) accessible tools and resources.

Phase two addresses the following primary question: "Does participation in either an online or face-to-face training experience enhance the capacity of service providers to work with SIY regarding their S&RH?" To collect the data, the primary question was broken down into five secondary questions:

A. How do participants regard either their online or face-to-face training experience (learner reaction)?
B. Do participants experience an increase in cognitive learning (knowledge) after participation in either an online or face-to-face training experience?
C. Do participants experience an increase in affective learning (perceived comfort) after participation in either an online or face-to-face training experience?
D. How do participants reportedly use their training after participation in either an online or face-to-face training experience?
E. How do facilitators of online or face-to-face training approaches evaluate their experiences?

Using a mixed method, quasi-experimental design, phase two explores participants' overall learner reactions to both training programs as well as three outcomes related to capacity development: cognitive learning (knowledge), affective learning (perceived comfort) and practice behaviour (use of training). The assumptions of constructivist learning and the principles of andragogy guide the design and implementation of both the face-to-face and online training programs. These theoretical perspectives focus on creating meaningful learning experiences for participants.

I collected quantitative and qualitative data from training program participants *via* questionnaires at three different times: pre-training (knowledge, comfort); immediate post-training (knowledge, comfort, reaction); and six weeks post-training (knowledge, comfort, behaviour). Besides collecting data from the participants, I explored the experiences of the two facilitators, responsible for both programs. Throughout this phase, the qualitative data clarifies, explains and enriches the quantitative data so as to produce a more complete picture of how the two training approaches respectively develop the capacity of service providers.

Learner Reaction

Question A asks, "*How do participants regard either their online or face-to-face training experience (learner reaction)?*" To address this question, participants completed the Learner Reaction Questionnaire consisting of 16 fixed alternative and five open-ended questions. This section is divided into three parts: summary of findings; discussion; and conclusions.

Summary of Findings

For the face-to-face training program, the 16 items on the Learner Reaction Questionnaire received scores ranging from 4.21 to 4.66 out of five. For the online training program, the scores ranged from 3.79 to 4.68 out of five. Of the 16 quantitative items, there were

statistically significant differences between the two groups for three items only: "My questions were answered;" I was comfortable asking questions;" and "I was comfortable discussing the content." The face-to-face group scored higher for all three items.

In their qualitative responses, participants mentioned several strengths and challenges of their respective training programs. Participants in both groups indicated that the strengths included the breadth and depth of the content, the multiple teaching strategies, the program structure and organization, and the facilitators. Some additional strengths of the face-to-face program included the comfortable learning environment, personal interaction, and the ability to discuss content and ask questions in real-time. Whereas participants believed that the amount of time allotted for the training, the program pace, and the ability to meet the learning needs of participants with varied levels of knowledge were challenges of the face-to-face program. Some additional strengths of the online training included the ability to self direct learning, flexibility in terms of where and when the program was completed, and the user friendliness of the program. While some challenges specific to online learning included discomfort discussing content, access to technology, and difficulties associated with self-directed learning.

Discussion

Overall, the face-to-face and online participants reacted favorably to their respective training programs. Participants in both programs commented positively on the depth and breadth of content. The training program development team made efforts to create a program that addressed the learning needs of the participants through a collaborative planning process. This was done in two ways: first, by interviewing service providers and SIY in phase one and using those findings to guide the training program curriculum (e.g., choice of topics, development of reflective activities); second, by asking program participants what they wanted from their

respective training programs, prior to starting. This provided participants some opportunity to direct their learning while providing the facilitators the opportunity to tailor the program to the learning needs of the group.

Inherent in the assumptions of constructivist learning (Jonessen et al., 1999) and the principles of andragogy (Knowles et al., 2012) is the importance of engaging participants in a collaborative process when planning any educational endeavour. Similarly, experts in the area of S&RH education stress the importance of identifying and addressing the learning needs of the target group (PHAC, 2008; Weerakoon & Stiernborg, 1996). Doing so makes learning more meaningful, relevant, and practical for the participants.

Participants in both programs commented favorably about the facilitators. Both facilitators were extremely knowledgeable about the subject matter, experienced in online and face-to-face learning modalities, passionate about sexual health promotion, and learner centered and supportive in their approach to education. Additionally, through formal and informal discussion and sharing of personal experiences, they attempted to create meaningful interactions with participants. Constructivist learning emphasizes that it is important for facilitators to have a solid knowledge base as well as a wealth of experiences to draw upon (Jonessen et al., 1999). Andragogy underscores the importance of the relational aspects of learning where the facilitator creates a caring, respectful, helpful and supportive learning environment (Merrill et al., 2003).

The choice of educators, according to Kirkpatrick and Kirkpatrick (2009), has critical importance.

> The selection of instructors is critical to the success of a program. Their qualifications should include a knowledge of the subject being taught, a desire to teach, the ability to communicate, and skill at getting people to participate. They should also be "learner

> orientated" – have a strong desire to meet learner needs. (Kirkpatrick & Kirkpatrick, 2009, p. 12)

Paechter, Maier, & Macher (2010) agree. In their study of online university courses, the instructor's “support [was] especially important for [the]construction of knowledge, the acquisition of media competence, and for satisfaction with a course" (p. 227). On this same point, Swan's (2001) study of several post-secondary online courses suggests that when students perceived they had high levels of interaction with their instructors, they reported higher levels of course satisfaction and perceived learning.

The use of multiple instructional techniques produced a positive reaction from those in both training programs. The instructional techniques were informed by constructivist learning assumptions and the principles of andragogy. The instructional techniques aimed to: appeal to different styles of learning; demonstrate that the experiences and expertise each participant brought forth were valued (Dewey, 1938/1997; Knowles et al., 2012; Jonassen et al., 1999); and engage participants in reflection and discussion (Dewey, 1938/1997; Knowles et al., 2012; Jonassen et al., 1999) while providing valuable information. In order to achieve their aims, the facilitators intentionally chose, as their pedagogical strategy, a facilitation rather than a presentation style. Garrison and Anderson (2003) state effective education entails doing so.

> The presentational approach to teaching is highly prescriptive and is exemplified by the large lecture... The presentational approach is inherently a one-way transmission of information... Effective presentation depends on organization, clarity, and enthusiasm... the missing element in a presentation approach is interaction or the critical discourse... In contrast the facilitation approach to teaching is based on the ideal of a community of learners... Effective facilitation may include presentation characteristics, but these must be balanced with flexibility, a supportive climate, and critical discourse... (p. 17).

Garrison and Anderson (2003) contend that any successful learning experience, whether face-to-face or online, is largely dependent on generating a learning space that can facilitate valuable and meaningful activities and outcomes while motivating participants to learn. The facilitator that has the "…wisdom to create purposeful yet creative learning experiences with a balance between reflection and discourse" is the essential ingredient (Garrison, 2011, p.19).

Face-to-face participants found the limited amount of time allotted (six hours in one day) for the training program challenging. They found the pacing negatively impacted on their ability to reflect upon and digest the material. Other studies evaluating face-to-face learning have noted this issue, as well (Meyer, 2003; Qiu & McDougall, 2013). In a Canadian study comparing face-to-face and online discussions of post-secondary education, face-to-face participants felt that the limited timeframe associated with face-to-face discussions, inhibited their ability to produce high quality, reflective contributions to the discussion (Qiu & McDougall, 2013).

Much of the responsibility and control regarding program pacing as well as the selection of content and activities falls on the shoulders of the facilitators in a face-to-face program. The facilitators usually make a best guess in addressing the needs of the entire group. In the present study, the facilitators took a learner centered approach to teaching; they answered questions as they arose; and engaged participants in discourse. Answering questions and discussing issues took time away from presenting content or participating in other planned activities (e.g., they omitted a case example due to a lack of time). Although this approach addressed the needs of most participants, it did not meet the needs of *all* participants. In fact, a few participants found the training too basic and not interactive enough.

Conversely, in an online training program, once the program goes live, the facilitator gives up some responsibility and control, and it is up to the participant to assume it and direct

their own learning (Canadian Council on Learning, 2009; Garrison, 2011; Murray, 2001). Online participants commented favorably about the self-directed nature of the program. In their open ended responses, some participants stated they chose to concentrate on, skim through, skip or review certain sections of the program, depending on their self identified learning needs. The online modality provided the freedom to focus on personal learning needs, but it also encouraged reflection on self-selected materials. In this regard, it is noteworthy that although the online program could be completed in about six hours, participants on average reportedly spent 6.87 hours on the training program, with 33.30% spending less than six hours, and 36.70% spending more than six hours. Participants certainly capitalized on the autonomy and flexibility offered by online learning.

The fact that online learning promotes learner control over learning (Canadian Council on Learning, 2009; Fishman et al., 2013; Glogowska et al., 2011; Murray, 2001) and self-directed learning (Canadian Council on Learning, 2009; Fishman et al., 2013; Murray, 2001) is documented in the literature. Fishman and colleagues (2013) examined the outcomes of face-to-face and online learning with regards to the professional development of teachers. The researchers expected that online participants would devote 20 hours to their learning over a period of "several months." Online participants reportedly spent from 3 to 52 hours on their learning. The researchers examined if the amount of time devoted to learning impacted learner achievement. There was not a statistically significant association between the amount of time spent on learning and learner achievement. The authors concluded that those who finished the online professional development quicker needed less time to gain benefit from the materials (Fishman et al., 2013).

The flexible nature of online learning promotes time to think and reflect (Meyer, 2003; Qiu & McDougall, 2013). In post-secondary studies comparing face-to-face and online discussions, participants noted that the online modality provided the opportunity to reflect prior to posting a response (Meyer, 2003; Qiu & McDougall, 2013). This led to contributions of greater depth and of higher quality (Qiu & McDougall, 2013).

The current study found that although many online participants found the self-directedness a strength of the program, some found it a challenge. Self-directed learning requires that participants are responsible for their learning (Garrison, 2011); however, not all learners are ready or interested in assuming such responsibility. Although self directed learning is empowering for some participants, it is frightening for others (Johnson, 2005).

Some research suggests that online learning supports social learning because of the nature of asynchronous online discussions (Swan, 2003). With online discussions, no one participant can dominate the discussion, and all participants have a voice, making online discussions more democratic and equitable compared to face-to-face discussions (Qui & McDougall, 2013; Swan, 2003). In terms of S&RH education, McKee and colleagues suggest that online learning provides a venue for safe and anonymous discussions regarding S&RH. As a result, online learners may feel more comfortable discussing sexual issues (Weerakoon, 2003). In the present study, however, the online group rated their comfort in asking questions and discussing content lower than the face-to-face group. In their open ended responses, participants reported that although they enjoyed reading the discussion board responses and learned from them, they experienced some discomfort participating in the discussion or asking questions. Conversely, face-to-face participants found that in their program, a comfortable and safe learning environment was created. The literature on social presence can provide some insight into these findings.

Social presence is the ability of individuals to "…identify with a group, communicate purposefully in a trusting environment, and develop personal and affective relationships progressively by way of projecting their individual personalities" (Garrison, 2011, p. 23). Social presence can prove challenging when communicating in written word because it does not have a sense of "immediacy," which refers to communication behaviours that promote psychological closeness to others (Garrison & Anderson, 2003; Swan, 2002; Woods & Baker, 2004). In a face-to-face learning environment, facilitators can use verbal and nonverbal behaviours to enhance immediacy. Immediacy promotes a secure and supportive learning environment (Garrison, 2011, p. 23). Given the short time frame of six hours over the course of two weeks and the absence of verbal and nonverbal cues, social presence would likely be kept to a minimum.

Another factor influencing comfort participating in the online discussion, and also related to social presence, was the challenge of communicating thoughts *via* the written word. One of the online discussions entailed presenting personal values and beliefs as well as challenging assumptions. Without the advantage of verbal or nonverbal cues, some online participants said they feared offending others or being judged regarding their opinions and thoughts. In a study by Meyer (2003), participants noted the challenges of articulating their thoughts in written word and the amount of time and care it took to craft online postings in order to ensure they were appropriate and accurate. It was noted that one needs to be a good writer in order to convey thoughts clearly and the lack of nonverbal gestures can make communication challenging. Although the challenge of written communication is important to note, this challenge can actually produce an advantage in terms of learning because more time, thought, and reflection goes into the responses (Garrison, 2011; Johnson, 2005).

Ultimately, some participants stated that the online training program would be enhanced if there was the opportunity to follow-up online learning with a face-to-face discussion regarding some of the challenging topics. The idea has support. In a recent blended learning mixed methods study of health providers, participants valued the opportunity to follow-up the online conversations with face-to-face discussions (Glogowska et al., 2011).

Participants, for the most part, found the online program user friendly contributing to a positive learning experience. The program development team did not know how much experience participants had with online learning. It was assumed that most participants had a basic computer literacy but little experience with the Blackboard Learning System. Therefore the program development team developed a "Blackboard Instructions for User" document, containing screenshots of the Blackboard site with typed instructions regarding how to log-on, access documents, and participate on the discussion board. The team also provided tips regarding how to troubleshoot technology problems (e.g., if a link would not open). The literature supports this approach. Several studies address the importance of providing participants with clear expectations and anticipatory guidance when it comes to online learning (Herman & Banister, 2007; Glogowska et al., 2011; Zsohar & Smith). Zsohar & Smith (2008) state that online courses should be "frontloaded," meaning preparing participants about what to expect, and describing the skills needed to ensure success with online learning. This can help to decrease anxiety while increasing the participant's sense of self-efficacy to be successful with online learning (Herman & Banister, 2007). Nevertheless, some problems arose, which were out of the control of the program development team (e.g., some participants did not have regular access to a computer).

Conclusions

Overall, face-to-face and online training program participants had a positive learning experience. Using a learner centered approach, having strong facilitators, using multiple learning techniques, and creating content that addressed the learning needs of the participants (as guided by constructivist learning and andragogy) assisted in doing so. Both learning modalities have inherent strengths and challenges; therefore, it is important to highlight the best features of each modality.

The findings also suggest that face-to-face participants experienced more comfort discussing issues related to S&RH during the training program. However, any differences should be interpreted with caution since the non-random sampling method did not produce groups similar in characteristics. For example, there were significant differences between the groups in terms of gender, highest level of education completed and occupation.

Cognitive Learning (Knowledge)

Question B asks, *"Do participants experience an increase in cognitive learning (knowledge) after participation in either an online or face-to-face training experience?"* To measure cognitive learning, participants completed the Knowledge about S&RH Questionnaire, three times, which measured knowledge about seven different S&RH topics. This section is divided into three parts: summary of findings; discussion; and conclusions.

Summary of the Findings

In the face-to-face training program, participants demonstrated a statistically significant increase in cognitive learning for all topics between time 1 (pre-test) and time 2 (immediate post-test) and between time 1 and time 3 (six week post-test). However, there was a statistically significant decrease in knowledge between time 2 and time 3 for five out of seven topics.

For the online training program, participants demonstrated a statistically significant increase in learning for all but one topic between time 1 (pre-test) and time 2 (immediate post-test) and between time 1 and time 3 (six week post-test). For the topic of community resources, there was a statistically significant increase in knowledge between time 1 and time 2 only. Also, there was a statistically significant decrease in knowledge between time 2 and time 3 for two out of seven topics.

Six weeks after completing the training program, face-to-face and online participants shared their reflections on what they learned. In their written responses, both groups made the same observations. That is they gained knowledge regarding the S&RH topics and communication strategies, and they experienced a shift in their approach/attitude toward addressing S&RH with clients. It is worth noting that some participants corroborated the quantitative data by indicating that they had forgotten some information from their training programs.

Discussion

Training participants in both groups experienced a statistically significant increase in knowledge for all seven topics between time 1 and time 2, suggesting short term knowledge gain. When comparing time 1 and time 3, the face-to-face participants demonstrated a statistically significant increase in knowledge for all seven topics; whereas the online participants demonstrated an increase for six topics, suggesting somewhat similar knowledge retention. Regarding the topic of community resources, online participants did not demonstrate a statistically significant increase in knowledge between time 1 and time 3. This is not surprising given that they had a high baseline knowledge (ceiling effect) for the topic compared to the face-to-face group. Online participants scored 81.67%, 95.33%, and 92.00% at time 1, time 2, and

time 3 respectively compared to 51.33%, 84.67%, and 77.33% respectively for face-to-face participants.

Both face-to-face and online groups experienced some loss in retention of knowledge, which is expected with any educational endeavour. Although both groups experienced a significant increase in knowledge between time 1 and time 3 for the majority of topics (seven for face-to-face, six for online), face-to-face participants experienced a statistically significant decrease in knowledge for five of the seven topics between time 2 and time 3; whereas the online group experienced a statistically significant decrease in knowledge for two of the seven topics. This suggests the online program had greater success in terms of knowledge retention. When revisiting the learner reaction data, some participants said the online modality gave them the opportunity to focus on, revisit, and reflect on the material. Whereas some of the face-to-face participants mentioned they did not have time to digest the information. That being said, this finding should be interpreted with caution, since the non-random sampling produced groups that were different.

The ability for a face-to-face S&RH training program to improve participant knowledge is consistent with the findings of other research. For example, Walker and colleagues (2003) investigated the effectiveness of a five day teacher workshop to deliver high quality sexual and relationship education. Their findings suggest an increase in knowledge as a result of the training program. Higgins and colleagues (2012) developed a one day training program for an interdisciplinary group regarding sexuality and physical disability. Comparisons of pre-test and post-test scores suggest an increase in perceived knowledge. In a Canadian study by Hay and colleagues (1996), the effectiveness of a two day sexuality workshop for a group of

interdisciplinary undergraduate students was investigated. Their results suggested participants experienced an increase in knowledge as a result of the training program.

The ability for an online S&RH training program to improve participant knowledge is also consistent with the findings of other research. For example, Gonzalez-Acquero (2006) investigated the effectiveness of two different types of 10 hour online sexuality education and mental differing abilities workshops on teachers' attitudes, knowledge, and self-efficacy beliefs. The findings showed that teachers in both experimental online groups scored significantly higher on knowledge measures compared to the control group upon immediate completion of the workshop.

