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Satisfaction with Sexual Health Education among Recent Graduates of Ontario High Schools

Glenn J. Meaney
Wilfrid Laurier University

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SATISFACTION WITH SEXUAL HEALTH EDUCATION AMONG RECENT GRADUATES OF ONTARIO HIGH SCHOOLS

by

Glenn J. Meaney

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Abstract

Satisfaction with sexual health education can be seen as student evaluation of how effectively the sexual health education curriculum meets its goals. First-year university students completed one questionnaire containing measures concerning satisfaction with high school sexual health education, sexuality-related individual difference variables, and intentions to pursue further sexual health education at the university level. Question 1 was whether students were satisfied with their high school sexual health education. Results were examined for differences by gender and type of school attended (i.e., public or Catholic). Participants rated sexual health topics as very important; believed that most sexual health education should occur between Grade 6 and 8, but that many relevant topics were not covered until Grade 9 to 12; and were generally satisfied with their sexual health education teachers and the sexual health education program in, general. With few exceptions, participant ratings did not differ by gender or type of school attended. In Question 2, comfort with sexuality, past sexual behaviour, and sexual self-concept were examined as potential correlates of satisfaction with sexual health education. Results differed by gender of participants: For males, sexual self-concept (but not comfort with sexuality or past sexual behaviour) correlated significantly and positively with satisfaction with sexual health education; for females, comfort with sexuality and past sexual behaviour (but not sexual self-concept) were significantly and negatively correlated with satisfaction with sexual health education. Question 3 examined whether satisfaction with sexual health education predicted intentions to pursue further sexual health education. It was found that students who were less satisfied with sexual health education were more likely to pursue further sexual health education at the university

level. Results suggest that student's perceive the current sexual health education curriculum in Ontario as satisfactory in delivering sexual health education; however, the results also suggest several potential changes to the sexual health education curriculum: Some topics may need inclusion earlier in the curriculum, different approaches for sexual health education may be appropriate for males and females, and more emphasis may be necessary on the importance of continuing sexual health education.

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Patience…I have an infinite capacity to demand patience.

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Satisfaction with Sexual Health Education among Recent Graduates of Ontario High Schools

Provision of sexual health education programs for children and youth is often a controversial issue faced by educators and school administrators (e.g., Ciardullo, 2005). It can be argued, however, that sexuality is a fundamental aspect of being human and, as such, needs to be addressed as part of the educational experience of children and youth. The *Canadian Guidelines for Sexual Health Education* (Public Health Agency of Canada, 2008) were developed to encourage an effective sexual health education system in Canada. While effective sexual health education may involve many tiers of community involvement, one important venue for education is the formal school system. Since Canadian schools fall under the jurisdiction of provincial governments (*Constitution Act*, 1982), each province is responsible for determining sexual health education programs. The current study examines student perceptions regarding sexuality education offered in Ontario – which is governed by the Ontario curriculum – because student satisfaction can be used as one evaluation of the effectiveness of the sexual health education curriculum.

Sexual health education is covered under the *Healthy Living* strand of the elementary curricula (Ontario Ministry of Education, 2005) and the *Healthy Growth and Sexuality* strand of the Health and Physical Education secondary curricula (Ontario Ministry of Education, 1999, 2000). The mandated sexual health education program presents information to students in a developmental format and involves both physical and relational aspects of sexuality; sexual health is described in conjunction with other aspects of healthy development at all stages. In elementary school, students start by learning basic information, such as the life cycle of animals (including humans) and the

proper names for major parts of the body. The similarities and differences between boys and girls are taught in Grade 2. Children learn about the reproductive process in Grade 3 and healthy human relationships in Grade 4. By Grade 6, students are expected to have a basic understanding of male and female physiology, puberty and the changes that accompany it, and some essential ingredients of healthy relationships. By Grade 8, they learn about abstinence as a positive choice, sexually transmitted infections, contraception, decision-making skills in sexual situations, and how to seek support in their pursuit of healthy living (Ontario Ministry of Education, 2005).

In Grades 9 and 10, information is provided about the various pressures on teenagers to have sex (including media and peer influences), the cycle of sexual development through the human lifespan, and the consequences of choices related to intimate sexuality. Many topics related to sexuality -- including social skills, decision-making, and conflict resolution -- are taught more generally, although they may also include specific discussions of sexuality (Ontario Ministry of Education, 1999). Further education in Grades 11 and 12 offers the opportunity to gain in-depth knowledge about the assessment and pursuit of healthy sexual relationships.

Within this general framework for the delivery of sexual health education, however, there may be considerable variability in the specific content that is taught. While the provincial curricula outline the basic structure and content of sexual health education, individual school boards (and, to some extent, schools, principals, and teachers) ultimately determine curriculum delivery. Nevertheless, students who have completed their secondary school education are expected to have sufficient sexual health education to actively pursue healthy sexual relationships. How well the curriculum

achieves its goals is a matter of empirical evaluation.

Most existing evaluations of sexual health education programs have focused on their efficacy in avoiding negative outcomes, such as sexually transmitted diseases or unwanted pregnancy (e.g., Boyce, Warren, & King, 2000; Givaudan, Van de Vijver, Poortinga, Leenen, & Pick, 2007); in fact, most of these evaluations concern short-term programs specifically designed to avoid negative outcomes. Other rigorous evaluations focus on programs that are intended to enhance or complement the existing curriculum with a specific focus on sexual health education (e.g., Rye et al., 2008; Smylie, Maticka-Tyndale, & Boyd, 2008). Few attempts have been made to evaluate sexual health education as integrated into the standard education curriculum. However, Kirby, Laris, and Rolleri (2007) found that curriculum-based sex education programs generally tend to have a positive effect on sexual behaviours (i.e., they lead to delays in sexual initiation and/or increase use of condoms or contraceptives). At present, there has been no specific evaluation of the sexual health aspect of the Ontario curriculum.

Evaluation of a general, complex system, such as schooling -- even when focusing on a single aspect of the system -- is a daunting task (see King & Bond, 2003). However, one evaluative measure to consider is student satisfaction with their educational experiences. Satisfaction is a construct that can perhaps be thought of as the perception that a given service, product, or experience has adequately achieved its expectations. Education can be framed as a product of which students are consumers: Satisfaction measures how well the product (education) has met the expectations and needs of its consumers (students). While not everyone agrees with this "consumer-oriented" view of education (e.g., Charles, Tracy, & Robert, 2003; Onsman, 2008), there is a small body of

literature demonstrating that satisfaction with past education correlates strongly with positive outcome measures.

Huebner and Gilman (2006), for example, found that school satisfaction predicted global life satisfaction, hope, internal locus of control, and higher grade point averages. Karemera, Reuben, and Sillah (2003) found that academic performance was positively correlated with student satisfaction. Freeman, Hall, and Bresciani (2007) found that less satisfied students were more likely to think about, talk about, and initiate leaving school. While this body of evidence is small, scattered, and unsystematic, it does suggest that student satisfaction with education can be a predictor of academic success and may impact life beyond the confines of academic experiences.

Only a few studies (e.g., Byers et al., 2003a, 2003b) have addressed the issue of student satisfaction with a general sexual health curriculum. It could be argued that student satisfaction is a particularly appropriate outcome measure for sexual health education, which can be viewed as a program of skills training with specific behavioural outcomes (Mueller, Gavin, & Kulkami, 2008). That is, students are expected to acquire a skill set compatible with healthy relationships and healthy sexual behaviours. Social psychological theories concerned with the prediction of behaviour (e.g., *Theory of Reasoned Action*, Fishbein & Ajzen, 1975; *Theory of Planned Behaviour*, Ajzen, 1985; *Social Cognitive Theory*, Bandura, 1997; *Information-Motivation-Behavioural Skills Model*, Fisher & Fisher, 2000, 2002, Fisher, 1997) tend to emphasize the roles of perceived behavioural control, self-efficacy, and motivation (all of which involve having skills or the perception of having skills). While it is critically important that students learn effective behavioural skills, it is equally important that they perceive themselves as

having learned those skills. Moreover, satisfaction with education has been associated with positive behavioural intentions (Endres, Chowdhury, Frye, & Hurtubis, 2009), although not specifically with respect to sexual health. When applied to sexual health education, behavioural intentions are a key determinant of healthy sexual behaviours (Fisher & Fisher, 2000). Therefore, satisfaction with sexual health education is one indicator that sexual health education has achieved its goals.

Unfortunately, one New Brunswick study that assessed student satisfaction found that more than half of high school participants reported sexual health education as only fair or poor (Byers et al., 2003a). Students who have completed the curriculum, however, may be a particularly good source of information about satisfaction because they have experienced the entire curriculum and, hopefully, are in the process of putting that information to work in their personal relationships. To determine whether this preliminary finding represents a more global trend, the current series of studies investigated satisfaction of first-year university students with the sexual health education provided within the Ontario curriculum.

Satisfaction With and Evaluation of Sexual Health Education

Satisfaction with education is a multidimensional construct (e.g., Clemes, Gan, & Kao, 2008; Endres et al., 2009) and has proven elusive to measure (e.g., Goho & Blackman, 2009). Some research concerning student satisfaction has taken a consumer perspective; that is, student satisfaction is defined as an evaluation of how well a product or service (education) meets its intended goals (e.g., Clemes et al., 2008). While not everyone agrees with this approach (e.g., Charles et al., 2003; Onsman, 2008), this definition does allow for some insight into student satisfaction. Another approach is to

ask more general questions: Students may simply be asked whether they are satisfied with the school system; this approach allows for individual differences in the definition of satisfaction without providing insight as to what constitutes satisfaction (i.e., students may be satisfied for different reasons, but they can still rate their satisfaction).

The current investigation considers both approaches: Participants will be asked to rate their satisfaction with sexual health education, generally, as well as to rate how well the system has achieved its goals along relevant dimensions. General ratings of satisfaction will include direct questions relating to satisfaction as well as general ratings concerning the perceived importance (an indicator of satisfaction; e.g., Roszkowski & Raymond, 2004-2005) and timing of specific topics (were topics introduced at the right time?). Dimensions of program evaluation include evaluation of the program itself (e.g., the subject matter that was taught, how the material was taught) and how the program has affected relevant dimensions of sexuality such as knowledge about sexuality, sexuality-related values, interaction skills, and sexual self-understanding. These dimensions are closely aligned with the goals of sexual health education as defined by the *Canadian Guidelines for Sexual Health Education* (Public Health Agency of Canada, 2008). For the current study, participants were asked to rate both their satisfaction with their sexual health education and to provide an evaluation of the program. Finally, participants were asked to indicate satisfaction with sexual health education teachers, who comprise an integral part of the sexual health education system.