The current study makes another important point. It concerns the general level of knowledge that providers have about S&RH. In this study, the pre-test knowledge scores for the face-to-face group ranged from 48.78% to 58.60% (an overall average of 51.99%) across the seven topics. Whereas the pre-test knowledge scores for the online group ranged from 61.57% to 81.67% (an overall average of 70.59%) across the seven topics. This finding supports the need for S&RH training of service providers. Other studies have made similar observations. For example, in Habouri and Lincoln's (2003) study of over 800 multiple discipline health professionals, 94% appeared reluctant to address sexuality with clients, and 86% indicated they lacked the appropriate training to do so. In Westwood and Mullan's (2006) qualitative study of school nurses, the results suggested participants felt they had inadequate knowledge regarding STIs and lacked the confidence and resources to educate about sexuality. Finally, in a Canadian qualitative study of teachers, the majority of teachers interviewed said that teachers are not prepared to address the topic of sexuality in the classroom; yet the onus is on them to develop the necessary knowledge and skills to deliver the program (Bickerton & DeRoche, 2005).

In the current study, through their open ended responses, participants articulated their perceived learning. Participants in both groups thought that they gained knowledge about various sexual health topics, but they also believed they better understood how to deal with SIY in a culturally appropriate manner (e.g., using inclusive language, and approaching clients without bias, assumption or judgment). The Canadian Guidelines for Sexual Health Education (PHAC, 2008) emphasizes the importance of having the capacity to address S&RH in a sensitive, positive, and nonjudgmental manner. It also stresses the importance of understanding the diverse beliefs, values, and cultural norms of specific populations as they pertain to human sexuality. It discusses the importance of challenging personal biases and assumptions related to sexuality (PHAC, 2008). These recommendations are important in practice. According to Marshall (2008), factors precluding SIY from accessing health services include "discrimination or oppression" from service providers, heterosexist cultures, or service providers not supportive of sexual minorities (p. 794).

Conclusions

The findings suggest that the face-to-face and online training programs increased S&RH knowledge immediately after training and six weeks later. The findings also suggest that service providers working with SIY need S&RH training. Although the findings may suggest that the online participants had better knowledge retention, such a finding comes with caution because the non-random sampling method did not produce groups with similar characteristics.

Affective Learning (Comfort)

Question C poses, *"Do participants experience an increase in affective learning (perceived comfort) after participation in either an online or face-to-face training experience?"* Specific to this research, affective learning refers to the development of comfort in discussing

S&RH topics with SIY. To measure affective learning, participants completed the Perceived Comfort Questionnaire, three times. The questionnaire measured comfort about 11 different S&RH topics.

Summary of the Findings

The comfort outcomes for the face-to-face group varied for different topics. Analysis indicated no statistically significant changes in perceived comfort between time 1 (pre-test) and time 2 (immediate post-test) and time 1 and time 3 (six week post-test) regarding three topics. For seven topics, there was a statistically significant increase in perceived comfort between time 1 and time 2; however, there was not a statistically significant increase between time 1 and time 3. There was only one topic (sexual health services) that had a statistically significant increase in perceived comfort between both time 1 and time 2 and time 1 and time 3.

For the online group, analysis showed statistically significant increases in the perceived comfort level for all topics in comparing the test result means of time 1 to time 2 and time 1 to time 3. Furthermore, there were no statistically significant decreases in perceived comfort levels for any of the topics when comparing the means of time 2 and time 3.

Discussion

For the face-to-face group, the findings suggest that comfort related to the majority of the S&RH topics only increased short-term, as a result of the training program. For the online group, the findings suggest that comfort increased both short-term and long term as a result of the training program. Additionally, for the online group, there were no decreases in perceived comfort between time 2 and time 3, suggesting that comfort was sustained.

In comparing the comfort scores between the two groups, there were four topics in which the scores were *not* significantly different at time 1, but were for time 3 (the online group having

higher score). This, as well as the aforementioned findings, suggests the online program had greater success in terms of increasing perceived comfort and sustaining it. Once again, the learner reaction data, discussed earlier, could provide an explanation. Some participants said the online modality gave them the opportunity to revisit and reflect upon the content. Conversely, some of the face-to-face participants mentioned they did not have time to digest the information. That being said, these findings should be interpreted with caution since the non-random sampling method produced groups that were different.

The fact that face-to-face participants experienced a self reported increase in comfort immediately after the training program is consistent with other findings. Lokanc-Diluzio and colleagues (2007) conducted an evaluation of six hour face-to-face teacher in-services developed and facilitated by Alberta Health Services. Analysis of pre- and post in-service data suggested self-reported increases in perceived comfort to address the sexuality curriculum with students. Additionally, in a study by Levenson-Gingiss & Hamilton (1989), teachers reported an increase in level of comfort with sexuality content after a 40 hour workshop. Finally, in a study by Higgins and colleagues (2012), the findings suggested an increase in perceived comfort after a one day training program on sexuality and physical disability.

The fact that online participants experienced a self reported increase in comfort immediately after the training program agrees with other findings. Weerakoon and colleagues (2008) studied the effect of a 13 week post secondary elective on sexual health for a group of allied health professional students. The results suggested significant increases in comfort related to a variety of sexuality related situations (e.g., comfort answering questions on matters related to sexuality; comfort asking clients about sexual practices).

In the present study, the baseline mean scores for comfort for the face-to-face group ranged from 3.22 to 4.37 across the 11 topics, averaging 3.84; whereas the baseline mean scores for the online group ranged from 2.93 to 4.10, averaging 3.54. In the context of this study, the numbers equate to a comfort level of "somewhat comfortable" to "comfortable." Although the baseline scores are above average, there is room for improvement. A qualitative study of Nova Scotia teachers, explored the comfort level of teachers delivering the sexuality curriculum. Although all of the teachers eventually reached a level of comfort, many noted discomfort, especially in their first year. The participants noted that one's level of comfort with sexuality topics impacts on their ability to cover the sexuality curriculum and whether or not they are successful in doing so (Bickerton & DeRoche, 2005). Furthermore, in a study of Canadian students in grades 6-8, students who perceived their teachers as comfortable talking about S&RH also reported higher quality sexual health education (Byers, Sears, & Foster, 2013).

Conclusions

The findings from this research suggests that the face-to-face training program increased S&RH comfort immediately after training; but did not succeed in sustaining that comfort six weeks later. The findings also suggest that the online training program increased S&RH comfort immediately after training and six weeks later. Finally, the findings suggest that service providers need S&RH training to improve their level of comfort addressing S&RH with SIY. Although it appears that the online training program proved more effective at increasing levels of comfort than the face-to-face program, this cannot be presumed due to the non-random sampling method.

Use of the Training

Question D asks, *"How do participants reportedly use their training after participation in either an online or face-to-face training experience?"* To address the question, participants completed the Training Follow-Up Questionnaire six weeks after the training program. The questionnaire includes fixed alternative and open ended questions. This section is divided into three parts: summary of findings; discussion; and conclusions.

Summary of the Findings

Six weeks after the training, 46.42% (n = 13) of face-to-face and 72.41% (n = 21) of online participants reportedly used the information gained in the programs. Both groups said they used it with clients or for use in their personal lives. In addition, online participants reported they also shared the information with colleagues. The majority of participants that had not used the information had not had the opportunity to do so, and some said addressing S&RH was not their primary role as a professional. Analysis indicated no significant difference between the groups.

Nearly 86% (n = 24) of the participants completing the face-to-face training program and 97% (n = 28) completing the online training program considered the training worthwhile. They offered three principal reasons: they experienced cognitive learning (knowledge); they experienced affective learning (comfort); and the learning would benefit their clients. Approximately 14% (n=4) of the face-to-face participants questioned whether the training program was worth their time and effort. Some of their reasons included: the information was already known; it was not the participants' role to address S&RH issues with youth; and the specifics about the training program were not remembered. One (3.4%) online participant said the training was not worth her time and effort because it is not her role to address sexuality with

clients. In terms of worthwhile use of time and effort, there was not a statistically significant difference between the groups.

Finally, participants rated the usefulness of the training program for the work they do on a five point Likert scale, ranging from poor to excellent. The mean score for the face-to-face group was 3.96, whereas the mean score for the online group was 4.30. There was not a statistically significant difference between the groups.

Discussion

Six weeks after the training program, 59.64% (n = 34) of all participants reportedly used the training program information in some capacity. Although some had used the information for personal use, the majority used it in their professional capacity. Additionally, approximately 91.2% (n = 52) of all participants said the training program was worth their time and effort. These data speak to two important points. First, the content of both training programs seemed relevant to the work of participants. Second, the majority of participants felt they needed the training.

Four (7.02%) of all participants questioned whether the training proved worthwhile, and one (1.75%) of all participants did not believe that the training was worthwhile. Some of these participants explained that addressing sexuality with youth is not their role. As well, some of those who said they did not use the information also said they did not use the information because it was not their role. Although this is a small number of participants, it brings up an important point. If it is not their role, then whose role is it?

According to the Canadian Guidelines for Sexual Health Education (PHAC, 2008), sexual health education is an interdisciplinary responsibility. PHAC states, “sexual health education is a broadly based, community-supported activity that requires full participation of the

educational, medical, public health, social welfare and legal systems in our society" (p. 5). Most youth receive S&RH education in their home and/or school. High risk youth, such as SIY, lack these resources because many drop out of school or have no contact with their parents (PHAC, 2008). Therefore, it is important that those who provide direct services to high risk youth outside of traditional school settings have the ability to address their S&RH concerns, or at the very least, refer them to somebody who can (PHAC, 2008).

The fact that some people participated in the training programs, yet reported it was not their role to address S&RH with their clients, leads to question their motivation for participation. Knowles and colleagues (2012) underscore the importance of understanding participants' motivation to attend a training program. This was not addressed in this study.

Conclusions

The findings suggest that the face-to-face and online training programs proved useful to participants. The findings also suggest that if participants do not feel it is their role to address S&RH with their clients, they have little reason to use the information, and they likely will not perceive the program worthwhile.

Facilitators' Experiences

Lastly, research question "E" asks: "*How do facilitators of online or face-to-face training approaches evaluate their experiences*?" After designing and implementing both programs, the two facilitators provided their respective evaluations. Each did so in an in-depth interview.

Summary of the Findings

Although interviewed separately, the facilitators largely identified the same strengths and challenges of both programs. Both programs, they stated, benefitted from having two facilitators with shared responsibility for organizing and developing the content, from different disciplines,

with a good working relationship, and some firsthand experience with both learning modalities. Additional strengths of the face-to-face program included that it took place in real-time and provided immediate feedback and the opportunity for real-time discussion or communication. The online program had other strengths: it allowed facilitators flexibility; and was less stressful. The facilitators identified some challenges of the face-to-face facilitation experience, such as stress and the rushed timeframe. Online learning had different challenges such as asynchronous communication and the two week timeframe to complete the program.

Discussion

Overall, the facilitators had a positive experience with each training program. Several strengths and challenges noted by the training program participants were also noted by the facilitators. Just as the real-time discussion and feedback appealed to the face-to-face participants, it also appealed to the facilitators. Just as the flexibility of online learning appealed to the online participants, it appealed to the facilitators. Just as the rushed pace challenged face-to-face participants, it challenged the facilitators. Just as communication challenged online participants, it challenged the facilitators. Other research comparing face-to-face and online learning also show that facilitators experience similar strengths and challenges as participants (Meyer, 2003; Qiu & McDougall, 2013).

A strength of both training programs mentioned by the facilitators but not mentioned by the participants was that the training programs were facilitated by an interdisciplinary team of professionals. Because sexual health education and service delivery is the responsibility of multiple disciplines and sectors, any training program on the topic, should benefit from facilitators of multiple disciplines. Furthermore, in today's health services, education, and research climates, teamwork that includes multiple disciplines is emphasized (Choi & Pak,

2006). Different disciplines are trained to address different aspects of health. Bringing different disciplines together to highlight their perspectives and experience related to S&RH provides a more complete picture for the training participants (Newhouse & Spring, 2010).

Conclusions

Overall, the facilitators regarded their experiences of facilitating face-to-face and online training programs as positive. They noted several strengths and challenges of the programs, many of which were similar to those identified by participants.

Summary of Findings Related to Capacity Development

Phase two began with one question, *"Does participation in either an online or face-to-face training experience enhance the capacity of service providers to work with SIY regarding their S&RH?"* Based on the findings of this study, it can be answered. Overall, the mixed methods data from the face-to-face training program suggest: (a) face-to-face participants had a positive learning experience; (b) face-to-face participants experienced an increase in knowledge immediately after the training and six weeks later; (c) face-to-face participants experienced an increase in perceived comfort immediately after the training; and (d) six weeks after the training, nearly half of the participants had used their knowledge and the majority of the participants felt the information was useful for their work.

Similarly, quantitative and qualitative data from the online training program suggest: (a) online participants had a positive learning experience; (b) online participants experienced an increase in knowledge immediately after the training and six weeks later; (c) online participants experienced an increase in perceived comfort immediately after the training and six weeks later; and (d) six weeks after the training, nearly three-quarters of the participants had used their knowledge, and the majority of the participants found the information useful for their work.

These findings suggest at least a short term enhancement of capacity development with service providers. Although the findings suggest an overall success of both programs, we cannot assume the long-term duration of any changes. Barratt (2008) maintains,

> ...we need to recognize that the effectiveness of brief [S&RH] interventions of any sort... is almost certainly cumulative. It is unlikely that a single... workshop, in of itself, "life changing," but if that workshop is part of a pattern of ongoing participation in similar programs, then the claim may be more justifiable. (p. 338)

This underscores the importance of the learner reaction and facilitator experience data. The data identify a number of strengths and challenges of the respective training programs. Overall, participants appeared to have a positive learning experience, and as a result of the feedback, some modifications to the programs seem advisable. Certainly, the favorable reactions of participants to both learning experiences indicate that they have good reasons to participate in ongoing S&RH training.

Strengths and Limitations of the Research

This research benefitted by collecting both quantitative and qualitative data. Both methods have their critics: qualitative methods for lacking objectivity and generalizability (Johnson & Onwuegbuzie, 2004); quantitative methods for lacking rich, detailed contextual data (Johnson & Onwuegbuzie, 2004). Mixed methods combine the strengths of each method while minimizing the weaknesses. Although the quantitative methods had a prominent place in this study, the qualitative data amplified on the quantitative findings so a more complete picture was created. In most cases, the qualitative and quantitative data supported one another, increasing the integrity of the findings.

The limitations of this research require discussion. First, a convenience sample was used, and the participants were not randomly assigned into groups. As a result, the composition of the

face-to-face and online groups did differ with statistical significance in terms of the following characteristics: years of experience working with SIY; occupation; and level of education. For example, the online participants had on average approximately five years less experience working with SIY; the occupation of approximately 69% of online participants were nurses versus 0% of face-to-face participants whereas approximately 41% of face-to-face participants were teachers versus 0% of online participants; and nearly 83% of online participants had a Bachelor's degree or higher versus nearly 68% of face-to-face participants. For this reason, any outcome differences between the groups should be interpreted with caution. Second, Tian and colleagues (2007) recommend that training programs are evaluated after a twelve month period to determine the effects of the intervention and establish whether or not they are sustainable. Due to time constraints, a 12-month post training evaluation was not feasible. Third, due to the small sample size, the generalizability of the findings are limited. Fourth, data related to reaction, affective learning and use of training are based on self-report data, which can produce social desirability bias. Fifth, the project investigates cognitive learning, affective learning, and use by the *service provider*. It is unknown if the positive effects from the training programs translated to positive S&RH outcomes for SIY. Finally, due to the uniqueness of the training program, there were no available measures capturing all the intervention outcomes. I attempted to offset this limitation by: (a) finding data collection tools which could be adapted; (b) collecting both qualitative and quantitative forms of data; and (c) pilot testing, validating, and running reliability tests on the adapted data collection tools. The reliability scores for the Perceived Comfort Questionnaire and Learner Reaction Questionnaire were adequate. However, for the Knowledge about Sexual and Reproductive Health Questionnaire, some of the Cronbach's alphas were below .70. Although a low alpha can be due to a weak correlation between items, it can also be a

result of a small number of items (Tavakol & Dennick, 2011). Four of the knowledge topics tested for reliability had seven or less items.

Recommendations

There are several recommendations that stem from this research. They pertain to both practice and future research.

Recommendations for Practice

As a result of this research, there are several recommendations for practitioners responsible for developing and implementing sexual health training programs. This section is organized into three parts: recommendations for all training programs; recommendations for face-to-face training programs; and recommendations for online training programs.

Recommendations for all Training Programs

To follow are seven recommendations for training program development, regardless of the training modality.

1. *Seize the opportunity for S&RH training.* Agencies have limited time and budgets for professional development. It is important to offer ongoing training that gives participants the opportunity to refresh and update their knowledge and skills regularly (PHAC, 2008). Alberta Health Services, Sexual and Reproductive Health should continue to provide leadership in supporting agencies that support SIY. This includes: regular training offerings in both modalities; continuous updating of materials and resources; and effective partnerships with SIY servicing agencies to encourage regular participation in such training programs.

2. *Use an appropriate learning theory to inform training program development and implementation.* The assumptions of constructivist learning (Jonassen et al., 1999; Jonassen, 1999; Dewey, 1938/1997) and the principles of andragogy (Knowles et al., 2012) were used to

inform the training program development for this study as they are appropriate for both face-to-face and online learning with adult learners. However, facilitators focusing solely on online learning could choose an e-learning model, such as the Community of Inquiry Model, which reflects a "collaborative constructivist view of teaching and learning" (Garrison, 2011, p. 9).