Teachers are an important component of any educational system and well-trained teachers may be especially critical for the delivery of effective sexual health education. Kirby, Laris, and Loreri (2006), for example, found teaching methods that engaged and

personalized the information for students to be one characteristic of successful, curriculum-based sexual health education programs. Although both the Public Health Agency of Canada (2008) and the Society of Obstetricians and Gynaecologists of Canada (McCall & McKay, 2004) strongly recommend specific training for sexual health education teachers, Canadian teachers often receive little or no training in sexual health education (Bickerton & deRoche, 2005). Lack of training and confidence in the material may lead to less effective instruction. As part of the evaluation of sexual health instruction, therefore, it is also important to assess satisfaction with the instructor as well as the material presented.

The Current Study

Data gathered from first year-university students will be used to assess satisfaction with sexual health education in the context of three broad questions. First, indicators of satisfaction to determine whether participants are satisfied with the sexual health education they received in high school. Secondly, measures of general satisfaction and evaluation of sexual health education will be used to determine whether satisfaction with sexual health education correlates with a variety of sexuality-related measures. Finally, measures of general satisfaction and evaluation of sexual health education will be used to determine whether sexual health education predicts intentions to pursue further sexual health education.

General Method

Participants and Procedure

Participants were recruited either through email (Introductory Psychology students; see Appendix A for recruitment email) or via a short presentation at the end of

class (Introductory Human Sexuality students; see Appendix B for recruitment script). In both cases, potential participants were informed that they would be asked to complete a survey concerning their satisfaction with the sexual health education they received in high school.

An initial sample was composed of 184 undergraduate students attending a mid-to-large size (enrolment data from Association of Universities and Colleges of Canada, 2008) Canadian university. All participants were enrolled in at least one of two courses: a first-year Introductory Psychology course or a first-year Introduction to Human Sexuality course. Those from Introductory Psychology classes participated for research experience course credit; those from the Introductory Human Sexuality course were paid $7.00 for their participation. Students enrolled in both courses received course credit (or $7.00 payment if they had reached their maximum research participation credit). All participants were treated in accordance with CPA/APA ethical guidelines, and were informed of the nature of the study, that their participation was voluntary, and that personal information would remain confidential. Each participant signed an informed consent form before participation (see Appendix C and Appendix D). Participants completed one questionnaire (about 45 minutes to complete) independently in an unoccupied room at the University or elsewhere at their convenience (the choice was theirs); completed questionnaires were returned to a researcher. Following participation, all participants were debriefed regarding the expectations of the study (see Appendix E for debriefing letter).

To ensure a homogeneous sample with respect to educational background and year of study, 23 participants were excluded from the analysis. Participants were

excluded if they did not attend high school in Ontario ($n = 18$), or if they were not enrolled in first-year undergraduate studies at the time of the survey ($n = 5$). The final sample consisted of 108 women and 53 men ranging in age from 16 to 24 years ($M =$ 18.31 years, $SD = .97$ years; 86% were either 18 or 19 years of age); there were no gender differences in age, $t(159) = .25$, *ns*. In total, 112 participants had attended public high schools, 44 had attended Catholic high schools, and 5 had attended neither public nor Catholic high schools. The majority of participants reported ethnicity as white ($n =$ 81; 50%) or Asian ($n = 51$; 32%). In the final sample ($N = 161$), 136 students were enrolled in Introductory Psychology and 36 were enrolled in Introduction to Human Sexuality.

Contingency table analyses were conducted to determine whether participants differed by sex and type of school depending on course of enrolment; 11 participants were eliminated from this analysis because they were enrolled in both courses and 5 were eliminated because they selected "other" for type of school. Gender was not independent of course of registration, $\chi^2(1) = 5.83$, $p < .05$; the proportion of women to men was higher in Introductory Human Sexuality Classes than in Introductory Psychology classes. Type of school was independent of course of registration, $\chi^2(1) = .36$, *ns*; the proportion of participants who had attended public and Catholic high schools did not differ by course of enrolment. However, there was a significant interaction of gender and type of school such that gender and type of school were independent for participants who had attended Catholic schools, $\chi^2(1) = 1.69$, *ns*, but not for those who had attended public schools, $\chi^2(1) = 4.90$, $p < .05$. This suggests that the observed difference in the proportion of men and women by course of enrolment may possibly be explained by a difference in

the proportion of men and women who had attended public schools.

Materials

Participants were given a single questionnaire composed of 8 parts: (1) Background Information, (2) the *Attitudes towards and Satisfaction with Sexual Health Education Survey* (adapted from Byers et al., 2003a), (3) *The Sexuality Education Program Feature/Program Outcome Inventory* (Klein, 1998), (4) the *Sexual Education Inventory: Preferred and Actual Sources* (Bennet & Dickinson, 1998), (5) *The Multidimensional Sexual Self-Concept Questionnaire* (Snell, 1998), (6) the *Human Sexuality Questionnaire* (Zuckerman, 1998), (7) the *Sexual Opinion Survey* (Fisher, 1998; Rye, Meaney, & Fisher, in press), and (8) the experience subscale of the *Derogatis Sexual Functioning Inventory* (Derogatis & Melisaratos, 1979). The entire questionnaire can be found in Appendix F; portions of the questionnaire used in the current studies are described below.

Background information. Participants provided demographic information (e.g., gender, age in years), and were asked to indicate whether they went to high school in Canada (and, if so, where in Canada they went to school) and the type of school attended (Catholic/public/other).

Importance of sexual health topics. Importance of sexual health topics was assessed using a scale of the *Attitudes towards and Satisfaction with Sexual Health Education Survey*. The version of this scale used in the current study differed from the original in that several topics (*Correct names for genitals*, *Puberty and physical development*, *Reproduction and birth*, and *Birth control methods and safer sex*) were eliminated (these were eliminated because, based on expert opinion, they would be rated

as very important by virtually all participants) and 13 items (e.g., *Communicating about sex*) were added to better reflect the diversity of sexual health concerns. In the final adapted scale, participants responded to 20 statements relevant to sexual health education using a 7-point Likert-type scale (1 = *Strongly Disagree*; 7 = *Strongly Agree*; higher scores indicate greater perceived importance). A composite index of the importance of sexual health topics was created by averaging scores on the 20 items. Internal consistency among these items was very high (Cronbach's $\alpha = .94$).

Timing of sexual health education. To measure satisfaction with timing of sexual health education, participants were presented with a list of 27 sexual health topics (e.g., *Sexual coercion and sexual assault*) from the *Attitudes towards and Satisfaction with Sexual Health Education Survey*. Participants were asked to indicate both the grade in which they had learned about each topic and the grade in which they would like to have learned about each topic. Answers were given on a categorical scale (*Grade K to Grade 5*, *Grade 6 to Grade 8*, *Grade 9 to Grade 12*, and either *This Topic was Never Covered* – when asked if they had learned about it, or *This Topic Should Not be Included* – when asked when they would like to have learned about it). These were based on similar items used by Byers and others (2003a) except that participants were asked to indicate when the topic was actually learned (*perceived timing)* as well as when participants would like to have learned about the topic (*preferred timing)*.

Satisfaction with sexual health education teachers. To assess satisfaction with sexual health education teachers, a section was added to the *Sexuality Program Feature/Program Outcome Inventory* that focused on sexual health education teachers. Participants were asked to think about teachers (as many as three), to give the grade at

which each teacher taught, and to rate each teacher on single-item measures of confidence, knowledge, approachability, and comfort with sexual content. Each teacher was rated on a 5-point scale (1 = *Very Poor*, 2 = *Poor*, 3 = *Average*, 4= *Good* And 5 = *Very Good*) for each item; scores could thus range from 1 to 5 per item. Among the 153 participants (95%) who provided ratings, 30 rated only one teacher, 41 rated two, and 82 rated three for a total of 358 different teacher evaluations.

The evaluation findings were analyzed in three ways. First, the means for all teachers on each of the four items were averaged to give an overall combined mean satisfaction score out of a possible 1 to 5. Cronbach's α for this composite index of satisfaction was .85 and an exploratory factor analysis produced a clear one-factor solution. Second, the mean scores for all teachers on each item were considered separately. Third, the mean scores on each item for the first, second and third teachers rated (teachers 1, 2 and 3) were calculated and compared. This latter analysis emerged from the finding that the mean grades taught by teachers 1, 2 and 3, were 7.12 (*SD* = 2.09), 8.41 (*SD* = 1.57) and 9.57 (*SD* =1.49), respectively. Grades differed significantly by teacher, $F(2, 162) = 62.63, p < .001, \eta_p^2 = .61$, suggesting that participants chose the teachers they rated chronologically, starting with what appears to be the first or earliest teacher who impacted their sexual health education.

Satisfaction with and evaluation of sexual health education. Satisfaction with sexual health education was measured using the *General Satisfaction with Sexual Health Education Scale* (GSSHE; adapted from Byers et al., 2003); Evaluation of sexual health education was measured using the *Sexuality Program Feature/Program Outcome Inventory* (SPFPOI; Klein, 1998).

The GSSHE consisted of three items from Byers and others (2003a) and six items created by the current authors. Statistical analysis of this scale revealed a reliable (Cronbach's $\alpha = .83$) four-item subscale that directly addressed satisfaction with sexual health education; as a result, only these four items (*I learned most of what I know about sexual health from my high school sexual health education, I am satisfied with sex education I have received in the Canadian school system, the amount of sexual education I had in school was adequate*, and *The sexual health education I have received in school has covered the topics that I am most interested in*) were used. Participants responded to each item on a 7-point Likert-type scale (1 = *Strongly Disagree*; 7 = *Strongly Agree*). A composite measure was created by averaging scores on the individual items.

The SPFPOI (Klein, 1998) is a 69-item survey consisting of six subscales designed to measure self-reported impact of sexual health education in the following areas: (a) Program Characteristics (12 items; e.g., *My teacher encouraged me to ask questions about sexuality during class*), (b) Changes in Knowledge (12 items; e.g., *As a result of my high school's sexuality education, I feel that I have a greater understanding of abstinence as an alternative to sexual intercourse*), (c) Understanding of Self (4 items; e.g., *As a result of my high school's sexuality education, I feel that I have a greater understanding of my own emotional needs*), (d) Changes in Values (7 items; e.g., *As a result of the sexual education I have received in high school, I feel I have a greater ability to form my own sexual standards*), and (e) Changes in Interaction Skills (8 items; e.g., *As a result of the sexual education I have received in high school, I feel I have a greater ability to resolve conflicts that may exist between me and another person*). Two single-item measures (*Feel comfortable with your own bodily functions* and *Satisfied with*

who you are) were included in addition to the subscales. One subscale (*Curriculum Topics*) and 24 items assessing presentation of sexual health education were omitted for the current study. Each item was measured on a 7-point Likert-type scale (1 = *Strongly Disagree*; 7 = *Strongly Agree*). In the current study, Cronbach's α was high for each subscale (Program Characteristics: α = .89, Changes in Knowledge: α = .92, Understanding of Self: α = .93, Changes in Values: α = .92, Changes in Interaction Skills: α = .91); Klein (1998) reported Cronbach's αs of .50, .80, .89, .79, and .53, respectively). Subscales were somewhat strongly intercorrelated ($r_{average}$ = .73) for the current study. Although composed of meaningful subscales, the composite SPFPOI may be used as a reliable, general indicator of the impact of sexual health education. A composite index was constructed by averaging scores on all items (including the 2 items that were not part of any subscale); this overall index had very high internal consistency (Cronbach's α = .97; Klein, 1998, reported .88 for the entire original scale).

Comfort with sexuality. Comfort with sexuality was measured using the *Sexual Opinion Survey* (Fisher, 1998; Rye et al., in press) and two scales of the *Human Sexuality Questionnaire* (Zuckerman, 1998). The *Sexual Opinion Survey* is the standard measure of erotophobia – erotophilia (a predisposition to respond to sexual stimuli with negative-to-positive affect and evaluation, Fisher, 1998). While it measures comfort with sexuality in general, the *Sexual Opinion Survey* does *not* consider sexuality in the context of relationships. The *Comfort with Sexual Behavior* scale (adapted from Zuckerman's (1998) *Human Sexuality Questionnaire*), while asking about sexual behaviours, considers these behaviours in the context of relationships (i.e., which behaviours are comfortable within which relationships). This adds another dimension to comfort with sexuality. A

further dimension is added by Zuckerman's (1998) *Attitudes toward Sexual Curiosity in Children* measures comfort with sexual curiosity and behaviour in children. This scale contains items that examine comfort with the developmental process of sexuality (i.e., sexuality as it is present in childhood).

The *Sexual Opinion Survey* is composed of 21 items that measure affective reactions to sexual situations involving sexual variety, open sexual display, and homoeroticism (Gilbert & Gamache, 1984), has been used in numerous investigations regarding sexual health, and has been found to correlate with a variety of healthy sexual behaviours (see Fisher, 1998; Rye et al., in press, for a review).Overall comfort or discomfort is generally expressed as erotophilia (comfort, sexual liberalism) or erotophobia (discomfort, sexual conservatism). Each item (e.g., *Engaging in group sex is an entertaining idea*) was measured on a Likert-type scale ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). Some items were reverse-coded so that higher scores indicated greater comfort with sexual matters. All items were then averaged to obtain a composite score for the scale. Cronbach's α for the current study was .90, similar to previously reported reliability coefficients for this scale (Cronbach's α = .76 to .89; Fisher, 1998; Rye et al., in press).

The *Comfort with Sexual Behaviours Scale* (adapted from the *Heterosexual Experience Scale* and *Homosexual Experience Scale* of the *Human Sexuality Questionnaire*, Zuckerman, 1998) is a 10-item scale designed to measure comfort with a variety of sexual behaviours (e.g., *Sexual intercourse, face-to-face*) within the context of more or less intimate relationships. Participants responded to each item using a 6-point Likert-type scale ranging from *Never all right, regardless of how much you love the*

person to *All right, regardless of how you generally feel about the person or how long you have known them.* Higher scores indicate greater comfort. Scores on individual items were averaged to create a composite score for the scale. This scale had very high reliability in the current study (Cronbach's $\alpha = .93$); Zuckerman (1998) reported test-retest reliabilities between .67 and .81 for the *Heterosexual Experience Scale* and *Homosexual Experience Scale* of his original questionnaire, but did not report Cronbach's α.

The *Attitudes toward Sexual Curiosity in Children* measures attitudes toward children's questions about sexuality. The scale consists of 12 items (e.g., *Sex is one of the greatest problems to be contended with in children*), to which participants were asked to indicate agreement or disagreement on a 7-point Likert-type scale (1 = *Strongly Disagree* to 7 = *Strongly Agree*) with higher scores indicating greater agreement. Some items were reverse scored so that higher scores on each item would indicate more positive attitudes. Cronbach's α for this current sample was .74; Zuckerman (1998) reported test-retest reliabilities between .44 and .64, but did not report Cronbach's α.

Past sexual behaviour. Past sexual behaviour was measured using the experience subscale of the *Derogatis Sexual Functioning Inventory* (Derogatis & Melisaratos, 1979). The experience subscale consists of a list of 21 sexual behaviours chosen to capture a wide variety of sexual experiences; items include *your partner lying on you while you are clothed, penis-in-vagina intercourse, sitting position,* and *having your anal area caressed.* A further four items (e.g., *used a sex toy*) were included in the current study to recognize a greater variety of sexual experiences. Participants were asked to indicate in which behaviours they have engaged at least once. For the current study, participants

were also asked to indicate in which behaviours they had ever engaged (a lifetime measure of sexual variety). A cluster analyses of the resulting sexual behaviour scores revealed three distinct groups of participants: 1) participants who had engaged only in masturbation alone and/or minor petting with others (inexperienced), 2) participants who had also engaged in some form of genital contact (e.g., oral sex) with a partner, but who had not had intercourse (somewhat experienced), and 3) participants who had experienced a variety of sexual behaviours including some form of sexual intercourse with a partner (experienced). For the current study, these clusters will be treated as an ordinal, hierarchical scale with values of 1 (inexperienced), 2 (somewhat experienced), and 3 (experienced).

Sexual self-concept. The *Multidimensional Sexual Self-Concept Questionnaire* (Snell, 1998) is a 100-item inventory (20 five-item subscales) designed to measure participants' conceptions of themselves as sexual beings. For the current study, 45 items were used; these composed 9 distinct subscales: (a) *Sexual Self-Efficacy* (e.g., *I have the ability to take care of any sexual needs and desires that I may have*), (b) *Sexual Consciousness* (e.g., *I am very aware of my sexual motivations and desires*), (c) *Motivation to Avoid Risky Sex* (e.g., *I want to avoid engaging in sex where I might be exposed to sexually transmitted infections*), (d) *Sexual Optimism* (e.g., *I will probably experience some sexual problems in the future*, reverse-coded), (e) *Sexual Problem Self-Blame* (e.g., *If something went wrong with my own sexuality, then it would be my own fault*), (f) *Sexual Problem Management* (e.g., *If I were to experience a sexual problem, my own behaviour would determine whether this improved*), (g) *Power-Other Sexual Control* (e.g., *In order to be sexually active, I have to conform to other, more powerful*

individuals), (h) *Sexual Self-Schemata* (e.g., *Not only would I be a skilled sexual partner, but it's very important to me that I be a skilled sexual partner*), and (i) *Sexual Problem Prevention* (e.g., *If I look out for myself, then I will be able to avoid any sexual problems in the future*). Each subscale was composed of 5 items and each item was rated on a 5-point Likert-type scale ranging from *Not At All Characteristic of Me* to *Very Characteristic of Me*. Reliability was acceptable for all subscales in the current study (Cronbach's αs = .89, .87, .68, .60, .84, .80, .87, .87, and .83 respectively). These are comparable to the numbers reported by Snell (1998) for the same subscales (Cronbach's α = .85, .78, .72, .78, .84, .84, .85, .87, and .85). Given a pattern of high intercorrelations among scales (see Table 7 for intercorrelations for men; intercorrelations for women are similarly high) and good reliability for the 45 items (α = .92), a composite index was created by averaging all items. When creating the composite index, items of the *Power/Other Sexual Control* scales were reverse-coded so that higher scores on all items indicated a more positive sexual self-concept.

Intentions to Pursue Further Sexual Health Education. Participants were asked to indicate whether they were currently enrolled, or intended to enroll, in an elective, introductory human sexuality course (offered at the University). The course serves as the entry-level course for a program in the study of human sexuality. Students responded to the two items (*I am currently enrolled in an Introduction to Human Sexuality course*, and *I intend to enroll in an Introduction to Human Sexuality course in the future*) by checking the appropriate box. For the purposes of the current study, students were coded as intending to pursue further sexual health education if they responded chose either of these options. A score of 1 was assigned if either option was

chosen; a score of 0 was assigned if neither was chosen.

Question 1: Are You Satisfied?

Participants were asked to rate satisfaction with their high school sexual health education with respect to several aspects of sexual health education, including characteristics of the program (e.g., specific topics included in the curriculum and sexual health education teachers) and general ratings of both satisfaction and evaluation. Results were considered in terms of participant gender and type of high school attended (i.e., public or Catholic).

Gender and Satisfaction with Sexual Health Education

Although there is evidence that girls tend to be more satisfied with school, in general (e.g., Marks, 1998; Sullivan, Riccio, & Reynolds, 2008), little research has investigated gender differences in satisfaction with sexual health education. Byers and colleagues found that boys and girls in middle school (2003b) and high school (2003a) were equally dissatisfied with sexual health education. Nevertheless, there are indications that boys and girls have different needs and expectations from sexual health education (e.g., Coyle, Kirby, Marin, Gómez, & Gregorich, 2004; Garriguet, 2005) and that girls (Strange, Oakley, & Forrest, 2003) and boys (Hilton, 2007) may prefer separate sexual health education for some topics. With respect to the Ontario curriculum in particular, Connell (2005) argues that the current curriculum's emphasis on sexuality as risky and dangerous for women may interfere with a satisfactory sexual health experience for girls.