3. *Use strong facilitators.* The current study and other research underscores the importance of having facilitators knowledgeable about the content and skillful in the chosen learning modality (Garrison, 2011; Kirkpatrick & Kirkpatrick, 2009). Every educational endeavour "demands the experience and insight of a reflective and knowledgeable [facilitator] who can translate principles and guidelines to contingencies and exigencies of their unique contexts" (Garrison, 2011, p. 5). An interdisciplinary pair of facilitators is ideal, as it provides participants with an understanding of S&RH from different disciplinary lenses.

4. *Use a blended learning model.* Face-to-face and online learning modalities each have inherent strengths and challenges. Research suggests that blended learning is ideal, when it is feasible (Akyol & Garrison, 2011; Garrison, 2011; Sitzmann et al., 2006).The strength of blending face-to-face and online learning is that it acknowledges the individual preferences and advantages associated with each learning modality (Garrison, 2011). Completing some parts of the program online would provide the opportunity for self-direction and reflection. Completing some aspects face-to-face would provide the opportunity for connection and discussion with others. Not only do different learning modalities have strengths and challenges, so do individuals (Meyer, 20013). Those who: learn or process information by speaking; like the give and take of conversing (Meyer, 2003); or feel challenged by writing, could feel at a disadvantage in an online learning environment (Meyer, 2003). On the other hand, those needing self-reflection to

learn (Meyer, 2003), or are shy to speak in a group, could feel at a disadvantage in a face-to-face learning environment.

5. *Collaborative program planning.* Constructivist learning (Jonassen, 1999), andragogy (Knowles et al., 2012) and the S&RH education literature (PHAC, 2008; Weerakoon & Steirnborg, 1996) underscore the importance of collaborative program planning. Planning the training program in collaboration with participants is important for two reasons: first, it helps to create a program that is relevant and meaningful to the participants; and second it is an opportunity to acknowledge and build upon the knowledge and previous experiences of participants. In this study, in-depth interviews were conducted with participants. However, in-depth interviews are time consuming; therefore another option is to send out a questionnaire.

6. *Use multiple learning techniques.* Whether face-to-face or online, the use of multiple learning strategies is paramount as different learning techniques appeal to different types of learners. Constructivist learning (Jonassen, 1999) and andragogy (Knowles et al., 2012) support activities that: promote discussion; promote sharing of experiences; are interactive; are contextual; are anchored in the real world; unearth biases; promote problem solving; and are reflective. Specific learning methods can include reflective activities, quizzes, problem solving activities, small or large group discussion, short videos, demonstrations, presentations, and case examples.

7. *Make learning engaging, interesting and enjoyable.* Both constructivist learning (Dewey, 1938/1997; Jonassen, 1999) and andragogy (Knowles, 2012) underscore the importance of experience, when it comes to learning. This not only means that it is important to share and learn from others' experiences; it means it is important to create a positive learning experience.

Providing participants with a positive experience also encourages their participation in future training opportunities.

<u>Specific Recommendations for Face-to-Face Training Programs</u>

There are three additional recommendations for face-to-face training programs.

1. *Highlight the best features of the face-to-face modality.* This study and other research suggests that from the learner's perspective, real-time discussion (Meyer, 2003; Qiu & McDougall, 2013), personal interaction (Qiu & McDougall, 2013), and immediacy (Meyer, 2003) represent important strengths of face-to-face learning. Additionally, in this study, the facilitators mentioned they felt a sense of validation when participants engaged in discussion, shared personal experiences, or laughed at comical media clips. It is important that these strengths of face-to-face learning are highlighted so participants get the most out of their respective experiences. It is also important to acknowledge that certain topics (Glogowska et al., 2011) or activities could be better suited for a face-to-face training program versus an online (e.g., visual demonstrations, brainstorming, and topics where enthusiasm and energy can contribute to a successful discussion) (Meyer, 2003).

2. *Provide pre-training reading.* When facilitating a diverse group of learners with varying levels of knowledge and experience, one option is to provide a pre-training package of reading including some basic concepts related to S&RH (e.g., anatomy and physiology review; early pregnancy awareness). This would allow more complicated or sensitive issues for the training program.

3. *Consider an optimal training program schedule.* When determining the schedule for the training program, it is important to consider the participants, their supervisors/managers and the "best conditions for learning" (Kirkpatrick & Kirkpatrick, 2009, p. 11). The face-to-face training

program took place over six hours in one day. Providing the session over one day did not allow participants the opportunity to digest and reflect upon the information. In retrospect, it seems beneficial to provide two half day sessions, for example, over a two to four week period as the passage of time appears to be critical to thinking and learning (Meyer, 2003).

Specific Recommendations for Online Training Programs

There are five additional recommendations for online training programs.

1. *Highlight the best features of the online modality.* Self directed learning, flexibility, as well as learner autonomy and control are strengths of online learning (Canadian Council on Learning, 2009; Fishman et al., 2013; Glogowska et al., 2011; Murray, 2001) and values of constructivist learning (Jonassen, 1999; Dewey, 1938/1997) and andragogy (Knowles et al., 2012). It is important that the learners know they can take control of their learning. It is important to give options to participants. For example, online program participants had the option to look at a PowerPoint presentation or watch an Adobe Presenter presentation. Additionally, they had the opportunity to explore recommended websites or access online resources. It is important to encourage participants to make the program work for them. Another strength of online learning is the access to media such as television, movies or videos through the internet. The use of these media should be purposeful. Finally, the ability to reflect and deliberate on topics using an asynchronous discussion board is also a strength (Meyer, 2003; Qui & McDougall, 2013). It is important to create opportunities for discussion and encourage learner participation.

2. *Provide a sufficient timeframe.* The participants said a two week timeframe to complete the online training program was insufficient. Therefore, another recommendation is to provide a four week timeframe. It is important to find the optimal amount of time. If too much time is

given, people may procrastinate or forget about the task at hand; if not enough time is given participants may not have time to complete the work or establish a sense of connectivity to other learners and the facilitators (Johnson, 2005).

3. *Enhance social presence.* Facilitators can enhance social presence online by posting a video introduction. Additionally, they can arrange online office hours when they are available to answer questions or have discussions in real-time. Social presence can also be enhanced by using emoticons or icons that express emotion, "the contrived sideways faces that can be made by combinations of punctuation marks, and parenthetical metalinguistic cues such as 'hmmm' or 'yuck.' Such cues add affective information, contextualize the message, and indicate informality" (Gunawardena & Zittle, 1997, p. 10). Social presence can also be enhanced through group video conferencing *via* Skype. Finally, an additional factor, which can enhance social presence is the example set by the facilitator. The facilitator should role model suitable messages and replies in order to make participants feel welcome (Garrison, 2011).

4. *Prepare participants for online learning.* Although most participants have experience using computers, some likely require information about the use of learning platforms, such as the Blackboard Learning System or Moodle. If these platforms are used, it is important to provide anticipatory guidance. It is also important to provide clear expectations and instructions for online learning (Glogowska et al., 2011; Herman & Banister, 2007; Zsohar & Smith, 2008).

5. *Find a balance between structure and flexibility.* Although flexibility appeals to online learners, it still requires some structure. Structure helps to keep participants on track and moving through the content. One way to provide structure is to break down the content into small chunks, with related meaningful tasks (Johnson, 2005).

Recommendations for Research

The main recommendations for research are: to conduct *more* S&RH training program outcomes research; and engage youth throughout the research process. There is a dearth of research, Canadian and international, on S&RH training programs for providers. In this regard Barratt (2008) states,

> There is every reason to believe that brief group interventions in the field of sexual health are one of the most effective and practical modalities available. Yet the research supporting this contention is, on the one side, anecdotally rich; on the other side, it is embarrassingly scarce. We need to design and implement better outcome studies to justify the important work achieved by sexuality professionals... (p. 338)

The lack of research could be due to the fact that many public health professionals and educators responsible for S&RH training lack the time, knowledge, and skills to design a study or publish results. It is therefore imperative that those working in the community forge relationships with academics interested in this area of research. Other recommendations include: replicating this study with some modifications to the Knowledge about Sexual and Reproductive Health Questionnaire; replicating this study utilizing a random sampling method; investigating the outcomes of a blended learning S&RH training program; test the IMB model with service providers; and investigating if there is a correlation between participant reaction and cognitive and affective learning.

Another key recommendation for research would include engaging youth to have a larger role within the study. In this study, youth participated in phase one as informants. Youth could also act as co-presenters or co-developers of the content. Although this would require additional time, as a result, it would benefit youth and service providers. Working in partnership with local schools, youth could negotiate credits for their participation. Reasonable types of involvement in

the process might include: choosing the topics for discussion; searching for relevant popular culture video clips that add humour or illuminate content; creating short video clips that tell of a story or an experience; creating and acting out a role play; exploring community based resources and presenting on what was learned and why or why not youth should go there. Alternatively, youth can provide their voice in a different way; they can use the photovoice process. The goal of photovoice is to "use photographic images taken by persons with little money, power, or status to enhance community needs assessments, empower participants and induce change" (Strack, Magill, & McDonagh, 2004, p. 49). Through taking pictures and articulating what the picture means, youth have the opportunity to share their stories. Incorporating the story of a youth within a training program would contextualize the content, making the program more meaningful to participants.

Evidence Based Practice and Knowledge Translation

Evidence based practice is defined as "a problem solving approach to clinical decision making that incorporates a search for the best and latest evidence, clinical expertise and assessment, and [client] preference values within a context of caring" (International Council of Nurses, 2012, p. 6). Although individuals within the discipline of nursing sometimes debate what constitutes evidence, generally speaking, the discipline of nursing values multiple ways of knowing, which includes qualitative research, quantitative research, anecdotal and experiential evidence (International Council of Nurses, 2012). Strause, Tetroe, and Graham (2013) contend that the health care system is unsuccessful at using evidence to its greatest ability. Although disseminating the findings from research through formal mechanisms (e.g., presenting at conferences, publication in journals) has its usefulness, it does not always support optimal care or evidence based decision making. Ultimately there is a gap between knowing and doing within

the health care system (Strause et al., 2013). This underscores the importance of knowledge translation.

The Canadian Institutes of Health Research (CIHR) defines knowledge translation (KT) as "a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically-sound application of knowledge to improve the health of Canadians, provide more effective health services and products and strengthen the health care system"(CIHR, 2014). There are two types of mechanisms for knowledge translation: end-of-grant and integrated. I use both in this study.

End-of-grant knowledge translation refers to making the users of research aware of the findings generated from the research (Straus et al., 2013). I presented preliminary findings from phase one and phase two at national conferences and plan to disseminate the research findings through peer reviewed journals.

Integrated knowledge translation means that the researcher and the users of research collaborate to shape the research process (Strause et al., 2013). This process includes collaboration with stakeholders in regards to the creation of the research questions, data collection, interpretation of findings, and/or results dissemination (Tetroe, 2007). By taking this approach, the research findings are likely more relevant, meaningful and to be used by the potential end users. Throughout the conception and development of the research, I collaborated with Alberta Health Services, Sexual and Reproductive Health. This included discussion surrounding the feasibility of the research, the training approaches, training program recruitment, and the training outcomes. Additionally, various staff was actively involved in providing feedback on data collection tools, designing and implementing the face-to-face and online training programs, and peer debriefing regarding the findings. S&RH educators and health

promotion specialists from Alberta Health Services have already integrated some of the findings from this research into their practice.

Significance of the Research to Public Health Nursing Practice

This research is significant to public health nursing practice for six main reasons. First, it highlights the role of public health nurses (PHNs) with regard to capacity development. Second, it supports the utility of the primary health care approach to health care service delivery. Third, it is clinically meaningful with practice implications. Fourth, it fulfills a gap in the literature by emphasizing capacity development among service providers working with SIY. Fifth, it highlights the role of PHNs in caring for vulnerable populations. Finally, it endeavours to advance the S&RH of SIY. Each of these points is addressed below.

Role of PHNs in Capacity Development

Capacity development is a process that increases the ability of an individual, a community or an organization to promote health (Yiu, 2012). PHNs build individual and community capacity by actively involving and collaborating with individuals, families, groups, organizations, populations, communities and systems. The focus is to build on strengths and increase skills, knowledge and willingness to take action in the present and in the future. (CHNAC, 2011)

When addressing the needs of any population, it is important to focus on their strengths, not their deficits. Capacity development values the strengths individuals possess and attempts to build upon them (CHNAC, 2011). Additionally, capacity development recognizes that people are agents with the ability to identify and solve issues or problems.

Lind and Smith (2008) state, "[t]he essence of community or public health promotion is giving voice or listening to people and appreciating their strengths" (p. 37). On this point, phase

one gave participants a voice in terms of curriculum development for the training programs. Both training programs used quotes from phase one to give a voice to participants and provide context, meaning, and rationale for the training program. In phase two, the training programs used educational methods that value the expertise and experience participants brought forth to their respective training programs; this, in turn, built upon their strengths and enabled them to act as co-facilitators of the training. Finally, the training programs focused on developing the capacity of participants to address S&RH with SIY. Many service providers do not believe they have the expertise to address issues related to S&RH with their clients. The training programs endeavoured to develop capacity by increasing knowledge and comfort.

Primary Health Care

The Canadian Nurses Association (CNA, 2013), the College & Association of Registered Nurses of Alberta (CARNA, 2008) and the Community Health Nurses Association of Canada (CHNAC, 2011) are proponents of utilizing a primary health care approach to health care service delivery. When promoting the S&RH of SIY, it is important for PHNs to practice within the spirit of primary health care.

PHNs value the following principles of primary health care: public participation; the use of appropriate technology; accessible health services; interdisciplinary and intersectoral collaboration; and health promotion (CNA, 2013). These principles, which lie at the heart of public health nursing practice, inform this research. For example, (a) in phase one, SIY and service providers provided input regarding training program development (public participation); (b) the research directly studied if online learning was an effective and acceptable method of S&RH training for service providers (the appropriate use of technology); (c) by developing the capacity of service providers, the research intended to make S&RH information more accessible

to SIY (accessibility); (d) the research combined the skills of facilitators from two different disciplines in the development and delivery of both programs to multiple discipline groups in the sectors of health and education (interdisciplinary and intersectoral collaboration); and (e) finally, health promotion and health protection remained at the center of each training program.

PHNs need to play a leadership role in the primary health care reform agenda (CNA, 2013). In order to take a leadership role, they should move from an understanding of the principles of primary health care to implementing them into practice to advancing knowledge related to primary health care through research.

Clinical Meaningfulness and Relevance

The research is clinically meaningful because it has practice implications for Alberta Health Services. Given the limited resources within Alberta Health Services, it is important to ensure the programs are meeting their objectives so that valuable resources are not wasted.

Since the Calgary Health Region transitioned under the provincial health authority of Alberta Health Services, this research has become more relevant. The various zones within Alberta Health Services look to Calgary's program for leadership regarding health promotion/education services. Due to the cost of face-to-face training programs, it was important to determine if online programs are acceptable and effective means for capacity development when face-to-face opportunities are not feasible.

Addresses Gaps in Knowledge Base

This research not only addresses the needs identified by service providers within the community of Calgary (Worthington et al., 2008), it also addresses gaps in knowledge on the subject. This research builds upon the findings from Calgary (Worthington et al., 2008) and Canadian (e.g., Alberta Health Services, 2011; Ottawa Public Health, 2011; PHAC, 2006a;

PHAC, 2006b) based research, which describe sexual health challenges pertaining to SIY. Essentially, this research utilized Calgary and Canadian based research in order to develop an intervention and advance the state of nursing knowledge.

Role of PHNs in Caring for Vulnerable Populations

CARNA's (2005b) position statement on vulnerability stresses the importance of nurses taking a leadership role in caring for vulnerable populations. Vulnerability places stress on individuals and creates barriers to health (CARNA, 2005b).

For the average youth, the home represents a location where individuals care for each other. It is a location that provides food, shelter, safety, love, and support (Abromovich, 2013; Rew, 2008). It is a place where youth are physically and emotionally connected to (Rew, 2008). This is likely not the case for SIY. When the *street* becomes home for youth, it is important there are adults present that they can connect with (Rew, 2008), as well as adults who can connect them to services within the community.

Central to this research are the notions that: PHNs and other service providers are people that connect with SIY; PHNs and other service providers are pivotal to connecting SIY to services; and the relationships between SIY and their service providers are important vehicles for sexual health protection and promotion. Key findings from phase one, verified all these notions.

Impact on Street Youth

This research was inspired by street-involved and other high risk youth. Although it was beyond the scope of this research to evaluate how or if the face-to-face and online training programs impacted the youth themselves, this research informed program participants about the S&RH challenges youth face and provided information regarding health protection and health promotion. When PHNs care for, and conduct research related to SIY, they not only “make a

powerful statement to youth" with regard to their worth in society, but they "also make a powerful statement to society about the responsibility for promoting public health for all" (Rew, 1996, p. 354).

Conclusion

Pragmatism was the philosophy of science guiding this mixed methods study, which explored the effectiveness of two types of training programs (face-to-face and online) in enhancing the capacity of service providers to work with SIY regarding their S&RH. The assumptions of constructivist learning and the principles of andragogy guided the face-to-face and online training program design and implementation. These theoretical perspectives focus on creating a meaningful learning experience for participants and value collaborative program planning, flexible learning environments, self-directed learning, discussion, learning from experience, interaction, problem solving, contextual learning, and reflection.

Overall, the mixed methods data suggests: (a) participants in both training programs had a positive learning experience; (b) participants in both programs experienced an increase in knowledge immediately after the training and six weeks later; (c) face-to-face participants experienced an increase in perceived comfort immediately after the training whereas online participants experienced an increase in comfort immediately after the training and six weeks later and; (d) six weeks after the training, approximately 46% of face-to-face participants and 72% of online participants had reportedly used their knowledge from their respective training programs. Both face-to-face and online S&RH training programs for capacity development have their inherent strengths and challenges. It is important to consider the best features of each modality. Overall, this research suggests that both modalities are acceptable and effective when the program is designed and implemented within the spirit of constructivist learning and andragogy.