Specifically, the curriculum emphasizes that women may become pregnant as a result of sexual activity, face higher risk for some sexually transmitted infections (Moscicki, 2005; Wong, Singh, Mann, Hansen, & McMahon, 2004), and may face more

coercion to have sex (e.g., Coyle et al., 2004). Further, women in our society are frequently given the "gatekeeper" role in sexual matters: Social norms place responsibility for control of sexuality on women more than on men (e.g., Impett & Peplau, 2006; Peplau, 2003). As a result, women may more often receive messages of negative consequences and grave responsibility from sexual health education.

While this focus on negative outcomes may make sexual health education a dissatisfying, anxiety-ridden experience for young women, it may also impress upon women the importance of effective sexual health education. In fact, women often report being more concerned than men with sexual health education and sexual decision-making (e.g., Measor, 2004). If we view sexual health education as a forum for skills acquisition, then, women may be dissatisfied with their previous education both because it was experienced negatively and because they feel that they have not learned important skills well enough. Men, on the other hand, may be less likely to feel that sexual decision-making is their responsibility, may be less impressed with the risks of sexual activity, and may feel that they 'know enough' – seeking sexual education may be regarded as "demasculinizing". That is, seeking sexual health education may go against the social norm that males are "sexual experts". Therefore, it is anticipated that women will report less satisfaction with sexual health education, in general, than men. However, there is evidence that women tend to rate teachers more favorably than men, at least on some dimensions (Basow, 1995; Heckert, Latier, Ringwald, & Silvey, 2006), so it is predicted that women will tend to rate sex education teachers more favorably than men.

School Boards and Satisfaction with Sexual Health Education

There are two primary types of school board in Ontario: Public School Boards

and Catholic School Boards. Both are governed by the same provincially-mandated curriculum, but there is considerable latitude as to how the curriculum is implemented. For example, Catholic School Boards may teach sexual health education with more emphasis on the maintenance of Christian values regarding sexuality (e.g., Waterloo Catholic District School Board, 2008). In some cases, the inclusion of sexual health information in Catholic education may itself be contentious: It has been suggested that some Catholic schools are slow to teach about important issues such as sexual abuse awareness (Zehr, 2004) and safer-sex behaviours (Mulholland, 2001). In the absence of a systematic research base, however, it can only be speculated that students who attend Catholic schools will be less likely to find their sexual health education experience satisfactory.

Satisfaction with sexual health education was examined along several dimensions, including the importance of sexual health education topics, the timing of education regarding specific topics, sexual education teachers, and general experience of sexual health education. Participants were also asked tp provide an evaluation of their sexual health education Based on previous research, several specific questions were posed:

Question 1. Education about sexual health topics would be rated as important by all students, presumably because they deem this information relevant to their lives. No differences in ratings of importance were expected between participants who had attended public or Catholic schools, but it was expected that women would be more likely than men to report that sexual health topics are important.

Question 2. Students would report receiving information later than they would like to have received it and it was expected that this trend would be more pronounced for

women than for men. Students who had attended Catholic schools would be more likely than those who had attended public schools to report receiving sexual health education later than they would like to have received it.

Question 3. Students would rate teachers somewhat negatively. Women would rate teachers more favourably than men. No differences were expected by type of school (Catholic or public) in ratings of sexual health education teachers.

Question 4. Students would be somewhat dissatisfied with their sexual health education and to evaluate their sexual health education somewhat negatively. More specifically, it was expected that women would be less satisfied and more negative in their evaluation than men and those who attended Catholic schools would be less satisfied and more negative than those who had attended public schools.

Method

Materials. Participants, materials, and procedure were as described in the General Method. The current study used the scales of the *Attitudes towards and Satisfaction with Sexual Health Education Survey* to measure importance of sexual health education topics, satisfaction with the timing of sexual health education, and general satisfaction with sexual health education. Further, ratings of sexual health education teachers were considered and the SPFPOI measured participant evaluation of sexual health education.

Results

Importance of sexual health education topics. Participants rated the importance of 20 sexual health topics; all topics were rated significantly higher than the midpoint of the scale (see Table 1), indicating that each was considered important. Participants gave half of the topics mean importance ratings in the top 6 to 7 rating range (6.02 to 6.72 out

of 7), with most of the reminder well in the upper half of the next range (5.70 to 5.99). Mean importance rating across topics was 5.94 (SD = .85), which was significantly higher than the midpoint of the scale [One-Sample t test against 4: $t(160) = 29.00$, $p <$ .001, $M_{\Delta} = 1.94$]. Univariate Analysis of Variance with mean rating of importance across topics as the dependent variable revealed no gender by type of high school (public of Catholic) ineraction, $F(1, 152) = 1.25$, *ns*, and no main effects of gender, $F(1, 152) = .30$, *ns*, or type of school attended, $F(1, 152) = 2.57$, *ns*. Each topic was compared for differences by gender and type of school using independent samples t tests with the Bonferroni adjustment (Abdi, 2006) to account for the number of comparisons ($\alpha = .05 / 20 = .003$); no significant differences were found.

Half of the topics (10) are included in the Ontario elementary or secondary curriculum (see Table 1); another four topics *may* be taught within the curriculum mandate, but are not specifically mentioned. The final six topics are *not* specified within the Ontario curriculum; it is noteworthy that, with one exception (sexual orientation), these topics were rated as less important than those included (or optionally included) in the curriculum.

Timing of sexual health education. Timing of sexual health education topics was measured using 27 topics from the GSSHE. Participants rated both *perceived timing* (i.e., when they remember learning) and *preferred timing* (i.e., when they would like to have learned) for each topic; results are presented in Table 2. For 12 of 27 topics, the modal grade level was Grade 6 to 8 for both perceived and preferred level of education. Four of these 12 topics (*Comfort with the other sex*, *Masturbation*, *Sexual behavior*, and *Wet dreams*) are never mentioned in the curriculum documents. One topic, *Correct*

names for genitals, is never specifically covered in the sexual health curriculum, but could conceivably be covered as early as Grade 1 or 2 under "correct names for major parts of the body" (although this is unlikely). The remaining 7 topics receive some coverage in the curriculum between Grades 6 and 8. These results suggest that the topics about which participants reported learning in Grade 6 to 8 were topics that they believed should be taught at that grade level. Half of the topics participants reported learning about in Grade 6 to 8 are covered in the Grade 6 to 8 curriculum

The modal perceived grade level for a further 10 of 27 topics was Grade 9 to 12. For 6 of these 10 topics (*Birth control methods and safer sex practices*, *Sexual coercion and sexual assault*, *Sexual decision making*, *Sexuality in the media*, *Sexually transmitted infections*, and *Teenage pregnancy/parenting*), the modal preferred grade level was lower, at Grade 6 to 8. Equal numbers of students preferred to learn about *Attraction, love, and intimacy* in Grade 6 to 8 and Grade 9 to 12. Students preferred to learn about the remaining three topics in Grade 9 to 12.

Of the topics students reported learning about in Grade 9 to 12, three (*Attraction, love, and intimacy*, *Sexual coercion and sexual assault*, and *Teenage pregnancy/parenting*) are never mentioned in the curriculum; the remaining seven receive some coverage in the curriculum between Grades 7 and 10. These results suggest that more than half of the topics participants reported learning about in Grade 9 to 12 were topics they would like to have learned about in Grade 6 to 8; the curriculum reflects participants' perceptions, but not their preferences, in these areas.

For the final five topics, the modal perceived response was "This topic was never covered". However, the modal preference for learning about *Homosexuality* was Grade 6

to 8 and for the other topics was Grade 9 to 12. Only one of these topics, *Building equal romantic relationships*, is covered in the curriculum.

It should be noted that students tended to indicate that they did not receive sexual health education in any topic area before Grade 6, and few expressed a preference for learning about sexual health in Grade K to 5.

Data concerning the timing of sexual health education were further analyzed for differences by gender and type of school separately. In each case, modal differences on specific topics will be presented; this is a descriptive analysis. To further understand differences, contingency table analyses were conducted for each topic to determine whether the pattern of results (i.e., grade levels reported) differed by gender or type of school. Three-way analyses (topic x gender x type of school) conducted with the Bonferroni adjustement ($\alpha = .05 / 27 = .001$) revealed no significant gender by type of school interaction for any topic.

Gender differences. For **perceived timing**, modal scores differed for three topics: *Homosexuality* (bimodal for men, but not women), *Masturbation* (mode$_{♂}$ = Grade 6 to 8; mode$_{♀}$ = Grade 9 to 12), and *Sexual pleasure/orgasm* (mode$_{♂}$ = Grade 9 to 12; mode$_{♀}$ = Never). Contingency table analyses using the Bonferroni adjustment ($\alpha = .05 / 27 = .001$) revealed gender differences in two topics: *Puberty/physical development*, $\chi^2(3) = 14.53, p < .001$, and *Menstruation*, $\chi^2(3) = 20.43, p < .001$; in each case, there appeared to be a group of women who reported learning one grade level earlier than the modal grade level and a group of men who reported learning one grade level later than the modal grade level. No gender differences in perceived timing were found for the remaining topics.

For **preferred timing** of sexual health education, men and women reported the

same modal grade level for each topic with one exception, *Sex as part of a loving relationship* ($mode_{♂}$ = Grade 6 to 8; $mode_{♀}$ = Grade 9 to 12). Contingency table analysis using the Bonferroni adjustment ($\alpha = .05 / 27 = .001$) revealed that men and women differed only on *Menstruation*, $\chi^2(3) = 21.27, p < .001$; women tended to report the preferred grade level as earlier than did men. No gender differences in preferred timing were found for any of the other topics.

Type of school attended. For **perceived timing** of sexual health education, modal grade level differed by type of school only for *Homosexuality* ($mode_{public}$ = Never; $mode_{Catholic}$ = 9 to 12). Contingency table analysis using the Bonferroni adjustment ($\alpha = .05 / 27 = .001$) revealed differences only in *Birth control and safer sex practices*: There was a tendency for participants who had attended public schools to report learning about one grade level earlier than those who had attended Catholic schools. No other differences by type of school were found.