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APPENDICES

Appendix A: Sexual and Reproductive Health Training Program for Teachers

<u>In-service objectives:</u>

- To increase knowledge related to teaching human sexuality.
- To increase comfort with teaching human sexuality.
- To increase skill in implementing the human sexuality curriculum.
- To interact with the teachingsexualhealth.ca web site.
- To increase awareness regarding sexual diversity.
- To address individual concerns regarding teaching human sexuality.
- To provide an opportunity to network and learn from others who teach human sexuality.

<u>In-service outline:</u>

- Introduction and pre survey
- Warm-up activity
- How to teach human sexuality
  - Identifying and address concerns regarding teaching human sexuality
  - Defining sex and sexuality
  - Identifying values surrounding human sexuality
  - Myths and facts about human sexuality education
  - Instructional methods (e.g., role play, small group discussion, video, question box, class discussion)
- Sexuality topics (e.g., puberty, contraception, safer sex practices, STI, HIV& AIDS, relationships, etc.) and recommended resources (e.g., puberty kit, birth control kit, etc.)
- Sexual diversity
- teachingsexualhealth.ca
- Additional questions
- Evaluations/post-survey

Adapted from: Lokanc-Diluzio et al., 2007, p. 138

Appendix B: Service Provider Recruitment Notice (Phase One)

PROTECTING AND PROMOTING THE SEXUAL & REPRODUCTIVE HEALTH OF STREET YOUTH STUDY

- ✓ ***Do you work with street youth?***
- ✓ ***Are you a youth worker, social worker, educator, or a nurse?***

A nurse would like to understand the sexual and reproductive health learning needs of service providers working with street youth. If you are interested in participating in this study, please contact:

Wendi Lokanc-Diluzio, RN, MN, PhD(c)
Doctoral Student
University of Calgary
phone:
email:

UNIVERSITY OF
CALGARY
NURSING

Appendix C: Demographic Form for Service Providers (Phase One)

Name of Agency	
Interviewee	Name and Code Name
Role within Agency	
Location	
Date	
Time	

1. How old are you?

2. Excluding kindergarten, how many years of education have you successfully completed?
   <= 6, <= 9, <= 12, some college/university, college/university degree, graduate degree

3. Are you a(n): nurse, social worker, youth worker, educator?

4. How would you describe yourself in terms of culture/ethnicity/race?
   Caucasian, Asian, Black, Aboriginal, other

5. How would you describe your marital status?
   Married, common-law, single, divorced

Adapted from: CAT Group #6 (2005). *University of Calgary Nursing 402: Community Project Binder*. Calgary, AB: Author.

Appendix D: Demographic Form for Street-Involved Youth (Phase One)

Interviewee	Name and Code Name
Location	
Date	
Time	

1. How old are you?

2. What is the highest grade you have successfully completed?

3. How would you describe yourself in terms of culture/ethnicity/race?
   Caucasian, Asian, Black, Aboriginal, other

Adapted from: CAT Group #6 (2005). *University of Calgary Nursing 402: Community Project Binder*. Calgary, AB: Author.

Appendix E: Interview Guide for Service Providers (Phase One)

Semi-Structured Service Provider Interviews

A. Explain the purpose of the interview. The Calgary Youth Health and the Street Study identified the importance of capacity development of front-line staff working with street youth in order to protect and promote their sexual and reproductive health (S&RH). The purpose of this interview is to understand the learning needs of service providers so that they can better help street youth regarding S&RH. The information obtained will be used to develop a training program for service providers of street youth. If something distresses you during the interview, I will connect you with help if this is what you want.

B. Informed consent: Review the consent and ensure that participants have agreed to participate in the interviews.

C. Complete demographic information below **prior to** recording the interview.

D. Semi-structured interview questions:

1. Can you tell me a little bit about yourself?
   - What is your background as a service provider?
   - What is your role at this agency?
   - How long have you worked with street youth?

2. Tell me about some of the main challenges you face working with youth?

3. What are the main challenges you face around street youth and their sexual and reproductive health?

4. What do you need to be able to promote the sexual and reproductive health of street youth?
   - What information do you need?
   - What types of resources do you need?
   - What types of skills do you need?
   - What support do you need inside your agency/from other agencies?

5. Alberta Health Services – Sexual and Reproductive Health will offer a sexual and reproductive health training program for service providers working with street youth. What would you as a service provider want to get out such a training program?
   - What content should be included in the training program? E.g., pregnancy prevention; early prenatal information; STI and HIV prevention/harm reduction; safer sex practices; substance use and sexual decision-making; safer sex with HIV positive partner; sexual exploitation; GLBTQ; community resources; strengths and challenges of street youth; other?

- In your opinion, which are the three most important content areas?

6. Please take a look at our existing workshop (Appendix A).
    - What changes would you make to meet the needs of street youth service providers?
    - What do you think about the content?
    - How do you feel about the activities?

7. What experiences have you had with online and/or face-to-face training programs?
    - What are some advantages of online and/or face-to-face training programs?
    - What are some disadvantages of online and/or face-to-face training programs?

8. The program will use case studies to help promote learning.
    - Can you share an example from your work when a young person came to you with a sexual and reproductive health issue or concern?
    - How were you able to help them/not able to help them?
    - Was there anything that you needed that may have helped them more?

9. Are there any other recommendations you can make regarding an S&RH training program for service providers working with street youth?

10. Would you mind being contacted again if there are additional questions that come to mind after reflecting on the data, or to verify interpretation of findings?

Appendix F: Interview Guide for Youth Participants (Phase One)

Semi-Structured High Risk/Street Youth Interviews

A. Explain the purpose of the interview. In another study, people who work with Calgary street youth (e.g., youth workers, social workers, nurses, educators) said they wanted to learn more about sexual health, so they could better help street youth. The purpose of this interview is to get your opinion on the type of sexual health information people who work with street youth need. Your opinions will help the Alberta Health Services to develop a sexual health training program for people working with street youth. If something upsets you during the interview, I will connect you with help if this is what you want.

B. Informed consent: Review the consent and ensure that street youth have agreed to participate in the interviews.

C. Complete demographic information below **prior to** recording the interview.

D. Interview questions:

1. Can you tell me a little bit about yourself? What is your age? How long have you been involved in street life?

2. In your opinion, what are the most important sexual health concerns street youth face?
   - E.g., pregnancy, STI, HIV, birth control, sexual exploitation, etc.?

3. Which sexual health topics do you think most street youth need help with?
   - When you or your friends have questions about sexual health, what types of questions do you have?
   - Where do you go for answers to your sexual health questions?

4. Do you feel street youth have easy access to accurate sexual health information?
   - Why or why not?
   - How can access be improved?

5. If you needed to speak with a service provider about sexual health, what could he or she do to help you have this discussion?

6. Tell me about a time you had a sexual health question or concern?
   - What did you need?
   - Where did you go?
   - Who did you speak to?
   - What did you find out? What help did you receive?
   - Were you satisfied with the information or the help you received? Why or why not?

- What could have improved this experience?

7. How can service providers help street youth to protect their sexual health?

8. Is there anything else you would like to add about street youth and sexual health?

Appendix G: Service Provider Consent (Phase One)

UNIVERSITY OF CALGARY NURSING

FACULTY OF NURSING
Dr. Sandra Reilly
Associate Professor
Professional Faculties Building

Telephone: (403)
Fax: (403)
Email:

TITLE: A Mixed Method Study of Interdisciplinary Capacity Development to Protect and Promote the Sexual and Reproductive Health of Street Youth: An Evaluation of Two Different Training Approaches

SPONSOR: University of Calgary, Faculty of Nursing

INVESTIGATORS: Sandra Reilly RN, EdD; Wendi Lokanc-Diluzio RN, MN, PhD(c)

(Phone Number) (Phone Number)

This consent form is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, please ask. Take the time to read this carefully and to understand any accompanying information. You will receive a copy of this form.

BACKGROUND

Some street youth participate in behaviors that place them at risk for pregnancy, sexually transmitted infections (STI) and human immunodeficiency virus (HIV). Service providers working with street youth play an important role in protecting and promoting the sexual and reproductive health of street youth.

In a recent Calgary based study of service providers, participants identified the need to develop the sexual and reproductive health knowledge and skills of front-line staff who work with street youth. This research will address this suggestion. This two-phased mixed methods study will explore the effectiveness of two different training approaches in improving the sexual and reproductive health knowledge, comfort and behaviors of service providers (nurses, social workers, educators, youth workers) working with street youth.

WHAT IS THE PURPOSE OF THE STUDY?

The purpose of this study is:

- To determine the knowledge that service providers require to protect and promote the sexual and reproductive health of street youth, for the purpose of redesigning an existing Alberta Health Services workshop (phase one); and
- To explore the effectiveness of the two different workshop training approaches (phase two).

WHAT WOULD I HAVE TO DO?

Your participation is for phase one of the study only. Your participation will include one 60-75 minute interview, with Ms. Lokanc-Diluzio, a nurse researcher. During the interview, you will share your opinion as to what service providers working with street youth need to know about sexual and reproductive health. You may also be asked to participate in one additional follow-up interview lasting 30 minutes. The purpose of the follow-up interview is to clarify some of the information you initially provided and/or to verify interpretation of the findings.

WHAT ARE THE RISKS?

There are no expected risks with participating in this study. If something upsets you during the interview, we can end the interview in order to get help. For example, we can ask for help from counselors, social workers, or nurses. Also, we can refer you to a different agency that offers counseling services.

WILL I BENEFIT IF I TAKE PART?

If you agree to take part in this study there may or may not be a direct benefit to you. Taking part in this study may make you feel good about helping the researchers to understand the learning needs of service providers working with street youth. You will, in effect, help the Alberta Health Services to develop a training program for service providers working with street youth. Ultimately, this study may have a positive influence on the sexual and reproductive health of street youth.

DO I HAVE TO PARTICIPATE?

Your participation in this research is completely voluntary. Choosing not to take part in the research will not affect the care or services you receive from any Alberta Health Services programs you may be in. You can withdraw from the research at any time. If you would like to withdraw, please contact one of the researchers listed below, or tell Ms. Lokanc-Diluzio during the interview.

WHAT ELSE DOES MY PARTICIPATION INVOLVE?

Street youth will also be interviewed for this study. You will be asked to assist in recruiting 1-2 street youth participants.

WILL I BE PAID FOR PARTICIPATING, OR DO I HAVE TO PAY FOR ANYTHING?

You will not be paid to participate in this research.

WILL MY RECORDS BE KEPT PRIVATE?

Anything that you state during the interview will be kept private. The interview will be recorded for accuracy, and the notes will be kept on a secure computer. Generally, what you say during the interview will be grouped with the information collected from other people in the study. You will be given a code name, so that your real name will not appear in any notes, and you will not be identified. All tapes, notes and memory sticks will be kept in a locked cabinet and will be erased or destroyed twelve years after the study is finished.

As a doctoral student, Ms. Lokanc-Diluzio will share information with the professors on her dissertation committee. The only other person who will have access to the recorded interview will be a transcriptionist. She will only know the code name of the participants, and she will treat all interviews as confidential.

The interviews will form the basis of Ms. Lokanc-Diluzio's dissertation. This dissertation will become public information and will be available through the University of Calgary library. As well, the results of this study may be shared with others at professional meetings or in journals.

IF I SUFFER A RESEARCH-RELATED INJURY, WILL I BE COMPENSATED?

In the event that you suffer injury as a result of participating in this research, no compensation will be provided to you by the University of Calgary, the Alberta Health Services, or the researchers. However, you still have all your legal rights. Nothing said in this consent form alters your right to seek damages.

SIGNATURES

Your signature on this form means that you have understood to your satisfaction the information regarding your participation in the research project and agree to participate. In no way does this waive your legal rights nor release the investigators or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time without jeopardizing your health care. If you have further questions concerning matters related to this research, please contact:

Dr. Sandra Reilly (Phone Number)

Or

Wendi Lokanc-Diluzio (Phone Number)

If you have any questions concerning your rights as a possible participant in this research, please contact The Director of the Office of Medical Bioethics, (Phone Number).

_______________________	_______________________
Participant's Name	Signature and Date
Investigator/Delegate's Name	Signature and Date
Witness' Name	Signature and Date

The University of Calgary Conjoint Health Research Ethics Board has approved this research study.

A signed copy of this consent form has been given to you to keep for your records and reference.

Ethics ID: 22606
Study Title: A Mixed Method Study of Interdisciplinary Capacity Development to Protect and Promote the Sexual and Reproductive Health of Street Youth: An Evaluation of Two Different Training Approaches
PI: Sandra M. Reilly
Version number/date: 1/August 15, 2009
CHREB Template date August 2008

Appendix H: Youth Consent (Phase One)

FACULTY OF NURSING
Dr. Sandra Reilly
Associate Professor
Professional Faculties Building

Telephone: (403)
Fax: (403)
Email:

TITLE: A Mixed Method Study of Interdisciplinary Capacity Development to Protect and Promote the Sexual and Reproductive Health of Street Youth: An Evaluation of Two Different Training Approaches

SPONSOR: University of Calgary, Faculty of Nursing

INVESTIGATORS: Sandra Reilly RN, EdD; Wendi Lokanc-Diluzio RN, MN, PhD(c)

(Phone Number) (Phone Number)

This consent form is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more details, please ask. Take the time to read this carefully and to understand any accompanying information. You will receive a copy of this form.

BACKGROUND

In another study, professionals who work with Calgary street youth (e.g., youth workers, social workers, nurses, educators) said they wanted to learn more about sexual health, so they could better help street youth. This study will address this suggestion, as it will try to improve the sexual health knowledge, comfort and behaviors of people working with street youth.

WHAT IS THE PURPOSE OF THE STUDY?

The purpose of this study is:

- To understand the sexual health information that professionals need so that they can help street youth stay healthy (phase one); and
- To educate professionals about sexual health through training workshops and explore how effective the workshops are (phase two).

WHAT WOULD I HAVE TO DO?

If you agree to take part in this study, you will speak with Ms. Lokanc-Diluzio, a nurse researcher for 30-60 minutes. She will ask your opinion of what professionals working with street youth need to know about sexual health.

You can only take part in this study if:

- You are 18-24 years old; OR
- You are an emancipated minor, 15-17 years old; OR
- You are 15-17 years old and a parent or legal guardian has given their permission for you to participate.

WHAT ARE THE RISKS?

There are no expected risks with taking part in this study. If something upsets you during the interview, we can end the interview, so that we can connect you with help. For example, we can ask for help from counselors, social workers, or nurses. Also, we can refer you to a different agency that offers counseling services.

WILL I BENEFIT IF I TAKE PART?

Taking part in this study may make you feel good about helping the researchers to understand the learning needs of people working with street youth. Your opinions will help the Alberta Health Services to develop a sexual health training program for people working with street youth. This study may help to improve the sexual health of street youth.

DO I HAVE TO PARTICIPATE?

Taking part in this study is completely your choice. Choosing not to take part in the research will not affect the care or services you receive from any Alberta Health Services programs. You can pull out of the study at any time. If you would like to pull out, please contact one of the investigators listed below, or tell Ms. Lokanc-Diluzio during the interview.

WILL I BE PAID FOR PARTICIPATING, OR DO I HAVE TO PAY FOR ANYTHING?

You will not be paid to take part in this study. You will, however, receive a $20.00 Tim Horton's gift card as a thank you.

WILL MY RECORDS BE KEPT PRIVATE?

What you say during the interview will be kept private. The discussion will be recorded so your own words can later be written down in notes. These notes will be kept on a protected computer. Generally, what you say will be grouped with the information collected from the other people in the study. You will be given a code name, so that your real name will not be in any notes, and you will not be identified in any way. All tapes, notes, and memory sticks will be kept in a locked cabinet and will be erased or destroyed twelve years after the study is finished.

As a doctoral student, Ms. Lokanc-Diluzio will share information with the professors on her dissertation committee. The only other person who will have access to the recorded interview will be a secretary. She will only know your code name, and she will treat all interviews as private.

The interviews will help Ms. Lokanc-Diluzio to write her dissertation. This dissertation will become public information and will be available through the University of Calgary library. Also, the results of this study may be shared with others at professional meetings or in journals.

IF I SUFFER A RESEARCH-RELATED INJURY, WILL I BE COMPENSATED?

In the event that you suffer injury as a result of taking part in this research, no compensation will be given to you by the University of Calgary, the Alberta Health Services, or the researchers. However, you still have all your legal rights. Nothing said in this consent form alters your right to seek damages.

SIGNATURES

Your signature on this form means that you understand the information about participating in the study, and that you agree to take part. In no way does this waive your legal rights nor release the investigators or involved institutions from their legal and professional responsibilities. You are free to pull out of the study at any time without jeopardizing your health care. If you have further questions related to this study, please contact:

Dr. Sandra Reilly (Phone Number)

Or

Wendi Lokanc-Diluzio (Phone Number)

If you have any questions concerning your rights as a possible participant in this research, please contact The Director of the Office of Medical Bioethics, (Phone Number).

Participant's Name and Date of Birth	Signature and Date
Investigator/Delegate's Name	Signature and Date
Witness' Name	Signature and Date

The University of Calgary Conjoint Health Research Ethics Board has approved this research study.

A signed copy of this consent form has been given to you to keep for your records and reference.

Appendix I: Consent for Youth Under the Age of 18 (Phase One)

FACULTY OF NURSING
Dr. Sandra Reilly
Associate Professor
Professional Faculties Building

Telephone: (403)
Fax: (403)
Email:

TITLE: A Mixed Method Study of Interdisciplinary Capacity Development to Protect and Promote the Sexual and Reproductive Health of Street Youth: An Evaluation of Two Different Training Approaches

SPONSOR: University of Calgary, Faculty of Nursing

INVESTIGATORS: Sandra Reilly RN, EdD; Wendi Lokanc-Diluzio RN, MN, PhD(c)

(Phone Number) (Phone Number)

This consent form is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, please ask. Take the time to read this carefully and to understand any accompanying information. You will receive a copy of this form.

BACKGROUND

Some street youth participate in behaviors that place them at risk for pregnancy, sexually transmitted infections (STI) and human immunodeficiency virus (HIV). Service providers working with street youth play an important role in protecting and promoting the sexual and reproductive health of street youth.

In a recent Calgary based study of service providers, participants identified the need to develop the sexual and reproductive health knowledge and skills of front-line staff who work with street youth. This research will address this suggestion. This two-phased mixed methods study will explore the effectiveness of two different training approaches in improving the sexual and reproductive health knowledge, comfort and behaviors of service providers (nurses, social workers, educators, youth workers) working with street youth.

WHAT IS THE PURPOSE OF THE STUDY?

The purpose of this study is:

- To determine the knowledge that service providers require to protect and promote the sexual and reproductive health of street youth, for the purpose of redesigning an existing Alberta Health Services workshop (phase one); and
- To explore the effectiveness of the two different workshop training approaches (phase two).

WHAT WOULD THE YOUTH HAVE TO DO?

If you and the youth agree for the youth to participate, he/she will talk to Ms. Lokanc-Diluzio, a nurse researcher, for 30-60 minutes. She will ask the youth's opinion of what service providers working with street youth need to know about sexual health.

WHAT ARE THE RISKS?

There are no expected risks with participating in this study. If something upsets the youth during the interview, we can end the interview in order to get help. For example, we can ask for help from counselors, social workers, or nurses. Also, we can refer the youth to a different agency that offers counseling services.

ARE THERE BENEFITS FOR THE YOUTH?

If the youth takes part in this study there may or may not be a direct benefit to him/her. Taking part in this study may make the youth feel good about helping the researchers to understand the learning needs of service providers working with street youth. The youth will, in effect, help the Alberta Health Services to develop a training program for people working with street youth. This study may have a positive influence on the sexual and reproductive health of street youth.

DOES THE YOUTH HAVE TO PARTICIPATE?

Participation in this study is completely voluntary. Choosing not to take part in the research will not affect the care or services received from any Alberta Health Services program. The youth can withdraw from the study at any time. If the youth would like to withdraw, he/she can tell Ms. Lokanc-Diluzio during the interview, or contact one of the researchers listed below.

WILL THE YOUTH BE PAID FOR PARTICIPATING, OR WILL HE/SHE HAVE TO PAY FOR ANYTHING?

The youth will not receive any payment for participating in the study. He or she will, however, receive a $20.00 Tim Horton's gift card as a thank you.

WILL THE YOUTH'S RECORDS BE KEPT PRIVATE?

What the youth says during the interview will be kept private. The discussion will be recorded so his/her own words can later be written down in notes. These notes will be kept on a secure computer. Generally, what the youth says will be grouped with the information collected from the other people in the study. The youth will be given a code name, so that his/her real name will not appear in any notes, and he/she will not be identified in any way. All tapes, notes, and memory sticks will be kept in a locked cabinet and will be erased or destroyed twelve years after the study is finished.

As a doctoral student, Ms. Lokanc-Diluzio will share information with the professors on her dissertation committee. The only other person who will have access to the recorded interview will be a transcriptionist. She will only know the youth's code name, and she will treat all interviews as private.

The interviews will form the basis of Ms. Lokanc-Diluzio's dissertation. This dissertation will become public information and will be available through the University of Calgary library. Also, the results of this study may be shared with others at professional meetings or in journals.

IF THE YOUTH SUFFERS A RESEARCH-RELATED INJURY, WILL HE/SHE BE COMPENSATED?

In the event that the youth suffers injury as a result of participating in this research, no compensation will be provided by the University of Calgary, the Alberta Health Services, or the researchers. However, the youth still has all his or her legal rights. Nothing said in this consent form alters the youth's right to seek damages.

SIGNATURES

Your signature on this form indicates that you have understood to your satisfaction the information regarding the youth's participation in the research project and your agreement to his or her participation. In no way does this waive your legal rights nor release the investigators, or involved institutions from their legal and professional responsibilities. You are free to withdraw the youth from the study at any time without jeopardizing their health care. If you have further questions concerning matters related to this research, please contact:

Dr. Sandra Reilly (Phone Number)

Or

Wendi Lokanc-Diluzio (Phone Number)

If you have any questions concerning your rights as a possible participant in this research, please contact The Director of the Office of Medical Bioethics, (Phone Number).

Parent/Guardian's Name	Signature and Date
Youth's Name and Date of Birth	Signature and Date
Investigator/Delegate's Name	Signature and Date
Witness' Name	Signature and Date

The investigator or a member of the research team will, as appropriate, explain to the youth the research and his or her involvement. They will seek the youth's ongoing cooperation throughout the study.

The University of Calgary Conjoint Health Research Ethics Board has approved this research study.

A signed copy of this consent form has been given to you to keep for your records and reference.

Appendix J: Recruitment Notice Face-to-Face Training Program (Phase 2)

PROTECTING AND PROMOTING THE SEXUAL HEALTH OF HIGH RISK/STREET YOUTH STUDY

- ✓ *Do you work with high risk or street youth?*
- ✓ *Are you a youth worker, social worker, educator, or a nurse?*
- ✓ *Do you want to learn more about sexual health topics such as sexually transmitted infections, pregnancy prevention, healthy and unhealthy relationships?*

Sexual and Reproductive Health, Alberta Health Services (Calgary Zone) is offering a free workshop about the sexual health of high risk/street youth, as part of a doctoral student research study.

Workshop Date: ______________
Workshop Time: 8:30am – 4:00pm
Workshop Location: ______________

If you are interested in participating, please contact:

Wendi Lokanc-Diluzio, RN, MN, PhD(c)
University of Calgary, Faculty of Nursing
email:
phone:

Ethics ID: 23554
Study Title: A Mixed Method Study of Interdisciplinary Capacity Development to Protect and Promote the Sexual and Reproductive Health of Street Youth: An Evaluation of Two Different Training Approaches (Phase Two)
PI: Sandra M. Reilly
Version #1: 09/October 2010
This study has been approved by the Conjoint Health Research Ethics Board

Appendix K: Recruitment Notice Online Training Program (Phase Two)

UNIVERSITY OF
CALGARY
NURSING

PROTECTING AND PROMOTING THE SEXUAL HEALTH OF HIGH RISK/STREET YOUTH STUDY

- ✓ ***Do you work with high risk or street youth?***
- ✓ ***Are you a youth worker, social worker, educator, or a nurse?***
- ✓ ***Do you want to learn more about sexual health topics such as sexually transmitted infections, pregnancy prevention, healthy and unhealthy relationships?***

Sexual and Reproductive Health, Alberta Health Services (Calgary Zone) is offering a free online workshop about the sexual health of high risk/street youth, as part of a doctoral student research study.

The online workshop will take approximately six to eight hours to complete over a period of two weeks (DATES).

If you are interested in participating, please contact:

Wendi Lokanc-Diluzio, RN, MN, PhD(c)
University of Calgary, Faculty of Nursing
email:
phone:

Ethics ID: 23554
Study Title: A Mixed Method Study of Interdisciplinary Capacity Development to Protect and Promote the Sexual and Reproductive Health of Street Youth: An Evaluation of Two Different Training Approaches (Phase Two)
PI: Sandra M. Reilly
Version #1: 09/October 2010
This study has been approved by the Conjoint Health Research Ethics Board

Appendix L: Sample Size Calculation and Table

$$N = \frac{(Z\alpha + Z\beta)^2 \, \sigma_d^2}{\mu_1^2}$$

σ_d^2 = var (pre-post)
μ_1 = true difference to detect
$Z\alpha$ (2-sided test) should be replaced with $Z\alpha/2$, $\alpha=0.05$ level, $Z(.025)=1.96$
$Z\beta = \beta = 1$-power, therefore if power=0.80, then $Z(0.2) = 0.84$

E.g.,

$$N = \frac{(1.96 + 0.84)^2 \times 2.714^2}{1.43 \times 1.43}$$

$$N = \frac{7.84 \times 7.366}{2.045}$$

$$N = 28.2$$

Sample Size Table for Time Effect [a]

Dependent Variables	SD (pre-post)	True Differences to Detect	Power			
			0.8	**0.85**	**0.9**	**0.95**
Knowledge	2.714	3.6 [b] (18.9% change)	5	6	6	8
Knowledge	2.714	1.9 (10.0% change)	17	19	22	27
Knowledge	2.714	1.43 (7.5% change)	29	33	38	47
Perceived Comfort (answering questions related to sexuality)	0.497	0.33[c] (6.6% change)	18	21	24	30
Perceived comfort (asking about sexual practices)	0.531	0.48 [c] (9.6% change)	10	11	13	16
Perceived comfort (asking about sexual orientation)	0.541	0.4 [c] (8% change)	15	17	20	24

[a] alpha of 0.05
[b] SD based on Gonzalez-Acquaro, K. (2006a; 2006b)
[c] SD based on Weerakoon, P., Sitharthan, G., & Skowronski, D. (2008).

Sample size calculations based on:
Lachin, M., J. (1981). Introduction to sample size determination and power analysis for clinical trials. Controlled Clinical Trials, 2, 93-113.

Appendix M: Adjusted Sample Size Calculation

$$N_{dropout} = \frac{N}{(1-R)^2}$$

R = dropout rate

$$N_{dropout} = \frac{29}{(1-0.2)^2}$$

$$N_{dropout} = 45.3$$

Adjusted Sample Size Table for a Conservative Dropout of 20%

Dependent Variables	SD (pre-post)	True Differences to Detect	Power			
			0.8	**0.85**	**0.9**	**0.95**
Knowledge	2.714	3.6 (18.9% change)	8	10	10	13
Knowledge	2.714	1.9 (10.0% change)	27	30	35	43
Knowledge	2.714	1.43 (7.5% change)	46	52	61	74
Perceived Comfort (answering questions related to sexuality)	0.497	0.33 (6.6% change)	29	33	38	47
Perceived comfort (asking about sexual practices)	0.531	0.48 (9.6% change)	16	18	21	25
Perceived comfort (asking about sexual orientation)	0.541	0.4 (8% change)	24	27	32	38

Adjusted sample size calculations based on:

Lachin, M., J. (1981). Introduction to sample size determination and power analysis for clinical trials. *Controlled Clinical Trials, 2*, 93-113.

Appendix N: Demographic Information Form

1. Please identify your first name initial, your last name initial and your home postal code (e.g., DDT3K6H8) ____________________

2. Age: __________

3. Gender: Female ☐ Male ☐ Other ☐ ____________________

4. What best describes your occupation:
   - Community Educator ☐
   - Nurse ☐
   - Social Worker ☐
   - Teacher ☐
   - Youth Worker ☐
   - Other ____________________

5. What best describes your role:
   - Direct Care Provider/Front Line Worker ☐
   - Supervisor/Director/ Manager ☐
   - Other ____________________

6. Highest level of education completed:
   - High School Diploma ☐
   - College Diploma ☐
   - Bachelor's Degree ☐
   - Master's Degree ☐
   - Doctoral Degree ☐
   - Other ____________________

7. How many years experience do you have working with high risk/street youth? ______________

8. How would you rate your education preparation to provide sexual and reproductive health education to high risk/street youth?
   - Excellent ☐
   - Above Average ☐
   - Average ☐
   - Below Average ☐
   - Poor ☐

Appendix O: Learner Reaction Questionnaire: Face-to-Face Program

Please identify your first name initial, your last name initial, and your home postal code (e.g., DDT3K6H8) ______________________

Thank-you for completing this evaluation. Your comments will assist us in improving future training programs.

1. Instructions: Please rate each item in this section from "Poor" to "Excellent" by placing a checkmark (✓) in the appropriate box:

	Poor	Below Average	Average	Very Good	Excellent
a. Content					
b. Instructional techniques					
c. Mode of program delivery (face-to-face)					
d. Facilitators					
e. Resources					
f. The program overall					

2. Instructions: Please indicate the extent to which you agree or disagree with the statements below by placing a checkmark (✓) in the appropriate box.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. The content was adequately delivered					
b. The facilitators used time effectively					
c. Participants were active learners					
d. The topic targeted was adequately covered					
e. My understanding was enhanced					
f. I was comfortable asking questions					
g. I was comfortable discussing the content					
h. My questions were answered					
i. The program content will be useful to me					
j. Overall, I was satisfied with my learning experience					

Open-Ended Questions

a. What were the best aspects of the training program?

b. What could be done to improve the training program?

c. Based on your experience with this training program, what are the strengths of face-to-face training programs?

d. Based on your experience with this training program, what are the challenges of face-to-face training programs?

e. Additional comments?

3. Would you mind being contacted again if there are additional questions that come up for the researcher after she reviewed the data, or to verify her interpretation of the data? If yes, please provide your contact information below or contact the researcher via email (email address).

First Name: ___________________ Phone Number: _______________________

Appendix P: Learner Reaction Questionnaire: Online Program

Please identify your first name initial, your last name initial
and your home postal code (e.g., DDT3K6H8) ________________

Thank-you for completing this evaluation. Your comments will assist us in improving future training programs.

During this two week-long online workshop, how many times did you log on to Blackboard? ___

How many hours did you devote to your participation (posting responses, reading postings, reading and reflecting on workshop materials)? ___

1. Instructions: Please rate each item in this section from "Poor" to "Excellent" by clicking on the appropriate box.

	Poor	Below Average	Average	Very Good	Excellent
a. Content					
b. Instructional techniques					
c. Mode of program delivery (online)					
d. Facilitators					
e. Resources					
f. The program overall					

2. Instructions: Please indicate the extent to which you agree or disagree with the statements below by clicking on the appropriate box.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. The content was adequately delivered					
b. The facilitators used time effectively					
c. Participants were active learners					
d. The topic targeted was adequately covered					
e. My understanding was enhanced					
f. I was comfortable asking questions					
g. I was comfortable discussing the content					
h. My questions were answered					
i. The program content will be useful to me					
j. Overall, I was satisfied with my learning experience					

Open-Ended Questions

a. What were the best aspects of the training program?

b. What could be done to improve the training program?

c. Based on your experience with this training program, what are the strengths of online training programs?

d. Based on your experience with this training program, what are the challenges of online training programs?

e. Additional comments?

3. Would you mind being contacted again if there are additional questions that come up for the researcher after she reviewed the data, or to verify her interpretation of the data? If yes, please provide your contact information below or contact the researcher via email (email address).

First Name: ___________________ Phone Number: _______________________

Appendix Q: Knowledge about Sexual and Reproductive Health Questionnaire

Please identify your first name initial, your last name initial and your home postal code (e.g., DDT3K6H8) ______________________

Instructions: For each statement below, please indicate if the answer is true (T) or false (F). **If you don't know the answer, please do not guess; instead, choose don't know (DK) as your response.**

A. Knowledge related to reproductive health/anatomy and physiology:

	True	**False**	**Don't Know**
1. A female ovum (egg) is viable (capable of being fertilized) for approximately one day after it is released.	**T**	F	DK
2. After ejaculation, sperm cells live, approximately 1-2 days within the female reproductive tract.	T	**F**	DK
3. A small amount of sperm can be released prior to ejaculation.	**T**	F	DK
4. The average female menstrual cycle lasts 21-35 days.	**T**	F	DK
5. Vaginal discharge that is clear is a sign of infection.	T	**F**	DK
6. A female can get pregnant any time during her menstrual cycle.	**T**	F	DK

B. Knowledge related to pregnancy awareness:

	True	**False**	**Don't Know**
1. A missed period always means a female is pregnant.	T	**F**	DK
2. Frequent urination or having to urinate during the night are common pregnancy related complaints.	**T**	F	DK
3. Increased energy is an early symptom of pregnancy.	T	**F**	DK
4. Some females experience bleeding when the fertilized egg implants on the wall of the uterus.	**T**	F	DK
5. Cramping may be an early symptom of pregnancy.	**T**	F	DK

C. Knowledge related to Sexually Transmitted Infections (STI) and HIV:

	True	**False**	**Don't Know**
1. Genital Herpes is caused by the same virus as HIV.	T	**F**	DK
2. Frequent urinary infections can cause Chlamydia.	T	**F**	DK
3. There is a cure for Gonorrhea.	**T**	F	DK
4. It is easier to get HIV if a person has another Sexually Transmitted Infection.	**T**	F	DK
5. Human Papillomavirus (HPV) is caused by the same virus that causes HIV.	T	**F**	DK
6. Having anal sex increases a person's risk of getting Hepatitis B.	**T**	F	DK
7. Soon after infection with HIV a person develops open sores on his or her genitals (penis or vagina).	T	**F**	DK
8. There is a cure for Chlamydia.	**T**	F	DK
9. A woman who has Genital Herpes can pass the infection to her baby during childbirth.	**T**	F	DK
10. A woman can look at her body and tell if she has Gonorrhea.	T	**F**	DK
11. The same virus causes all of the Sexually Transmitted Infections.	T	**F**	DK
12. Human Papillomavirus (HPV) can cause Genital Warts.	**T**	F	DK
13. Using a natural skin (lambskin) condom can protect a person from getting HIV.	T	**F**	DK
14. Human Papillomavirus (HPV) can lead to cancer in women.	**T**	F	DK
15. A man must have vaginal sex to get Genital Warts.	T	**F**	DK
16. Sexually Transmitted Infections can lead to health problems that are usually more serious for men than women.	T	**F**	DK
17. A woman can tell that she has Chlamydia if she has a bad smelling odor from her vagina.	T	**F**	DK
18. If a person tests positive for HIV the test can tell how sick the person will become.	T	**F**	DK
19. There is a vaccine available to prevent a person from getting Gonorrhea.	T	**F**	DK
20. A woman can tell by the way her body feels if she has a Sexually Transmitted Infection.	T	**F**	DK
21. A person who has Genital Herpes must have open sores to give the infection to his or her sexual partner.	T	**F**	DK
22. There is a vaccine that prevents a person from getting Chlamydia.	T	**F**	DK
23. A man can tell by the way his body feels if he has Hepatitis B.	T	**F**	DK
24. If a person had Gonorrhea in the past he or she is immune (protected) from getting it again.	T	**F**	DK
25. Human Papillomavirus (HPV) can cause HIV.	T	**F**	DK