For **preferred timing** of sexual health education, the modal grade level was Grade 6 to 8 for public school students and Grade 9 to 12 for Catholic school students for *Birth control and safer sex practices*; this trend was reversed for *Attraction, love, and intimacy*. However, contingency table analysis with the Bonferroni adjustment found no significant differences by type of school in preferred timing of sexual health education.

Satisfaction with sexual health education teachers. Using their recollections of as many as three sexual health education teachers, 153 participants (95%) provided assessments of 358 teachers based on single-item measures of confidence, knowledge, approachability, and comfort with sexual topics. An overall index of satisfaction was computed by combining average scores on each of the four items on a scale of 1-5. The

overall score, M=3.70 (SD = .68), reflects an average-to-good rating. A 2 (Gender: male, female) x 2 (Type of school: public or Catholic) Analysis of Variance with the overall index of satisfaction with teachers as the dependent variable revealed no gender by type of school interaction, $F(1, 144) = .005$, *ns*, and no main effects of gender, $F(1, 144) = .19$, *ns*, or type of school, $F(1, 144) = 2.97$, *ns*. In summary, results on this overall measure suggest that participants were generally satisfied with their sexual health education teachers.

Analysis of the means scores on the four individual items for all 358 teachers assessed provided a second indicator of participants' level of satisfaction with their sexual health education teachers. Participants rated teacher confidence ($M = 3.95$, $SD = .73$) and knowledge ($M = 3.94$, $SD = .72$) to be well above average and close to good; approachability ($M = 3.38$, $SD = .94$) and comfort with sexual topics ($M = 3.56$, $SD = .86$) were in the mid-range between average and good. A Multivariate Analysis of Variance with ratings of teacher confidence, knowledge, approachability, and comfort as dependent variables and gender and type of school (public or Catholic) as fixed factors revealed no interaction of gender and type of school, Pillai's Trace statistic: $F(4, 141) = .20$, *ns*, and no main effects of gender, Pillai's Trace statistic: $F(4, 141) = 1.73$, *ns*, or type of school attended (i.e., public or Catholic), Pillai's Trace statistic: $F(4, 141) = .85$, *ns*.

A third means of assessing participant satisfaction with teachers emerged from the previously described finding that teachers mentioned first, second, and third in the assessments differed significantly in the mean grade level that students encountered them; that is, teacher 1 (7.12, $SD = 2.09$); teacher 2 (8.41, $SD = 1.57$); and teacher 3

(9.57, *SD* = 1.49). This difference suggested a chronological distinction between teachers 1, 2 and 3 and an additional way to assess satisfaction with teachers based on each of the four items in the rating scale.

Reported grades did not differ by gender of participant for teacher 1, $t(151) = .93$, *ns*, teacher 2, $t(121) = 1.83$, *ns*, and teacher 3, $t(80) = .10$, *ns*, or by type of school attended (i.e., public or Catholic) for teacher 1, $t(146) = 1.44$, *ns*, and teacher 2, $t(117) = .99$, *ns*. However, school type did differ for teacher 3, $t(77) = 3.67$, $p < .001$, in that participants who had attended Catholic schools tended to report the grade level of teacher 3 as somewhat higher than did participants who had attended public schools.

Mean ratings on confidence were in or close to the good range for teachers 1 to 3 ($M = 3.84$ to 4.13) and did not differ by participant gender for teacher 1, $t(151) = .83$, *ns*, or teacher 2, $t(122) = .57$, *ns*. Ratings for teacher 3 did differ in that women rated teacher 3 as more confident than did men, $t(80) = 2.10$, $p < .05$, $M_{\Delta} = .49$. There was also one difference by type of school: Participants who had attended Catholic schools rated teacher 1 as more confident than did public school students, $t(146) = 2.19$, $p < .05$, $M_{\Delta} = .41$, while no differences by type of school were found for teacher 2, $t(118) = .21$, *ns* or teacher 3, $t(77) = .43$, *ns*.

Mean knowledge ratings were also relatively high for teachers 1 to 3 ($M = 3.80$ to 4.17, $SD = .96$), Teacher 2 ($M = 4.05$, $SD = .84$), and Teacher 3 ($M = 4.17$, $SD = .99$). No gender differences in participants' ratings of knowledge were found for teacher 1, $t(151) = .18$, *ns*, teacher 2, $t(122) = .09$, *ns*, or teacher 3, $t(80) = 1.46$, *ns*; nor were there differences by type of school for teacher 1, $t(146) = 1.63$, *ns*, teacher 2, $t(118) = .71$, *ns*, or teacher 3, $t(77) = 1.19$, *ns*.

Mean approachability ratings for teachers 1 to 3 were in the mid-range of average to good (M = 3.29 to 3.65). No gender differences on approachability were found for teacher 1, $t(151) = .72$, *ns*, teacher 2 $t(122) = .24$, *ns*, or teacher 3, $t(80) = 1.30$, *ns*; nor were there differences by school type for teacher 1, $t(146) = 1.30$, *ns*, teacher 2, $t(118) = .77$, *ns*, or teacher 3, $t(77) = .54$, *ns*.

Mean ratings for comfort with sexual content were also moderately high for teachers 1 to 3, M = 3.42 to 3.87. There was a gender difference in comfort ratings for teacher 1 in that men tended to rate the teacher as more comfortable than women, $t(151) = 2.13$, $p < .05$, $M_{\Delta} = .43$; no gender differences were found in comfort ratings of teacher 2, $t(122) = .45$, *ns*, or teacher 3, $t(80) = 1.67$, *ns*, and no differences were found by type of school for teacher 1, $t(146) = 1.78$, *ns*, teacher 2, $t(118) = .92$, *ns*, or teacher 3, $t(77) = .19$, *ns*.

This analysis by teacher grade also suggests that participants were relatively satisfied with their sexual health education teachers, perhaps more so with their confidence and knowledge than with their comfort and approachability, although all four measures placed well above the midpoint average. The findings on all four measures suggest a trend to higher assessment of teacher 3, the teacher mostly likely to be in a higher grade and, therefore, in more recent memory. There were few differences by gender or type of school for any of the four satisfaction measures.

Satisfaction with and evaluation of sexual health education. Satisfaction with sexual health education was measured using the GSSHE and evaluation of sexual health education was measured using the SPFPOI (See Appendix G for preliminary analysis); these scales were moderately correlated, $r(157) = .55$, $p < .001$. Correlations between the

GSSHE and the SPFPOI did not differ by gender, $r_{\sigma}(52) = .49$, $r_{\varphi}(105) = .78$, Fishers' test: $z = .69$, *ns*. Results indicated that students were slightly satisfied with past sexual health education (GSSHE: $M = 4.54$, $SD = 1.37$) and were slightly positive in their evaluation (SPFPOI: $M = 5.16$, $SD = .09$); scores were somewhat higher than the midpoint of the scale for both the GSSHE, One-Sample *t test* against 4: $t(160) = 5.01$, $p < .001$, $M_{\Delta} = .54$, and the SPFPOI, One-Sample *t test* against 4: $t(158) = 12.91$, $p < .001$, $M_{\Delta} = 1.11$. Multivariate Analysis Of Variance with GSSHE and SPFPOI as dependent variables revealed no gender by type of school interaction, Pillai's Trace statistic: $F(4, 306) = .01$, *ns*, and no main effects of gender, Pillai's Trace statistic: $F(2, 152) = .80$, *ns*, or type of school attended, Pillai's Trace statistic: $F(4, 306) = .55$, *ns*.

A more fine-grained analysis of evaluation was conducted using the subscales of the SPFPOI. Descriptive statistics for each subscale are shown in Table 3; all scores were somewhat above the midpoint. Multivariate Analysis Of Variance with the five subscales of the SPFPOI as dependent variables revealed no gender by type of school interaction, Pillai's Trace statistic: $F(10, 294) = .56$, *ns*, and no main effects of gender, Pillai's Trace statistic: $F(5, 146) = 1.26$, *ns*, or type of school attended, Pillai's Trace statistic: $F(10, 294) = .99$, *ns*. These results suggest that participants were somewhat satisfied with their sexual health education and results did not differ as a function of gender or type of school attended.

Discussion

Students tended to rate sexual health topics as important and this was reflected in topics covered in the curriculum: The Ontario curriculum explicitly covers about half the topics with which students were presented and may cover other topics under more

general aspects of the curriculum. While it appears that some topics (e.g., sexual behavior, masturbation, sexual pleasure and orgasm) are not covered at all, results suggest that there is a general agreement between topics considered important by students and topics covered by the Ontario curriculum – although it may be these topics are considered important specifically *because* they are covered in the curriculum. While the currently mandated curriculum provides students in Ontario schools with some important fundamental information, there is room for increased coverage of some topics considered important both by students and experts in sexual health education (at least, the experts who constructed this list of topics; see, e.g., Healthy Sexuality Working Group, 2008, for another list of topics constructed by experts).

The timing of sexual health education was satisfactory for participants; that is, participants generally indicated that sexual health topics should be covered in Grade 6 to 8, with some more advanced topics covered in Grade 9 to 12. This roughly corresponds to the reported experience of participants and the timing of sexual health education as described by the curriculum documents. Where there were discrepancies between participants' preferences and reported experiences, results indicate that some topics were covered too late: A strong preference was evident for sexual health education in Grade 6 to 8, perhaps because they would have been entering puberty during that time and could have directly used the information. Overall, this suggests that participants prefer a "just-in-time" delivery of sexual health education.

Just-in-time education advocates presenting information when it is needed, not before or after. While this model has generally been applied to technology-based areas of education (e.g., Granger, Morbey, Lotherington, Owston, & Wideman, 2002; Hulshof &

de Jong, 2006; Kester, Kirschner, van Merrienboer, & Baumer, 2001), it may also be easily adapted to sexual health education: Specifically, students tend to become more aware of themselves as sexual beings during early adolescence and begin exploring their sexuality shortly thereafter. If they are given information at this time, students may be more likely to use the information to pursue a healthy sexuality than if they are given the information much earlier or much later. Changing existing behaviour patterns "after-the-fact" may be much more difficult than establishing healthy behaviour at the beginning of their sexual lives.

Caution should be taken when interpreting results because participants were not specifically asked whether these topics were covered in school *per se*, only what grade they were in when they learned about them; so, they may have gained information from different sources while they were in those grades. And, of course, data were retrospective (and self-reported) and participants may remember their experiences incorrectly. It may be helpful that categories of grades (e.g., K to Grade 5) were used, rather than actual Grades: While more fine-tuned information is desirable, it may be even more susceptible to memory biases.