	True	False	Don't Know
26. A man can protect himself from getting Genital Warts by washing his genitals after sex.	T	**F**	DK
27. There is a vaccine that can protect a person from Hepatitis B.	**T**	F	DK
28. Syphilis is the Sexually Transmitted Infection with three stages of infection.	**T**	F	DK
29. If a woman's Pap test is normal, she doesn't have HPV.	T	**F**	DK
30. Infertility is a complication of untreated Syphilis.	T	**F**	DK
31. Withdrawing ("pulling out") the penis before ejaculating works just as well as a condom for preventing Sexually Transmitted Infections.	T	**F**	DK
32. Some kinds of Sexually Transmitted Infections don't give you symptoms until six weeks or more after you catch the infection.	**T**	F	DK

D. Knowledge related to contraception:

	True	False	Don't Know
1. Emergency contraception can be taken up to five days after unprotected vaginal intercourse.	**T**	F	DK
2. The main function of the birth control pill is to suppress ovulation.	**T**	F	DK
3. Women receive Depo Provera injections every two months.	T	**F**	DK
4. Estrogen and progesterone are found in the birth control patch.	**T**	F	DK
5. The birth control pill is more effective than the birth control patch.	T	**F**	DK
6. The IUD (intrauterine device) strings should be checked regularly to ensure it is in place.	**T**	F	DK
7. The vaginal contraceptive ring is inserted into the vagina once a month.	**T**	F	DK
8. Depo Provera may increase a woman's risk of osteoporosis (thinning bones).	**T**	F	DK
9. If a woman has taken the pill for two years and then stops, she will have a much more difficult time getting pregnant, compared to a woman who has never used the pill.	T	**F**	DK
10. Withdrawal can be an ineffective method of birth control because there can be a small amount of sperm released prior to ejaculation.	**T**	F	DK
11. Dual protection means using a hormonal method of birth control plus a condom.	**T**	F	DK

E. Knowledge related to condoms:

	True	False	Don't Know
1. A male condom should be worn so it is snug at the tip of the penis.	T	**F**	DK
2. Male and female condoms give complete protection from sexually transmitted infections.	T	**F**	DK
3. Female condoms are made of latex.	T	**F**	DK
4. Air must be squeezed out of the tip of the male condom before putting it on.	**T**	F	DK
5. Male and female condoms should not be used together.	**T**	F	DK
6. When a condom (male or female) is used, someone should hold onto the condom when the male pulls out after sex.	**T**	F	DK
7. Oil-based lubricants are safe to use with male condoms.	T	**F**	DK

F. Knowledge related to sexual diversity/sexual orientation:

	True	False	Don't Know
1. The 'T' in the acronym LGBTQ means transvestite.	T	**F**	DK
2. The Rainbow Flag is a symbol of the gay pride movement. When LGBTQ youth see the Rainbow they see it as a sign of sexual diversity, openness and inclusiveness.	**T**	F	DK
3. Using inclusive language is one strategy to reduce barriers to LGBTQ youth accessing health care services.	**T**	F	DK
4. Having sexual experiences with someone of the same gender before age 15 is a good predictor of sexual orientation in adulthood.	T	**F**	DK
5. Lesbian women do not need Pap tests.	T	**F**	DK
6. Heterosexism is the assumption that everyone is heterosexual.	**T**	F	DK

G. Knowledge related to community services:

1. Excluding hospitals, walk-in clinics and family doctors, name three places in the community where youth can access sexual and reproductive health services.

a. ______________________________

b. ______________________________

c. ______________________________

Appendix R: Perceived Comfort Questionnaire

Please identify your first name initial, your last name initial, and your home postal code (e.g., DDT3K6H8) ____

Below is a list of sexual health topics that you might discuss with high risk/street youth. For each topic, on a scale of 1 to 5, please identify the number that represents the extent to which you feel comfortable discussing this topic right now.

	1= Not at all comfortable		3=Somewhat comfortable		5=Extremely comfortable
Reproductive Health	1	2	3	4	5
Healthy Relationships	1	2	3	4	5
Unhealthy Relationships	1	2	3	4	5
Pregnancy Awareness	1	2	3	4	5
Sexually Transmitted Infections	1	2	3	4	5
Sexual Diversity/Sexual Orientation	1	2	3	4	5
HIV	1	2	3	4	5
Contraception	1	2	3	4	5
Male Condoms	1	2	3	4	5
Female Condoms	1	2	3	4	5
Sexual Health Services in the Community of Calgary	1	2	3	4	5

Appendix S: Training Follow-up Questionnaire

Please identify your first name initial, your last name initial and your home postal code (e.g., DDT3K6H8) ______________________________

1. Have you used the information from the training?

   a. ☐ Yes

      If yes, how did you use the information?

   b. ☐ No

      If no, why not?

   c. Specifically, what behaviours, skills or strategies did you learn within the workshop?

2. How would you rate the usefulness of this training for your work?

   ☐ Poor ☐ Fair ☐ Good ☐ Very Good ☐ Excellent

3. Was this training worth your time and effort?

   a. ☐ Yes ☐ Not Sure ☐ No

   b. Explain

4. Comments and suggestions for future programs:

5. Would you mind being contacted again if there are additional questions that come up for the researcher after she reviewed the data, or to verify her interpretation of the data? If yes, please provide your contact information below or contact the researcher via email (email address).

   First Name: ___________________ Phone Number: _______________________

6. Would you like your name entered in a draw for one of twelve $25 gift cards? If yes, please provide your contact information below or contact the researcher via email (email address).*

   First Name: ___________________ Phone Number: _______________________

***Number 6 was omitted from the questionnaire for the alternative school participants (Face-to-Face Group 1) because the Calgary Board of Education does not allow staff to receive honorariums for participating in research.**

Appendix T: Facilitator Interview Guide

A. Explain the purpose of the interview. The purpose of this interview is to understand your perspectives and experiences related to the online and face-to-face training programs you facilitated.
B. Informed consent: Review the consent and ensure that participants have agreed to participate in the group interview.
C. Semi structured group interview questions:
    1. In general, what was it like for you facilitating the training programs?
        - What was it like facilitating the **online** training program?
        - What was it like facilitating the **face-to-face** training program?
    2. What facilitators did you come across in implementing the **online** training program?
    3. What facilitators did you come across in implementing the **face-to-face** training program?
    4. What barriers did you come across in implementing the **online** training program?
    5. What barriers did you come across in implementing the **face-to-face** training program?
    6. In terms of the online program, how did the content of the discussion compare to that of the face-to-face discussions?
    7. In terms of the online program, how did the depth of the discussion compare to that of the face-to-face discussions?
    8. The training program was facilitated by two different disciplines: nursing and education. Additionally, the training programs were attended by an interdisciplinary group of participants. What was your perspective on the interdisciplinary nature of the training program?
        - In terms of facilitation, what did each discipline bring to the training program?
        - In terms of participation, what did each discipline bring to the training program?
    9. If a similar **online** training program is offered in the future,
        - What would you change? Why?
        - What would you keep the same? Why?
    10. If a similar **face-to-face** training program is offered in the future,
        - What would you change? Why?
        - What would you keep the same? Why?
    11. Is there anything else you would like to tell me about your experiences with facilitating the training program?
    12. Would you mind being contacted again if there are additional questions that come to mind after reflecting on the data, or to verify interpretation of findings?

Appendix U: Detailed Summery of Training Program Content

Topic	Introduction (approximately 30 minutes)
Summary of content addressed	• Welcome • Introduction of facilitators and participants • What do you want to get out of the training program? • Ground Rules
Which findings from phase one are reflected in the content	N/A
Learning strategies face-to-face	• PowerPoint • Dissemination of package of PowerPoint slides and additional information • Large group discussion regarding what participants wanted to gain from the program
Learning strategies online	• PowerPoint/Adobe presenter • Document containing information about and photos of the facilitators, the objectives of the training program, tips for using Blackboard, and tips for online learning • Large group discussion regarding what participants wanted to gain from the program (discussion board)
How learning strategies reflect constructivist learning theory and/or andragogy	• Andragogy principle 1: need to know (e.g., asked participants what they wanted to gain from the program) • Andragogy principle 2: self-directed learning (e.g., asked participants what they wanted to gain from the program) • Constructivist learning: meaning making is provoked by a question, problem, confusion, or the desire or need to know, and therefore involves ownership of that problem (e.g., asked participants what they wanted to gain from the program)

Topic	Setting the Context (approximately 55 minutes)
Program objectives addressed	• To increase awareness of the S&RH issues high risk youth/SIY face • To increase comfort discussing S&RH issues with youth • To provide tools whereby service providers can use the knowledge gained from the training program
Summary of content addressed	• Training program objectives • Discussion of selected findings from phase one of the research • The importance of training service providers that work with SIY • The importance of relationships between service providers and SIY • Sexuality of SIY compared to mainstream youth • Definitions of key terms (sex, sexuality, S&RH, sexuality education) • Identifying assumptions surrounding S&RH • Tips for addressing sexual health with SIY • Tips related to diversity • Theoretical framework IMB (information-motivation-behavioural skills) Model
Findings from phase one reflected in training content	• Theme 1: Culturally appropriate S&RH services − Subtheme B: S&RH challenges of SIY − Subtheme D: Facilitators of S&RH protection and promotion − Subtheme A: Recognizing strengths of SIY − Subtheme C: Complex and diverse life circumstances of SIY • Theme 2: Importance of relationships − Subtheme A: Connecting with youth • Theme 3: Providing S&RH support for service providers − Subtheme A: Capacity development (better understand personal values, beliefs, and assumptions)
Learning strategies face-to-face	• PowerPoint • Values Quiz • Small group discussion • Large group discussion • Individual reflection • Sharing of anecdotes and personal experiences by facilitators • Quotes from phase one SIY • Quotes from phase one service providers • Humour - cartoon • Humour - video clip • Q&A
Learning strategies online	• PowerPoint/Adobe Presenter • Values Quiz • Large group discussion (discussion board) • Individual reflection • Sharing of anecdotes and personal experiences by facilitators • Quotes from phase one SIY • Quotes from phase one service providers • Humour - cartoon • Humour - video clip • Q&A
How learning strategies reflect constructivist learning theory and/or andragogy	• Constructivist learning: knowledge is anchored within the context in which learning occurs (e.g., quotes from phase one participants) • Constructivist learning: knowledge is constructed, not imparted (e.g., engage learners through humour) • Constructivist learning: the building of knowledge necessitates the

	expression of what is learned (e.g., values quiz, individual reflective exercise) • Constructivist learning: meaning making is provoked by a question, problem, confusion, or the desire to know (e.g., Q&A) • Constructivist learning: meaning can be shared with other people; therefore meaning making can be an outcome of conversation (e.g., small and large group discussion) • Andragogy principle 3: experience provides the foundation for learning (e.g., values clarification, group discussion) • Andragogy principle 5: adult learning is life, task or problem oriented versus content orientated (e.g., sharing of anecdotes, sharing through discussion).

Topic	**Topic: Anatomy & Physiology Review (approximately 15 minutes)**
Program objectives addressed	• To increase comfort discussing S&RH issues with youth • To increase knowledge regarding reproductive health/anatomy and physiology
Summary of content addressed	• Why review anatomy and physiology? • Review of male anatomy • Review of female anatomy • Review of the menstrual cycle
Findings from phase one reflected in training content	• Theme 3: Providing S&RH support for service providers – Subtheme A: Capacity development (basic knowledge related to anatomy and physiology)
Learning strategies face-to-face	• PowerPoint • Humour-YouTube video • Quotes from phase one service providers • Q&A • Additional reading
Learning strategies online	• PowerPoint/Adobe Presenter • Humour-YouTube video • Quotes from phase one service providers • Q&A • Additional reading
How learning strategies reflect constructivist learning theory and/or andragogy	• Constructivist learning: meaning making is provoked by a question, problem, confusion, or the desire to know (e.g., Q&A, additional reading) • Andragogy principle 2: self-directed learning (e.g., provided additional reading)

Topic	Pregnancy and Pregnancy Awareness (approximately 20 minutes)
Program objectives addressed	• To increase awareness of the S&RH issues high risk youth/SIY face • To increase comfort discussing S&RH issues with youth • To increase knowledge regarding pregnancy and early pregnancy awareness • To increase knowledge of community sexual health services • To provide tools whereby service providers can use the knowledge gained from the training program
Summary of content addressed	• Importance of early pregnancy awareness • Questions to ask if pregnancy is suspected • Signs and symptoms of pregnancy • Pregnancy testing • Community Resources
Findings from phase one reflected in training content	• Theme 3: Providing S&RH support for service providers – Subtheme A: Capacity development (basic knowledge related to pregnancy awareness; knowledge related to community resources/referrals) • Theme 1: Culturally appropriate S&RH services – Subtheme B: S&RH challenges of SIY (pregnancy and repeated pregnancy; access to S&RH services) • Theme 2: Importance of relationships – Subtheme B: Connecting youth to dependable services
Learning strategies face-to-face	• PowerPoint • Quotes from phase one service providers • Q&A • Quotes from phase one SIY
Learning strategies online	• PowerPoint/Adobe Presenter • Quotes from phase one service providers • Q&A • Quotes from phase one SIY
How learning strategies reflect constructivist learning theory and/or andragogy	• Constructivist learning: meaning making is provoked by a question, problem, confusion, or the desire to know (e.g., Q&A) • Constructivist learning: knowledge is anchored within the context in which learning occurs (e.g., quotes from phase one participants)

Topic	Pregnancy Prevention: Contraception (approximately 50 minutes)
Program objectives addressed	• To increase awareness of the S&RH issues high risk youth/SIY face • To increase comfort discussing S&RH issues with youth • To increase knowledge regarding contraceptive methods/pregnancy prevention • To increase knowledge of community sexual health services • To provide tools whereby service providers can use the knowledge gained from the training program
Summary of content addressed	• Teen pregnancy statistics • Why unplanned pregnancies occur • Why planned pregnancies occur • About various contraceptive methods and applicability for SIY – abstinence, female condoms, male condoms, combined hormonal contraception (pill, patch, vaginal ring), emergency contraception, birth control injection (Depo-Provera), Copper IntraUterine Device (IUD), Mirena IntraUterine System (IUS), spermacides, withdrawal • Key messages • Community resources including where to access low cost or no cost supplies
Findings from phase one reflected in training content	• Theme 3: Providing S&RH support for service providers – Subtheme A: Capacity development (knowledge related to safer sex [contraception and condoms]; knowledge related to community resources/referrals) • Theme 1: Culturally appropriate S&RH services – Subtheme B: S&RH challenges of SIY (unprotected intercourse; self care; substance use and sex; access to S&RH services) • Theme 2: Importance of relationships – Subtheme B: Connecting youth to dependable services
Learning strategies face-to-face	• PowerPoint • Quotes from phase one SIY • Quotes from phase one service providers • Humour- YouTube video clips, comic • Sharing of anecdotes and personal experiences by facilitators • Q&A • Large group discussion
Learning strategies online	• PowerPoint/Adobe Presenter • Quotes from phase one SIY • Quotes from phase one service providers • Humour- YouTube video clips, comic • Sharing of anecdotes and personal experiences by facilitators • Q&A • Large group discussion • Case example, reflective questions, and online discussion
How learning strategies reflect constructivist learning theory and/or andragogy	• Constructivist learning: meaning making is provoked by a question, problem, confusion, or the desire to know (e.g., Q&A, case example activity) • Constructivist learning: knowledge is anchored within the context in which learning occurs (e.g., quotes from phase one participants, sharing of anecdotes and personal experiences) • Constructivist learning: knowledge is constructed, not imparted (e.g.,

	engage learners through humour) • Constructivist learning: the building of knowledge necessitates the expression of what is learned (e.g., case example activity, reflective questions, discussion) • Constructivist learning: construction of knowledge is the result of activity (e.g., case example) • Constructivist learning: meaning can be shared with other people; therefore meaning making can be an outcome of conversation (e.g., large group discussion) • Andragogy principle 3: experience provides the foundation for learning (e.g., group discussion) • Andragogy principle 5: Adult learning is life, task or problem orientated versus content orientated (e.g., case example, quotes from phase one participants, sharing of anecdotes and personal experiences)

Topic	**Promoting Healthy Relationships (approximately 40 minutes)**
Program objectives addressed	• To increase awareness of the S&RH issues high risk youth/SIY face • To increase comfort discussing S&RH issues with youth • To increase knowledge regarding relationships (healthy/unhealthy) • To increase knowledge of community sexual health services • To provide tools whereby service providers can use the knowledge gained from the training program
Summary of content addressed	• How we learn about relationships • Healthy relationships • Unhealthy relationships • Challenging our assumptions about relationships • Why youth stay in unhealthy relationships • Supporting youth • Tips for engaging youth and conversation starters • Duty to report • Community resources
Findings from phase one reflected in training content	• Theme 3: Providing S&RH support for service providers − Subtheme A: Capacity development (knowledge related to promoting healthy relationships; understanding personal values, beliefs, assumptions; knowledge related to community resources/referrals) • Theme 1: Culturally appropriate S&RH services − Subtheme B: S&RH challenges of SIY (relationships; access to S&RH services) − Subtheme D: Facilitators of S&RH protection and promotion − Subtheme C: Complex and diverse life circumstances of SIY • Theme 2: Importance of relationships − Subtheme B: Connecting youth to dependable services
Learning strategies face-to-face	• PowerPoint • Large group discussion • Q&A • Use of pop culture - discussion of • Individual reflection • Quotes from phase one SIY • Quotes from phase one service providers

	song pertaining to relationship violence	• Links to resources
Learning strategies online	• PowerPoint/Adobe Presenter • Case example, reflective questions and discussion • Q&A • Use of pop culture - link to music video • Individual reflection questions	• Quotes from phase one SIY • Quotes from phase one service providers • Links to resources
How learning strategies reflect constructivist learning theory and/or andragogy	• Constructivist learning: meaning making is provoked by a question, problem, confusion, or the desire to know (e.g., Q&A, additional resources) • Constructivist learning: meaning making is provoked by a question, problem, confusion, or the desire to know (e.g., Q&A, case example activity) • Constructivist learning: knowledge is anchored within the context in which learning occurs (e.g., quotes from phase one participants) • Constructivist learning: the building of knowledge necessitates the expression of what is learned (e.g., case example, reflective questions, discussion) • Constructivist learning: construction of knowledge is the result of activity (e.g., case example activity) • Constructivist learning: meaning can be shared with other people; therefore meaning making can be an outcome of conversation (e.g., large group discussion) • Andragogy principle 3: experience provides the foundation for learning (e.g., group discussion) • Andragogy principle 5: Adult learning is life, task or problem orientated versus content orientated (e.g., case example, quotes from phase one participants) • Andragogy principle 2: self-directed learning (e.g., additional reading)	