When the topics covered by the survey were also part of the Ontario curriculum, there tended to be a rough correspondence between participants' perceived timing of sexual health education and the mandated grades in the curriculum. However, many topics were not covered at all in the curriculum, or are covered too late (according to participants' ratings of when they should be covered). Moreover, sexual health education topics are often not *specifically* mentioned in the curriculum, but could be covered under more general topics (e.g., *Sexual assault and sexual coercion* could be covered under

"relationship skills", but may not be). Effective sexual health education, then, may often be left in the hands of particularly motivated teachers.

Participants' ratings of sexual health education teachers were generally positive. That is, teachers were perceived as being knowledgeable and comfortable with sexual matters, and as exhibiting confidence and approachability in the classroom. This is somewhat surprising considering that teachers in Canada are not required to receive formal training in teaching about sexual health (Bickerton & deRoche, 2005); however, it may be the case that teachers involved in sexual health education may seek out training through formal or informal sources and reliable information has been made easily available for motivated teachers (e.g., Society of Obstetricians and Gynaecologists of Canada, 2009). Despite a lack of formal training, results suggest that teachers are doing a good job, with room for improvement, at least from the perspective of former students.

At a more general level, participants tended to rate their sexual health education experience as somewhat satisfying and tended to evaluate it as somewhat positive, although they were closer to the midpoint of the scale than to the top of the scale. This is in contrast with Byers and others' (2003a, 2003b) findings that middle- and high-school students rate sexual health education as somewhat dissatisfying. This discrepancy may result from the retrospective nature of the study (i.e., participants perceptions may not be accurate), effort justification (i.e., participants may rate their education more highly simply because they have completed it), or the application of their education to life experiences (i.e., middle- and high-school students may rate their sexual health education as dissatisfying because they have not yet had many opportunities to apply their knowledge). It may be, however, that sexual health education is presented in a

developmental progression and that students may not enjoy the full benefits of the program until after its completion.

In terms of satisfaction with evaluation of specific aspects of sexual health education, participants were most positive about changes in knowledge and values around sexuality and specific characteristics of the sexuality education program, and were somewhat less satisfied (but still slightly satisfied) with changes in interaction skills and greater understanding of themselves. These results suggest that the sexual health curriculum is fairly adept at providing students with information about sexuality and with influencing their value systems. However, the curriculum may offer students fewer guidelines for self-development and social interaction around sexuality.

While a few differences were apparent, male and female participants were generally similar in ratings of satisfaction with and evaluation of sexual health education. In other words, men and women remember learning things at about the same time, and think they should be learning at the same time. Gender segregation for sexual health education may be desirable for other reasons (e.g., Strange, Oakley, & Forrest, 2003), but results suggest that men and women have similar perceptions of their sexual health education, at least once they have completed the high school curriculum.

Having attended public or Catholic schools tended to have little impact on the results of the current study. That is, participants from public and Catholic schools were equally satisfied with sexual health education and tended to rate their sexual health education as equally positive. However, the specific content of education may be quite different in Catholic and public schools – participants may have been satisfied with each for different reasons. An examination of the differences in sexual health education

between public and Catholic schools, and of the reasons for satisfaction with each is beyond the scope of the current study, but presents an interesting direction for future research.

Implications for future research. A primary goal of future research may be to determine whether the results of the current study can be generalized beyond a restricted sample; this may involve conducting a similar study with high school graduates who are not attending university. Also, longitudinal and cross-sectional studies are necessary to understand satisfaction and evaluation throughout the educational process (e.g., levels of satisfaction may change through the process), and to elucidate the implications of satisfaction with sexual health education. Further, both correlation and experimental research is needed to examine the covariates and determinants of sexual health education. A further goal may be to determine how evaluation ("how good is the program?") relates to satisfaction ("how satisfying is the program") and the relationship between these constructs and ultimate outcomes of sexual health education (e.g., healthy sexual behaviours).

Conclusions. The current study provides a good starting point by examining the levels of satisfaction among a select group of graduates from Ontario high schools. Results suggest that the Ontario curriculum may provide a good general sexual health education program that meets the needs of most students. Some improvements could be made: More comprehensive coverage could be provided on some specific topics (e.g., sexual orientation) and some topics should be covered earlier (e.g., birth control and safer sex). Perhaps, more intensive programs, like *Girl Time: Grade 7/8 Healthy Sexuality Program* (Brunk et al., 2008), may be advisable to meet the needs of higher-risk

populations. In general, however, it appears that recent graduates of Ontario high schools are satisfied with the sexual health education provided in the Ontario curriucula.

However, there may still be room for the school system to change. For example, analysis of the curriculum documents suggests that topics that are more explicitly sexual in nature (as opposed to simple "plumbing" or emotional relationships) are generally not covered in the curriculum, but students expressed an interest in those topics. Also, participants indicated that students may benefit from more comprehensive coverage in Grade 6 to 8, when they may be most likely able to make effective use of the information. And, while sexual health education teachers were generally rated as satisfactory, specific teacher training may further improve student perceptions of teachers, specifically, and of the sexual health education program, generally. Finally, more emphasis could be place on helping students develop a positive sexual personality, rather than simply avoiding the potential negative consequences of sexual activity (a position supported by the *Canadian Guidelines for Sexual Health Education*; Public Health Agency of Canada, 2008). Overall, however, results indicated that students were satisfied with the sexual health education they received in the Ontario school system, with few differences by gender or type of school attended.

Question 2: Correlates of Satisfaction with Sexual Health Education

The following preliminary investigation of correlates of satisfaction with sexual health education focused on a set of variables that can be roughly divided into three categories: comfort with sexuality, variety of sexual behaviour, and sexual self-concept. It is believed that these categories are part of a "sexual personality" or "sexual predisposition" that influences receptivity to sexual health information and, by extension,

evaluation of sexual health education from a student's perspective.

Comfort with Sexuality

Comfort with sexuality is an intended outcome of many sexual health programs and may be a facilitator of sexual health education (e.g., Gerrard, Kurylo, & Reis, 1991); students who are more comfortable with sexuality may be more receptive to information concerning sexuality and, as a result, may be more willing to put that information into practice. Moreover, comfort with sexuality has been found to correlate with the avoidance of negative outcomes of sexuality, such as sexually transmitted infections and unplanned pregnancies (e.g., Fisher, 1998; Rye, Meaney, & Fisher, in press). In other words, comfort with sexuality may be a precursor, a concomitant, and/or an outcome of sexual health education.

Past Sexual Behaviour

While little systematic research has been conducted regarding variety of sexual experience and satisfaction with sexual health education, most high school graduates will have engaged in some sexual behaviours (e.g., median age of first intercourse in Canada is around 16.5 years; Rotermann, 2005, Statistics Canada, 2005). Several relationships between past sexual behaviour and satisfaction with sexual health education may be postulated: For example, sexually experienced young people may be more receptive to sexual health education because they have a degree of comfort with sexuality that their less experienced peers may not have. On the other hand, sexually experienced young people may not be receptive because their early, less informed sexual experiences have created a basic discomfort. Because little is known about how sexual experience relates to satisfaction with sexual health education, no specific predictions were made as to how

past sexual behaviour relates to satisfaction with sexual health education.

Sexual Self-Concept

Sexual self-concept is a multidimensional construct referring to a person's perception of herself or himself as a sexual being. This may include the conception of power (or lack of power) in sexual situations, motivation to avoid risky situations, the belief that relationship issues can be successfully negotiated, and awareness of sexual motivations and desires. People with more positive sexual self-concepts are more likely to engage in healthy sexual behaviours (Snell, 1998) and to experience a higher degree of sexual satisfaction (Impett & Tolman, 2006) than those who do not. And, because they are more aware of their own needs and desires, and more confident in their abilities, they are probably more likely to seek out safe, enjoyable, and satisfying sexual experiences. The development of a positive sexual self-concept -- in particular, dimensions of self-concept such as sexual self-efficacy and motivation to avoid risky sex -- forms the basis of many sexual health interventions (Fisher & Fisher, 2000) and is promoted by the Public Health Agency of Canada (2008) as a basis for the creation of an effective sexual health education curriculum (also see Fisher & Fisher, 2000). It was predicted, then, that sexual self-concept would be a correlate of satisfaction with sexual health education. Further, since some dimensions of sexual self-concept align well with the goals of sexual health education, sexual self-concept may provide another measure of evaluation – theoretically, then, sexual self-concept should correlate with measures of satisfaction (*if* our measures of satisfaction are good evaluative measures).

A preliminary investigation was conducted of the correlates of satisfaction with sexual health education. In particular, comfort with sexuality, past sexual behaviour, and

sexual self-concept were examined as potential correlates. Greater levels of comfort with sexuality, more experience with sexual behaviour, and a more positive sexual self-concept were expected to predict higher degrees of satisfaction with sexual health education No differences by gender or type of school attended were expected.

Method

Participants, materials, and procedure were as described in the General Method. The current study used the *General Satisfaction with Sexual Health Education Scale* (GSSHE) of the *Attitudes towards and Satisfaction with Sexual Health Education Survey* to measure satisfaction with sexual health education and the *Sexuality Program Feature / Program Outcome Inventory* (SPFPOI) was used to measure evaluation of sexual health education. Comfort with sexual behaviour was measured using the *Sexual Opinion Survey* and the *Attitudes toward Sexual Curiosity in Children* and *Comfort with Sexual Behavior* scales of the *Human Sexuality Questionnaire*. Sexual Self-Concept was measured using the *Multidimensional Sexual Self-Concept Questionnaire*. Past sexual behaviour was measured using the experience sub-scale of the *Derogatis Sexual Functioning Inventory*.

Results

Satisfaction with and evaluation of sexual health education. Full descriptive statistics for satisfaction with and evaluation of sexual health education were presented in Question 1. Scores on both measures were slightly higher than the midpoint of the scale and no significant differences were found based on gender or type of high school (public or Catholic) attended. The GSSHE and the SPFPOI were moderately correlated. The correlations between the GSSHE and the SPFPOI did not differ by gender. Scores on

individual subscales of the SPFPOI were also somewhat higher than the midpoint of the scale without significant differences by gender or type of school attended.