Topic	Sexually transmitted infections (STIs) and blood borne pathogens (BBPs) (approximately 50 minutes)
Program objectives addressed	• To increase awareness of the S&RH issues high risk youth/SIY face • To increase comfort discussing S&RH issues with youth • To increase knowledge regarding sexually transmitted infections and HIV, including transmission, signs and symptoms, treatment and prevention • To increase knowledge of community sexual health services • To provide tools whereby service providers can use the knowledge gained from the training program
Summary of content addressed	• STI versus STD • What is an STI? • STI in males • STI in females • Statistics • Transmission, symptoms, testing, treatment and consequences of bacterial STI (chlamydia, gonorrhea, syphilis) • Transmission, symptoms, testing, and treatment of parasitic STI (pubic lice and scabies) • Transmission, symptoms, testing, treatment and consequences of viral STI (human papilomavirus [HPV] and herpes simplex virus [HSV]) • Blood borne pathogens (BBP) • Transmission, symptoms, testing, treatment and consequences of BBP (HIV and Hepatitis B) • Key messages • Community resources/referral
Findings from phase one reflected in training content	• Theme 3: Providing S&RH support for service providers – Subtheme A: Capacity development (basic knowledge related to STIs and HIV; knowledge related to community resources/referrals) • Theme 1: Culturally appropriate S&RH services – Subtheme B: S&RH challenges of SIY (STIs and/or HIV; access to S&RH services) – Subtheme C: Complex and diverse life circumstances of SIY • Theme 2: Importance of relationships – Subtheme B: Connecting youth to dependable services
Learning strategies face-to-face	• PowerPoint • Community • Humour – video clips, comics • Quotes from phase one service providers • Q&A • Links to additional reading via references
Learning strategies online	• PowerPoint/Adobe Presenter • Additional reading • Humour – video clips, comics • Quotes from phase one service providers • Q&A • Links to additional reading via references • Additional reading posted
How learning strategies reflect constructivist	• Constructivist learning: knowledge is constructed, not imparted (e.g., engage learners through humour)

learning theory and/or andragogy	• Constructivist learning: meaning making is provoked by a question, problem, confusion, or the desire to know (e.g., Q&A, additional reading) • Andragogy principle 2: self-directed learning (e.g., additional reading)

Topic	**STI & BBP prevention (approximately 40 minutes)**
Program objectives addressed	• To increase awareness of the S&RH issues high risk youth/SIY face • To increase comfort discussing S&RH issues with youth • To increase knowledge regarding STI prevention including condoms • To increase knowledge of community sexual health services • To provide tools whereby service providers can use the knowledge gained from the training program
Summary of content addressed	• Vaccinations (HPV and Hepatitis B) • Male condoms, female condoms, dental dams • Why youth do not use condoms • Condom negotiation • Problem solving issues related to condoms • Early detection: testing • Key messages • Community resources (including where to access free or low cost supplies)
Findings from phase one reflected in training content	• Theme 3: Providing S&RH support for service providers − Subtheme A: Capacity development (knowledge related to safer sex [contraception and condoms]; knowledge related to community resources/referrals) • Theme 1: Culturally appropriate S&RH services − Subtheme B: S&RH challenges of SIY (unprotected intercourse; self-care; substance use and sex; access to S&RH services) − Subtheme D: Facilitators of S&RH protection and promotion • Theme 2: Importance of relationships − Subtheme B: Connecting youth to dependable services
Learning strategies face-to-face	• PowerPoint • Humour – YouTube video, comic • Quotes from phase one SIY • Quotes from phase one service providers • Links to additional reading via references • Live male condom and female condom demonstration with participant volunteers • Live dental dam demonstration • Link to online male condom demonstration • Link to online female condom demonstration • Link to online dental dam demonstration • Large group discussion • Q&A
Learning strategies online	• PowerPoint/Adobe Presenter • Humour – video clips, comics • Quotes from phase one SIY • Quotes from phase one service providers • Link to online male condom demonstration • Link to online female condom demonstration • Link to online dental dam demonstration

	• Links to additional reading via references • Q&A
How learning strategies reflect constructivist learning theory and/or andragogy	• Constructivist learning: meaning making is provoked by a question, problem, confusion, or the desire to know (e.g., Q&A,) • Constructivist learning: knowledge is anchored within the context in which learning occurs (e.g., quotes from phase one participants) • Constructivist learning: knowledge is constructed, not imparted (e.g., engage learners through humour) • Constructivist learning: the building of knowledge necessitates the expression of what is learned (e.g., discussion) • Constructivist learning: construction of knowledge is the result of activity (e.g., condom demonstrations) • Constructivist learning: meaning can be shared with other people; therefore meaning making can be an outcome of conversation (e.g., large group discussion) • Andragogy principle 3: experience provides the foundation for learning (e.g., group discussion) • Andragogy principle 2: self-directed learning (e.g., additional reading)

Topic	**Sexual Orientation and Identity**
Program objectives addressed	• To increase awareness of the S&RH issues high risk youth/SIY face • To increase comfort discussing S&RH issues with youth • To increase knowledge related to sexual orientation and diversity • To increase knowledge of community sexual health services • To provide tools whereby service providers can use the knowledge gained from the training program
Summary of content addressed	• Definition of terms (sexual diversity, sexual orientation, gender identity, gay/lesbian, bisexual, transgender, two-spirited, questioning, homophobia, heterosexism) • Facts related to sexual orientation and identity • Bullying • Human rights • Supporting youth • Tips for creating LGBT friendly environments • Conversation starters • Resources
Findings from phase one reflected in training content	• Theme 3: Providing S&RH support for service providers – Subtheme A: Capacity development (knowledge related to sexual diversity; knowledge related to community resources/referrals) • Theme 1: Culturally appropriate S&RH services – Subtheme B: S&RH challenges of SIY (acceptance in relation to sexual diversity) – Subtheme D: Facilitators of S&RH protection and promotion • Theme 2: Importance of relationships – Subtheme B: Connecting youth to dependable services
Learning strategies face-to-face	• PowerPoint • Links to additional readings • Quotes from phase one SIY • Video: "It Gets Better"

	• Quotes from phase one service providers	• Large group discussion • Q&A
Learning strategies online	• PowerPoint/Adobe Presenter • Quotes from phase one SIY • Quotes from phase one service providers	• Links to additional readings • Video: "It Gets Better" • Reflective questions and large group discussion
How learning strategies reflect constructivist learning theory and/or andragogy	• Constructivist learning: meaning making is provoked by a question, problem, confusion, or the desire to know (e.g., Q&A,) • Constructivist learning: knowledge is anchored within the context in which learning occurs (e.g., quotes from phase one participants) • Constructivist learning: knowledge is constructed, not imparted (e.g., engage learners through video) • Constructivist learning: the building of knowledge necessitates the expression of what is learned (e.g., discussion) • Constructivist learning: meaning can be shared with other people; therefore meaning making can be an outcome of conversation (e.g., large group discussion) • Andragogy principle 3: experience provides the foundation for learning (e.g., group discussion) • Andragogy principle 2: self-directed learning (e.g., additional reading)	

Topic	Community Resources (approximately 20 minutes)
Program objectives addressed	• To increase knowledge of community sexual health services • To provide tools whereby service providers can use the knowledge gained from the training program
Summary of content addressed	• Local websites (tascc.ca and teachingsexualhealth.ca) • Local agencies Note: Community resources were discussed across topics
Findings from phase one reflected in training content	• Theme 3: Providing S&RH support for service providers – Subtheme A: Capacity development (knowledge related to community resources/referrals) – Subtheme B: Accessible resources and tools • Theme 1: Culturally appropriate S&RH services – Subtheme B: S&RH challenges of SIY (access to S&RH services) • Theme 2: Importance of relationships – Subtheme B: Connecting youth to dependable services
Learning strategies face-to-face	• PowerPoint • Quotes from phase one service providers • Additional reading • Q&A • Humour – comic • Virtual tour of Alberta Health Services S&RH clinic • tascc.ca website tour (shown by facilitators)
Learning strategies online	• PowerPoint/Adobe Presenter • Quotes from phase one service providers • Additional reading • Q&A • Humour – comic • Virtual tour of Alberta Health Services S&RH clinic • tascc.ca website tour
How learning strategies reflect constructivist learning theory and/or andragogy	• Constructivist learning: meaning making is provoked by a question, problem, confusion, or the desire or need to know, and therefore involves ownership of that problem (e.g., additional reading) • Constructivist learning: construction of knowledge is the result of activity (e.g., website tour) • Constructivist learning: knowledge is constructed, not imparted (e.g., virtual tour) • Andragogy principle 2: self-directed learning (e.g., additional reading)

Topic	Sexual Exploitation (self study, on own time if interested)
Program objectives addressed	• Not part of the learning objectives. Self-directed learning for those interested
Summary of content addressed	• Definitions • Legal ramifications • Sexual exploitation and youth • Statistics • Risk factors • Warning signs • Impact on youth • Strategies (prevention, harm reduction, crisis intervention, assistance leaving the sex trade) • Community resources
Findings from phase one reflected in training content	• Theme 3: Providing S&RH support for service providers − Subtheme A: Capacity development (knowledge related to sexual exploitation; knowledge related to community resources/referrals) • Theme 1: Culturally appropriate S&RH services − Subtheme B: S&RH challenges of SIY (sexual exploitation) − Subtheme C: Complex and diverse life circumstances of SIY − Subtheme D: Facilitators of S&RH protection and promotion • Theme 2: Importance of relationships − Subtheme B: Connecting youth to dependable services
Learning strategies face-to-face	• Word document • Article • Links to additional information
Learning strategies online	• Word document • Article • Links to additional information
How learning strategies reflect constructivist learning theory and/or andragogy	• Andragogy principle 2: self-directed learning (e.g., self-study) • Constructivist learning: meaning making is provoked by a question, problem, confusion, or the desire or need to know, and therefore involves ownership of that problem (e.g., self-study)

Topic	Review (self study, on own time if interested)
Program objectives addressed	• To increase knowledge regarding reproductive health/anatomy and physiology • To increase knowledge regarding pregnancy and early pregnancy awareness • To increase knowledge regarding STIs and HIV, including transmission, signs and symptoms, treatment and prevention • To increase knowledge regarding contraceptive methods/pregnancy prevention • To increase knowledge regarding relationships (healthy/unhealthy) • To increase knowledge regarding STI prevention including condoms • To increase knowledge related to sexual orientation and diversity • To increase knowledge of community sexual health services
Summary of content addressed	• Important highlights of all topics
Findings from phase one reflected in training content	• Theme 3: Providing S&RH support for service providers – Subtheme A: Capacity development • Theme 1: Culturally appropriate S&RH services – Subtheme B: S&RH challenges of SIY – Subtheme D: Facilitators of S&RH protection and promotion • Theme 2: Importance of relationships – Subtheme B: Connecting youth to dependable services
Learning strategies face-to-face	• PowerPoint document
Learning strategies online	• PowerPoint document
How learning strategies reflect constructivist learning theory and/or andragogy	• Andragogy principle 2: self-directed learning (e.g., self-study) • Constructivist learning: meaning making is provoked by a question, problem, confusion, or the desire or need to know, and therefore involves ownership of that problem (e.g., self-study)

Appendix V: Cover Letter for Pre-Training Questionnaires

Dear Study Participant,

Thank you for agreeing to participate in this research study. This research study entails participating in a sexual and reproductive health training program and completing questionnaires at three different times (before the training program, immediately after the training program and six weeks after the training program). Individuals who complete all three questionnaires will be entered in a draw for one of twelve $25 gift cards. Please note that participation is voluntary and you can withdraw from this study at any time.

Attached is the pre-training program questionnaire. The questionnaire will collect some basic information about you as well as your baseline level of knowledge and comfort discussing sexual and reproductive health. Similar information will be collected immediately after you complete the training program and six weeks after the training program is completed. The attached questionnaire will take approximately 10-15 minutes to complete.

Your participation is extremely important to the success of this research project. Your participation will help Sexual & Reproductive Health (Alberta Health Services) to plan and deliver future sexual and reproductive health training programs. Additionally, your participation will help Sexual & Reproductive Health (Alberta Health Services) to develop best practices for adult training programs.

Be assured that your responses to this questionnaire will be kept confidential and that all publications created as a result of this study will report the findings anonymously. Please feel free to contact us with questions or concerns.

Sincerely,

Wendi Lokanc-Diluzio RN, MN, PhD(c)
Phone:
Email:

Sandra M. Reilly RN, EdD
Phone:
Email:

Ethics ID: 23554
Study Title: A Mixed Method Study of Interdisciplinary Capacity Development to Protect and Promote the Sexual and Reproductive Health of Street Youth: An Evaluation of Two Different Training Approaches (Phase Two)
PI: Sandra M. Reilly
Version #1: 10/March 2011

Note: For alternative school/CBE participants (face-to-face group 1), the following line was removed: Individuals who complete all three questionnaires will be entered in a draw for one of twelve $25 gift cards.

Appendix W: Cover Letter for Post-Training Questionnaires

Dear Study Participant,

Thank you for agreeing to participate in this research study. This research study entails participating in a sexual and reproductive health training program and completing questionnaires at three different times (before the training program, immediately after the training program and six weeks after the training program). Individuals who complete all three questionnaires will be entered in a draw for one of twelve $25 gift cards. Please note that participation is voluntary and you can withdraw from this study at any time.

Attached is the post-training program questionnaire. The questionnaire will collect information regarding your satisfaction with the training program as well as your level of knowledge and comfort discussing sexual and reproductive health. Similar information will be collected six weeks after the training program is completed. The attached questionnaire will take approximately 15-20 minutes to complete. Please complete the questionnaire by **DATE**.

Your participation is extremely important to the success of this research project. Your participation will help Sexual & Reproductive Health (Alberta Health Services) to plan and deliver future sexual and reproductive health training programs. Additionally, your participation will help Sexual & Reproductive Health (Alberta Health Services) to develop best practices for adult training programs.

Be assured that your responses to this questionnaire will be kept confidential and that all publications created as a result of this study will report the findings anonymously. Please feel free to contact us with questions or concerns.

Sincerely,

Wendi Lokanc-Diluzio RN, MN, PhD(c)
Phone
Email:

Sandra M. Reilly RN, EdD
Phone:
Email:

Ethics ID: 23554
Study Title: A Mixed Method Study of Interdisciplinary Capacity Development to Protect and Promote the Sexual and Reproductive Health of Street Youth: An Evaluation of Two Different Training Approaches (Phase Two)
PI: Sandra M. Reilly
Version #1: 10/March 2011

Note: For alternative school/CBE participants (face-to-face group 1), the following line was removed: Individuals who complete all three questionnaires will be entered in a draw for one of twelve $25 gift cards.

Appendix X: Cover Letter for Six Week Post-Training Questionnaires

Dear Study Participant,

Thank you for agreeing to participate in this research study. This research study entails participating in a sexual and reproductive health training program and completing questionnaires at three different times (before the training program, immediately after the training program and six weeks after the training program). Individuals who complete all three questionnaires will be entered in a draw for one of twelve $25 gift cards. Please note that participation is voluntary and you can withdraw from this study at any time.

Attached is the six week post-training program questionnaire. The questionnaire will collect information regarding your level of knowledge and comfort discussing sexual and reproductive health in addition to if or how you have used the information from the training program. The attached questionnaire will take approximately 15-20 minutes to complete. Please complete the questionnaire by DATE.

Your participation is extremely important to the success of this research project. Your participation will help Sexual & Reproductive Health (Alberta Health Services) to plan and deliver future sexual and reproductive health training programs. Additionally, your participation will help Sexual & Reproductive Health (Alberta Health Services) to develop best practices for adult training programs.

Be assured that your responses to this questionnaire will be kept confidential and that all publications created as a result of this study will report the findings anonymously. Please feel free to contact us with questions or concerns.

Sincerely,

Wendi Lokanc-Diluzio RN, MN, PhD(c)
Phone:
Email:

Sandra M. Reilly RN, EdD
Phone:
Email:

Ethics ID: 23554
Study Title: A Mixed Method Study of Interdisciplinary Capacity Development to Protect and Promote the Sexual and Reproductive Health of Street Youth: An Evaluation of Two Different Training Approaches (Phase Two)
PI: Sandra M. Reilly
Version #1: 10/March 2011

Note: For alternative school/CBE participants (face-to-face group 1), the following line was removed: Individuals who complete all three questionnaires will be entered in a draw for one of twelve $25 gift cards.

Appendix Y: Consent Form Participants (Phase Two)

UNIVERSITY OF CALGARY NURSING

FACULTY OF NURSING
Dr. Sandra Reilly
Associate Professor
Professional Faculties Building

Telephone: (403)
Fax: (403)
Email:

TITLE: A Mixed Method Study of Interdisciplinary Capacity Development to Protect and Promote the Sexual and Reproductive Health of Street Youth: An Evaluation of Two Different Training Approaches (Phase Two)

SPONSOR: University of Calgary, Faculty of Nursing

INVESTIGATORS: Sandra Reilly RN, EdD; Wendi Lokanc-Diluzio RN, MN, PhD(c)
(Phone Number) (Phone Number)

This consent form is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, please ask. Take the time to read this carefully and to understand any accompanying information. You will receive a copy of this form.