Sexuality-related variables as predictors of satisfaction with and evaluation of sexual health education. Descriptive statistics and intercorrelations for sexuality-related predictor variables are shown in Table 4. Both men and women were close to the midpoint of the scale on sexual self-concept and comfort with sexual behaviour. Both men and women were somewhat erotophilic and women held somewhat positive attitudes toward sexual curiosity in children. Men were close the midpoint of the scale on attitudes toward sexual curiosity in children. Multivariate Analysis of Variance with sexual self-concept, erotohobia – erotophilia, and attitudes toward sexual curiosity in children showed no interaction of gender and type of school attended, Pillai's Trace Statistic: $F(4, 145) = .31$, *ns*, and no effect of gender, Pillai's Trace Statisitc: $F(4, 145) = 1.56$, *ns* or type of school attended, Pillai's Trace Statistic: $F(4, 145) = 2.20$, *ns*. In terms of sexual behaviour, slightly different patterns were seen for men and women: For men, 41% reported being sexually inexperienced (group 1), 29% reported being relatively experienced (group 2), and 30% reported being sexually experienced (group 3); for women, 28% reported being sexually inexperienced, 25% reported being relatively experienced, and 48% reported being experienced. However, contingency table analyses (sexual behaviour category by gender by type of school) found no gender by type of school interaction, $\chi^2(2) = 4.40$, *ns*, and no differences by gender, $\chi^2(2) = 4.65$, *ns* or type of school, $\chi^2(2) = 1.75$, *ns*.

Zero-order correlations between sexuality-related individual difference variables and satisfaction with sexual health education (Table 5) showed different patterns of

relationships for men and women. For men, positive sexual self-concept was moderately and positively correlated with the SPFPOI, but not the GSSHE, and comfort with sexual behaviour was weakly-to-moderately correlated with evaluation of program characteristics. For women, the strongest correlates of satisfaction with sexual health education were erotophobia —erotophilia, comfort with sexual behaviour, and past sexual behaviour; in each case, correlations were negative (i.e., greater erotophilia, greater comfort with sexual behaviour, and more sexual experience correlated with lower levels of satisfaction with sexual health education) and somewhat weak. Attitudes toward sexual curiosity in children were weakly correlated with the GSSHE, but not the SPFPOI for women. These correlations suggest that men's evaluation of sexual health education relates more closely with their conception of themselves as sexual beings, while women's satisfaction with sexual health education is more closely related to comfort with sexuality, in itself.

Two sets of multiple regression analyses were conducted to test whether sexuality-related variables predicted satisfaction with and evaluation of sexual health education, one for men and one for women. Analyses were conducted separately for men and women[1]. Within each set, two regression analyses were conducted with the GSSHE and SPFPOI as criterion variables and sexual self-concept, erotophobia — erotophilia, comfort with sexual behaviour, attitudes toward sexual curiosity in children, and past sexual behaviour as predictor variables. An additional five regressions were conducted to assess whether these same predictor variables predicted each of the five subscales of the SPFPOI. For each analysis, type of high school attended (public or Catholic) was entered on the first step of the multiple regression equation as a potential covariate and sexuality-

related predictor variables were entered together on the second step.

Results of the Multiple Regression analyses with significant predictors are shown in Table 6. The type of school attended was not significant for any analysis, Men: $F(1, 45) = .01$ to .72, *ns*; Women: $F(1, 91) = .001$ to .49, *ns*. For the GSSHE, the equations were not significant for either men, $F(6,40) = .83$, *ns*, or women, $F(6, 86) = 1.87$, *ns*. However, the equations were significant for the composite SPFPOI, Men: $F(6, 40) = 2.95$, $p < .05$; Women: $F(6, 86) = 2.96$, $p < .05$. Significant predictors were sexual self-concept for men and erotophobia – erotophilia for women. No other significant predictors were found.

When subscales of the SPFPOI were considered, the equations were not significant for *Program Characteristics*, Men: $F(6, 40) = 1.94$, *ns*; Women: $F(6, 86) = 1.89$, *ns*. For men, the equations were significant for *Changes in Knowledge, Understanding of Self, Changes in Values,* and *Changes in Interaction Skills*, $F(6, 40) = 2.60$ to 3.55, $p < .05$, and sexual self-concept was a significant predictor of each, $\beta = .34$ to .45, $p < .05$. No other significant predictors were found. For women, the equations were not significant for *Changes in Knowledge*, $F(6, 86) = 1.86$, *ns*. However, they were significant for *Understanding of Self, Changes in Values,* and *Changes in Interaction Skills*, $F(6, 86) = 2.22$ to 3.68, $p < .05$, and erotophobia – erotophilia was a significant predictor of each, $\beta = -.34$ to $-.40$, $p < .05$. No other significant predictors were found.

Dimensions of sexual self-concept as predictors of men's satisfaction with and evaluation of sexual health education. Because sexual-self concept emerged as a predictor for the SPFPOI composite index and for the *Changes in Knowledge, Understanding of Self, Changes in Values*, and *Changes in Interaction Skills* subscales of

the SPFPOI for men, further analyses were conducted to examine which aspects of sexual self-concept were predictive of the SPFPOI and its subscales. To this end, the 9 subscales of the *Multidimensional Sexual Self-Concept Questionnaire* and their relationships with satisfaction with sexual health education were examined. These analyses were conducted only for men and type of school attended was not entered as a predictor variable.

Descriptive statistics for nine dimensions of the Multidimensional Sexual Self-Concept Questionnaire for men are given in Table 7. Men tended to score around or slightly above the midpoint of the scale (ranging from slightly negative to slightly positive) on all scales except *Power/Other Sexual Control* – men tended to attribute little power to others in sexual relationships. As can be seen in Table 7, these scales tended to be weakly-to-moderately intercorrelated ($r_{average}$ = .36).

Zero-order correlations between sexual self-concept scales and satisfaction with and evaluation of sexual health education for men are shown in Table 8. While no dimension of sexual self-concept was related to the GSSHE, *Sexual Self-Efficacy, Sexual Consciousness, Motivation to Avoid Risky Sex, Sexual Optimism*, and *Sexual Self-Schemata* tended to correlate significantly and moderately with the SPFPOI. None of the other scales correlated significantly with the SPFPOI, except that *Sexual Problem Self-Blame* correlated moderately with the *Changes in Interaction Skills* subscale of the SPFPOI.

Multiple Regression models were tested using nine subscales of the *Multidimensional Sexual Self-Concept Questionnaire* (*Sexual Self-Efficacy, Sexual Consciousness, Motivation to Avoid Risky Sex, Sexual Optimism, Sexual Problem Self-Blame, Sexual Problem Management, Power/Other Sexual Control, Sexual Self-*

Schemata, and *Sexual Problem Prevention*) as predictor variables and the GSSHE, the composite SPFPOI and scales of the SPFPOI as criterion variables. Results are shown in Table 9. The model was not significant for the GSSHE, $F(9, 41) = .88$, *ns*, but was significant for the SPFPOI, $F(9, 41) = 2.26$, $p < .05$, and the *Program Characteristics*, $F(9, 41) = 2.11$, $p = .05$, and *Understanding of Self*, $F(9, 41) = 2.45$, $p < .05$, subscales of the SPFPOI. The model was marginally significant for the *Changes in Values*, $F(9, 41) = 1.98$, $p < .10$, and *Changes in Interaction Skills*, $F(9, 41) = 2.01$, $p < .10$, subscales of the SPFPOI. *Motivation to Avoid Risky Sex* was a significant predictor for the composite index and the *Program Characteristics* and *Changes in Values* subscales. *Power/Other Sexual Control* was a significant predictor of *Program Characteristics* and *Sexual Self-Efficacy* was a significant predictor of *Understanding of Self.* No other significant predictors were found.

Discussion

Correlational analyses suggested that evaluation of sexual health education was related to sexual self-concept for men (but not for women) and that satisfaction with sexual health education was related to comfort with sexuality and past sexual behaviour for women (but not for men). In particular, men with more positive sexual self-concepts also tended to rate sexual health education as more positive and women who were less comfortable with sexuality and who reported less sexual experience were more satisfied with sexual health education (note, however, that the directionality of these relationships was not tested). The regression analyses were somewhat more equivocal: Sexual self-concept was a consistent predictor of the evaluation (but not satisfaction) for men. For women, erotophobia – erotophilia was a consistent predictor of theevaluation (but not

saisfaction). While generally consistent with the correlational analyses, the multiple regression results were less definitive and somewhat more difficult to interpret. This may be because a large number of variables, which share significant variance, were tested in a single equation and limitations of the data set (i.e., there were not enough participants per variable to test each variable separately) did not allow for more sophisticated analyses of potentially complex relationships (e.g., mediated or moderated effects). However, the overall pattern of results provides a starting point for the investigation of correlates of satisfaction with sexual health education.

These results indicated a pattern of gender difference in predictors of satisfaction with past sexual health education. For men, sexual self-concept was consistently related to evaluation of sexual health education. In particular, men who reported higher degrees of sexual self-efficacy, sexual consciousness, motivation to avoid risky sex, and more positive sexual self-schemata also reported more positive evaluation of sexual health education. It should be noted, however, that these variables were *not* relevant when men were asked directly whether they were satisfied with sexual health education (the *General Satisfaction with Sexual Health Education* scale), but were relevant when men were asked to evaluate the quality of their sexual health education (the *Sexuality Education Program Feature/Program Outcome Inventory*). That is, men with more positive sexual self-concepts tended to evaluate their past education as more *effective* at achieving its goals, rather than more satisfactory *per se* (note that conclusions cannot be made about directionality: It may be that men who evaluated past education as more effective had more positive sexual self-concepts). However, consumer research has often used perceived effectiveness (i.e., how well does the product meet the intended goals of the

consumer?) as a measure of consumer satisfaction (there is a difference, though – the SPFPOI reflects goals of sexual health education as defined by sexuality educators and researchers, not by the student). In this light, it can be said that men with more positive sexual self-concepts tend to perceive their past educational experiences as more satisfactory. Still, future research is needed to more clearly define the relationship between satisfaction and evaluation, particularly with regard to sexual health education.