BACKGROUND

Some high risk/street youth participate in behaviors that place them at risk for pregnancy, sexually transmitted infections (STI) and human immunodeficiency virus (HIV). Service providers working with these youth play an important role in protecting and promoting the sexual and reproductive health of these youth.

In a Calgary based study of service providers, participants identified the need to develop the sexual and reproductive health knowledge and skills of front-line staff who work with high risk/street youth. This research will address this suggestion. This two-phased mixed methods study will explore the effectiveness of two different training approaches in improving the sexual and reproductive health knowledge, comfort and behaviors of service providers (nurses, social workers, educators, youth workers) working with high risk/street youth.

WHAT IS THE PURPOSE OF THE STUDY?

The purpose of this study is:

- To determine the knowledge that service providers require to protect and promote the sexual and reproductive health of high risk/street youth, for the purpose of redesigning an existing Alberta Health Services workshop (phase one); and
- To explore the effectiveness of the two different workshop training approaches (phase two).

WHAT WOULD I HAVE TO DO?

Your participation is for phase two of the study only. You will participate in a training program delivered online or face-to-face.

If you participate in the online program, you will:

- Complete an online pre-training questionnaire (~10-15 minutes).
- Complete the online training program, which will take approximately six hours to complete over a period of two weeks.
- Complete an online post-training questionnaire (~15-20 minutes).
- Complete an online questionnaire administered six weeks post-training (~15-20 minutes).

If you participate in the face-to-face program, you will:

- Complete a paper and pencil pre-training questionnaire (~10-15 minutes).
- Complete a face-to-face training program, which will take approximately six hours in one day.
- Complete a paper and pencil post-training questionnaire (~15-20 minutes).
- Complete a paper and pencil questionnaire administered six weeks post-training (~15-20 minutes).

WHAT ARE THE RISKS?

There are no expected risks with participating in this study. If something upsets you during the training program, you can stop participating in the training program. We can refer you to an agency that offers counseling services.

WILL I BENEFIT IF I TAKE PART?

If you agree to take part in this study there may or may not be a direct benefit to you. Taking part in this study may make you feel good about helping the researchers and Alberta Health Services to develop, evaluate, and compare the effectiveness of online and face-to-face sexual and reproductive health training programs for service providers working with high risk/street youth. Ultimately, this study may have a positive influence on the sexual and reproductive health of high risk/street youth.

DO I HAVE TO PARTICIPATE?

Your participation in this research is completely voluntary. Choosing not to take part in the research will not affect the care or services you receive from any Alberta Health Services programs you may be in or your employment. You can withdraw from the research at any time. If you would like to withdraw, please contact one of the researchers listed below.

WHAT ELSE DOES MY PARTICIPATION INVOLVE?

Some participants may be contacted if the researchers need to clarify or verify the data. This would entail a brief interview (~10-15 minutes).

WILL I BE PAID FOR PARTICIPATING, OR DO I HAVE TO PAY FOR ANYTHING?

You will not be paid to participate in this research. However, if you participate in the research until it is completed, your name will be entered in a draw for one of twelve $25 gift cards. If you are participating in the face-to-face training program, you may need to pay for parking.

WILL MY RECORDS BE KEPT PRIVATE?

Notes will be taken during the training sessions; however any comments you make (whether online or face-to-face) will be kept private. All your completed questionnaires will be kept private. The results from your questionnaires will be grouped with the information collected from other people in the study.

If you participate in a brief interview, anything that you state during the interview will be kept private. The interview will be recorded and/or notes will be taken for accuracy. Generally, what you say during the interview will be grouped with the information collected from other people in the study. You will be given a code name, so that your real name will not appear in any notes, and you will not be identified.

All paper and pencil questionnaires, tapes, notes, and memory sticks will be kept in a locked cabinet and will be erased or destroyed twelve years after the study is finished. All electronic copies of notes and questionnaires will be kept on a secure and password protected computer. The online questionnaires will be located on the surveymonkey.com server. The surveymonkey.com website is a secure website with a strict privacy policy. The questionnaires will be password protected. Only the researchers will have access to the password.

As a doctoral student, Ms. Lokanc-Diluzio will share information with the professors on her dissertation committee. If you participate in a brief interview, the only other person who will have access to the recorded interview will be a transcriptionist. She/he will not have access to your name and will treat all interviews as confidential.

The data will form the basis of Ms. Lokanc-Diluzio's dissertation. This dissertation will become public information and will be available through the University of Calgary library. As well, the results of this study may be shared with others at professional meetings or in journals.

IF I SUFFER A RESEARCH-RELATED INJURY, WILL I BE COMPENSATED?

In the event that you suffer injury as a result of participating in this research, no compensation will be provided to you by the University of Calgary, the Alberta Health Services, or the researchers. However, you still have all your legal rights. Nothing said in this consent form alters your right to seek damages.

SIGNATURES

Your signature on this form means that you have understood to your satisfaction the information regarding your participation in the research project and agree to participate. In no way does this waive your legal rights nor release the investigators or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time without jeopardizing your health care or your employment. If you have further questions concerning matters related to this research, please contact:

Dr. Sandra Reilly (Phone Number)

Or

Wendi Lokanc-Diluzio (Phone Number)

If you have any questions concerning your rights as a possible participant in this research, please contact The Director, of the Office of Medical Bioethics, (Phone Number).

______________________________ ______________________________

Participant's Name Signature and Date

______________________________ ______________________________

Investigator/Delegate's Name Signature and Date

______________________________ ______________________________

Witness' Name Signature and Date

The University of Calgary Conjoint Health Research Ethics Board has approved this research study. A signed copy of this consent form has been given to you to keep for your records and reference.

Page 4/4

Ethics ID: 23554
Study Title: A Mixed Method Study of Interdisciplinary Capacity Development to Protect and Promote the Sexual and Reproductive Health of Street Youth: An Evaluation of Two Different Training Approaches (Phase Two)
PI: Sandra M. Reilly
Version #1: 09/October 2010
CHREB Template date August 2008

Appendix Z: Consent Form Alternative School/CBE Participants (Phase Two)

UNIVERSITY OF CALGARY NURSING

FACULTY OF NURSING
Dr. Sandra Reilly
Associate Professor
Professional Faculties Building

Telephone: (403)
Fax: (403)
Email:

TITLE: A Mixed Method Study of Interdisciplinary Capacity Development to Protect and Promote the Sexual and Reproductive Health of Street Youth: An Evaluation of Two Different Training Approaches (Phase Two)

SPONSOR: University of Calgary, Faculty of Nursing

INVESTIGATORS: Sandra Reilly RN, EdD; Wendi Lokanc-Diluzio RN, MN, PhD(c)
(Phone Number) (Phone Number)

This consent form is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, please ask. Take the time to read this carefully and to understand any accompanying information. You will receive a copy of this form.

BACKGROUND

Some high risk/street youth participate in behaviors that place them at risk for pregnancy, sexually transmitted infections (STI) and human immunodeficiency virus (HIV). Service providers working with these youth play an important role in protecting and promoting the sexual and reproductive health of these youth.

In a Calgary based study of service providers, participants identified the need to develop the sexual and reproductive health knowledge and skills of front-line staff who work with high risk/street youth. This research will address this suggestion. This two-phased mixed methods study will explore the effectiveness of two different training approaches in improving the sexual and reproductive health knowledge, comfort and behaviors of service providers (nurses, social workers, educators, youth workers) working with high risk/street youth.

WHAT IS THE PURPOSE OF THE STUDY?

The purpose of this study is:

- To determine the knowledge that service providers require to protect and promote the sexual and reproductive health of high risk/street youth, for the purpose of redesigning an existing Alberta Health Services workshop (phase one); and
- To explore the effectiveness of the two different workshop training approaches (phase two).

WHAT WOULD I HAVE TO DO?

Your participation is for phase two of the study only. You will participate in a training program delivered online or face-to-face.

If you participate in the online program, you will:

- Complete an online pre-training questionnaire (~10-15 minutes).
- Complete the online training program, which will take approximately six hours to complete over a period of two weeks.
- Complete an online post-training questionnaire (~15-20 minutes).
- Complete an online questionnaire administered six weeks post-training (~15-20 minutes).

If you participate in the face-to-face program, you will:

- Complete a paper and pencil pre-training questionnaire (~10-15 minutes).
- Complete a face-to-face training program, which will take approximately six hours in one day.
- Complete a paper and pencil post-training questionnaire (~15-20 minutes).
- Complete a paper and pencil questionnaire administered six weeks post-training (~15-20 minutes).

WHAT ARE THE RISKS?

There are no expected risks with participating in this study. If something upsets you during the training program, you can stop participating in the training program. We can refer you to an agency that offers counseling services.

WILL I BENEFIT IF I TAKE PART?

If you agree to take part in this study there may or may not be a direct benefit to you. Taking part in this study may make you feel good about helping the researchers and Alberta Health Services to develop, evaluate, and compare the effectiveness of online and face-to-face sexual and reproductive health training programs for service providers working with high risk/street youth. Ultimately, this study may have a positive influence on the sexual and reproductive health of high risk/street youth.

DO I HAVE TO PARTICIPATE?

Your participation in this research is completely voluntary. Choosing not to take part in the research will not affect the care or services you receive from any Alberta Health Services programs you may be in or your employment. You can withdraw from the research at any time. If you would like to withdraw, please contact one of the researchers listed below.

WHAT ELSE DOES MY PARTICIPATION INVOLVE?

Some participants may be contacted if the researchers need to clarify or verify the data. This would entail a brief interview (~10-15 minutes).

WILL I BE PAID FOR PARTICIPATING, OR DO I HAVE TO PAY FOR ANYTHING?

You will not be paid to participate in this research. If you are participating in the face-to-face training program, you may need to pay for parking.

WILL MY RECORDS BE KEPT PRIVATE?

Notes will be taken during the training sessions; however any comments you make (whether online or face-to-face) will be kept private. All your completed questionnaires will be kept private. The results from your questionnaires will be grouped with the information collected from other people in the study.

If you participate in a brief interview, anything that you state during the interview will be kept private. The interview will be recorded and/or notes will be taken for accuracy. Generally, what you say during the interview will be grouped with the information collected from other people in the study. You will be given a code name, so that your real name will not appear in any notes, and you will not be identified.

All paper and pencil questionnaires, tapes, notes, and memory sticks will be kept in a locked cabinet and will be erased or destroyed twelve years after the study is finished. All electronic copies of notes and questionnaires will be kept on a secure and password protected computer. The online questionnaires will be located on the surveymonkey.com server. The surveymonkey.com website is a secure website with a strict privacy policy. The questionnaires will be password protected. Only the researchers will have access to the password.

As a doctoral student, Ms. Lokanc-Diluzio will share information with the professors on her dissertation committee. If you participate in a brief interview, the only other person who will have access to the recorded interview will be a transcriptionist. She/he will not have access to your name and will treat all interviews as confidential.

The data will form the basis of Ms. Lokanc-Diluzio's dissertation. This dissertation will become public information and will be available through the University of Calgary library. As well, the results of this study may be shared with others at professional meetings or in journals.

IF I SUFFER A RESEARCH-RELATED INJURY, WILL I BE COMPENSATED?

In the event that you suffer injury as a result of participating in this research, no compensation will be provided to you by the University of Calgary, the Alberta Health Services, or the researchers. However, you still have all your legal rights. Nothing said in this consent form alters your right to seek damages.

SIGNATURES

Your signature on this form means that you have understood to your satisfaction the information regarding your participation in the research project and agree to participate. In no way does this waive your legal rights nor release the investigators or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time without jeopardizing your health care or your employment. If you have further questions concerning matters related to this research, please contact:

Dr. Sandra Reilly (Phone Number)

Or

Wendi Lokanc-Diluzio (Phone Number)

If you have any questions concerning your rights as a possible participant in this research, please contact The Director, of the Office of Medical Bioethics, (Phone Number).

______________________________	______________________________
Participant's Name	Signature and Date
______________________________	______________________________
Investigator/Delegate's Name	Signature and Date
______________________________	______________________________
Witness' Name	Signature and Date

The University of Calgary Conjoint Health Research Ethics Board has approved this research study. A signed copy of this consent form has been given to you to keep for your records and reference.

Appendix AA: Consent Form Facilitators (Phase Two)

FACULTY OF NURSING
Dr. Sandra Reilly
Associate Professor
Professional Faculties Building

Telephone: (403)
Fax: (403)
Email:

TITLE: A Mixed Method Study of Interdisciplinary Capacity Development to Protect and Promote the Sexual and Reproductive Health of Street Youth: An Evaluation of Two Different Training Approaches (Phase Two)

SPONSOR: University of Calgary, Faculty of Nursing

INVESTIGATORS: Sandra Reilly RN, EdD; Wendi Lokanc-Diluzio RN, MN, PhD(c)

(Phone Number) (Phone Number)

This consent form is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, please ask. Take the time to read this carefully and to understand any accompanying information. You will receive a copy of this form.

BACKGROUND

Some high risk/street youth participate in behaviors that place them at risk for pregnancy, sexually transmitted infections (STI) and human immunodeficiency virus (HIV). Service providers working with these youth play an important role in protecting and promoting the sexual and reproductive health of these youth.

In a Calgary based study of service providers, participants identified the need to develop the sexual and reproductive health knowledge and skills of front-line staff who work with high risk/street youth. This research will address this suggestion. This two-phased mixed methods study will explore the effectiveness of two different training approaches in improving the sexual and reproductive health knowledge, comfort and behaviors of service providers (nurses, social workers, educators, youth workers) working with high risk/street youth.

WHAT IS THE PURPOSE OF THE STUDY?

The purpose of this study is:

- To determine the knowledge that service providers require to protect and promote the sexual and reproductive health of high risk/street youth, for the purpose of redesigning an existing Alberta Health Services workshop (phase one); and
- To explore the effectiveness of the two different workshop training approaches (phase two).

WHAT WOULD I HAVE TO DO?

Your participation is for phase two of the study only. You will facilitate the training programs delivered online and face-to-face. You will facilitate one to two online training programs. Each online training program entails a time commitment of approximately six to eight hours over two weeks of time. You will facilitate one to two face-to-face training programs. Each face-to-face training program entails a time commitment of six to eight hours over one day. The number of training programs will depend on the number of training program participants recruited.

After the training programs are completed, you will be asked to participate in an interview lasting 60-90 minutes to obtain your perspective on the online and face-to-face learning experience.

WHAT ARE THE RISKS?

There are no expected risks with participating in this study. If something upsets you while you facilitate the training programs, you can stop facilitating. We can refer you to an agency that offers counseling services.

WILL I BENEFIT IF I TAKE PART?

If you agree to take part in this study there may or may not be a direct benefit to you. Taking part in this study may make you feel good about helping the researchers and Alberta Health Services to develop, evaluate, and compare the effectiveness of online and face-to-face sexual and reproductive health training programs for service providers working with high risk/street youth. Ultimately, this study may have a positive influence on the sexual and reproductive health of high risk/street youth.

DO I HAVE TO PARTICIPATE?

Your participation in this research is completely voluntary. Choosing not to take part in the research will not affect the care or services you receive from any Alberta Health Services programs you may be in or your employment. You can withdraw from the research at any time. If you would like to withdraw, please contact one of the researchers listed below.

WILL I BE PAID FOR PARTICIPATING, OR DO I HAVE TO PAY FOR ANYTHING?

You will not be paid to participate in this research. However, you have your manager's support to participate in this research on work time.

WILL MY RECORDS BE KEPT PRIVATE?

Anything that you state during the interview will be kept private. The interview will be recorded for accuracy, and the notes will be kept on a secure computer. You will be given a code name, so that your real name will not appear in any notes, and you will not be identified. All tapes, notes and memory sticks will be kept in a locked cabinet and will be erased or destroyed twelve years after the study is finished.

As a doctoral student, Ms. Lokanc-Diluzio will share information with the professors on her dissertation committee. The only other person who will have access to the recorded interview will be a transcriptionist. She/he will not have access to your name and will treat all interviews as confidential.

All the data collected will form the basis of Ms. Lokanc-Diluzio's dissertation. This dissertation will become public information and will be available through the University of Calgary library. As well, the results of this study may be shared with others at professional meetings or in journals.

IF I SUFFER A RESEARCH-RELATED INJURY, WILL I BE COMPENSATED?

In the event that you suffer injury as a result of participating in this research, no compensation will be provided to you by the University of Calgary, the Alberta Health Services, or the researchers. However, you still have all your legal rights. Nothing said in this consent form alters your right to seek damages.

SIGNATURES

Your signature on this form means that you have understood to your satisfaction the information regarding your participation in the research project and agree to participate. In no way does this waive your legal rights nor release the investigators or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time without jeopardizing your health care and employment. If you have further questions concerning matters related to this research, please contact:

Dr. Sandra Reilly (Phone Number)

Or

Wendi Lokanc-Diluzio (Phone Number)

If you have any questions concerning your rights as a possible participant in this research, please contact The Director, of the Office of Medical Bioethics, (Phone Number).

______________________________	______________________________
Participant's Name	Signature and Date
______________________________	______________________________
Investigator/Delegate's Name	Signature and Date
______________________________	______________________________
Witness' Name	Signature and Date

The University of Calgary Conjoint Health Research Ethics Board has approved this research study. A signed copy of this consent form has been given to you to keep for your records and reference.

Ethics ID: 23554
Study Title: A Mixed Method Study of Interdisciplinary Capacity Development to Protect and Promote the Sexual and Reproductive Health of Street Youth: An Evaluation of Two Different Training Approaches (Phase Two)
PI: Sandra M. Reilly
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