For women, sexual self-concept tended *not* to be an important correlate of either satisfaction with or evaluation of past sexual health education. Rather, women who were less comfortable with sexual issues in general reported greater satisfaction with sexual health education; that is, they were less erotophilic, less comfortable with sexual behaviour, less comfortable with sexual curiosity in children, and were less sexually experienced. In general, this pattern of relationships was found when women were asked directly about satisfaction (i.e., the GSSHE) and when they were asked to evaluate the quality of their sexual health education (i.e., the SPFPOI). It may seem somewhat counter-intuitive that the relationships between measures of comfort with sexuality and satisfaction with and evaluation of sexual health education were negative: Comfort with sexuality can be seen as a desired outcome of sexual health education (e.g., erotophilia is consistently predictive of engaging in healthy sexual behaviours; Fisher, 1998; Rye et al., in press). Therefore, it may be expected that a higher degree of comfort with sexuality would correlate with more satisfaction with sexual health education. However, women who are *very* comfortable with sexuality may reap fewer benefits from a sexual health education program (e.g., they may have already sought out the information provided through other sources), while those who are somewhat less comfortable perceive the

program as providing a wealth of new information that can be used to enhance their sexual health. It is important to qualify this negative, perhaps counterintuitive, relationship with the observation that female participants were somewhat comfortable with sexuality – women who are very uncomfortable with sexuality may *not* have expressed greater satisfaction. It should also be noted that I did *not* test whether exposure to sexual health education increases comfort with sexuality; this was beyond the scope of the data.

It is also important to note that no conclusions can be made about the directionality of relationships. For example, the development of a positive sexual self-concept -- in particular, feelings of sexual self-efficacy and motivation to avoid risky sex -- may be seen as a desired outcome of sexual health education. Therefore, it can be postulated that participation in an effective sexual health program enhances sexual self-concept, a process which leads to positive evaluation of the program. However, it may also be that having a positive sexual self-concept creates receptivity to sexual health education, which leads to a positive evaluation of the program, or that some other variable influences both. While the current study does not shed light on the directionality of the relationship, existing evidence indicates that sexual health education affects some aspects of sexual self-concept, notably sexual self-efficacy and motivation to avoid risky sex (Fisher & Fisher, 2000). So, it can be tentatively suggested that effective sexual health education leads to a more positive sexual self-concept, which, in turn, leads to positive evaluation of the program.

The issue of causality is even more relevant when considering the findings concerning women: *discomfort* with sexuality is *not* a desired outcome of sexual health

education and, in fact, is likely increase risky sexual behaviour. It seems unlikely, then, that participation in a sexual health education program that creates discomfort with sexuality would be rated as an effective and satisfactory program. As noted above, it may be that women who are initially less comfortable with sexuality gain the most from general sexual health education and, therefore, rate it as more satisfactory; women who are relatively more comfortable with sexuality may find the sexual health education provided in high school to be dull and redundant with information they have acquired through other sources. More direct tests of the direction of relationships may be conducted using laboratory experiments that elucidate basic causal relationships in conjunction with cross-sectional and longitudinal studies that track students through the school system. Greater insight into the processes behind these relationships may also be found in qualitative studies.

A second point of interest is the extent to which evaluation of an educational program and satisfactory experience with that program are similar constructs. The results suggest that, while the two constructs are moderately related, different patterns of relationships emerged for men and women. These relationships are especially interesting in light of a moderately high correlation between the GSSHE and the SPFPOI, which suggests that evaluation and satisfaction are related. However, it seems that, at least for men, the two have different correlates and, perhaps, different determinants (i.e., positive sexual self-concept correlated with the SPFPOI, but not with the GSSHE, for men). For the women in the current study, positive evaluation and satisfaction generally had the same correlates (i.e., erotophobia – erotophilia, comfort with sexual behaviour). Further research would be useful to determine the extent to which satisfaction and evaluation

measure distinct constructs. Future research may also examine whether the measures used in this study represent a fair evaluation of sexual health education. In particular, positive sexual self-concept may be an important component of evaluation because it embodies some of the desired outcomes of sexual health education (e.g., sexual self-efficacy). Our results suggest that evaluations using sexual self-concept as an outcome measure may differ significantly from evaluations using either of the satisfaction measures from the current research.

In summary, results suggest several important distinctions between men and women regarding satisfaction with sexual health education: First, men's evaluation of sexual health education (as measured by the SPFPOI) moderately correlated with sexual self-concept; this relationship is not significant for women. This makes sense in that sexual self-concept is distinct from comfort with sexuality for men (i.e., sexual self-concept is unrelated to measures of comfort with sexuality), while it is not for women (i.e., sexual self-concept correlates with measures of comfort with sexuality). It can be postulated that, for men, the key issue around sexuality is a sense of themselves as sexual beings, while, for women, the key issue is comfort with sexuality in itself. This may suggest different approaches to sexual health education for young men and young women, who express a desire for separate sexual health education at least for some topics (e.g., Strange, Oakley, & Forrest, 2003; Hilton, 2007). In particular, it may be that sexual health education for boys should focus more on issues of self-concept, while sexual health education for girls should focus more on comfort with sexuality in itself.

Investigating the correlates of satisfaction with sexual health education may allow the creation of a "modal profile" of students who are more or less likely to be satisfied

with a particular curriculum, which, in turn, can inform the development of more effective sexual health programs. Specifically, this approach would allow the development of sexual health education around the specific educational needs of the students. For example, it may be that men and women may process information about sexual health differently: for men, a sexual health education program perceived t be effective correlates with self-related variables such as sexual self-efficacy; for women, satisfaction with sexual health education correlates with comfort with sexuality in itself. It may be, then, that sexual health education programs could be more effective (and, perhaps, more satisfying) if they focus on building a positive sexual self-concept for men and increasing comfort with sexuality for women. Or, it may be that women who are less comfortable with sexuality benefit from a "traditional" (i.e., as defined in the curriculum) approach to sexual health education, while those who are very comfortable may learn more from advanced courses. Overall, results may suggest the need for separate streams of sexual health education for men and women, with a focus on sexual self-concept for men, and a focus on levels of comfort with sexuality for women. Most importantly, however, the current study sets the stage for further, more comprehensive investigations of factors affecting satisfaction with sexual health education.

Question 3: Satisfaction with Sexual Health Education as a Predictor of Intentions to Pursue Further Sexual Health Education

Sexual health education is specifically intended to affect the sexual lives of participants outside the educational setting (Public Health Agency of Canada, 2008). In fact, the *Canadian Guidelines for Sexual Health Education* define sexual health as a "major, positive part of personal health and positive living" (Public Health Agency of

Canada, 2008, p. 9) and sexual health education as "a lifelong process requiring consideration at all ages and stages of life" (Public Health Agency of Canada, 2008, p. 13). This philosophy implies, perhaps, that one purpose of any sexual health education program is to encourage students to pursue sexual health education outside the scope of that curriculum. When applied to sexual health education within the school system, this suggests that educators should encourage students to pursue sexual health education in the next stages of their lives (whatever that may be – university, college, career, etc.). This perspective, in line with educational research cited above, suggests that students who are satisfied with their existing sexual health education will be likely to pursue more sexual health education in the future.

However, the *Canadian Guidelines for Sexual Health Education* present another view of sexual health education, which may have different implications: Sexual health education is a program of skills training intended to equip students with the necessary tools to pursue a healthy sexuality. This perspective raises the question of whether students who obtain enough skills *require* further sexual health education. That is, is there a threshold at which a person's existing sexual health education is sufficient and no more is required? While this question is far beyond the scope of any single study, it leads to an interesting hypothesis: Students who feel they have had enough sexual health education (e.g., those who are more satisfied with their existing sexual health education) may, in fact, be less likely to pursue further sexual health education because they deem it unnecessary.

Further analyses on the same dataset were conducted to determine whether satisfaction with high school sexual health education predicts intentions to pursue further

sexual health education. Two sets of relationships were considered:

1. In line with previous research involving education in general (Devinder & Biplab, 2003; Freeman, Hall, & Besciani, 2007), students who express satisfaction with previous educational experiences would be more likely to seek out similar educational experiences in the future.
2. Based on a view of sexual health education as a program of skills training (Public Health Agency of Canada, 2008), students who were dissatisfied with previous sexual health education may feel that they lacked appropriate skills, and would, therefore, be more likely to seek out more sexual health education.

It should be noted that these questions may not be mutually exclusive. That is, some students may pursue further sexual health education because they have found their previous sexual health education satisfying and others may pursue sexual health education because they feel their previous education to be lacking. And, it may be possible that some combination of the two may exist at the individual level (e.g., some may feel that high school sexual health education was both interesting and lacking). In either of these cases, it can be expected that the effects would cancel (i.e., null results).

Method

Participants, materials, and procedure were as described in the General Method. The current study used the *General Satisfaction with Sexual Health Education Scale* (GSSHE) of the *Attitudes towards and Satisfaction with Sexual Health Education Survey* was used to measure satisfaction with sexual health education and the *Sexuality Program Feature / Program Outcome Inventory* (SPFPOI) was used to measure evaluation of

sexual health education. Intentions to pursue sexual health education was measured using participants choices on two items (*I am currently enrolled in an Introduction to Human Sexuality course*, and *I intend to enroll in an Introduction to Human Sexuality course in the future*) included in the questionnaire.

Results

Satisfaction with and evaluation of sexual health education. Full descriptive information for satisfaction with and evaluation sexual health education is given in Question 1. Scores on both measures were slightly higher than the midpoint of the scale and no significant differences were found based on gender or type of high school attended. The GSSHE and the SPFPOI were moderately correlated. The correlations between the GSSHE and the SPFPOI did not differ by gender. Scores on individual subscales of the SPFPOI were also somewhat higher than the midpoint of the scale without significant differences by gender or type of school.

Intentions to pursue further sexual health education. Participants were classified as "intending to pursue further sexual health education" if they indicated that (1) they were currently taking a university-level sexual health education course, or (2) they were planning to take such a course in the future. By this definition, 32% of participants intended to pursue sexual further sexual health education, while 68% did not intend to do so. There was a significant difference by gender, $\chi^2(1) = 15.13, p < .001$: Only 11% of men compared with 42% of women intended to pursue further sexual health education. Intentions to pursue further sexual health education did not differ by type of high school attended (public or Catholic): $\chi^2(1) = 1.22$, *ns*. Since only 6 men expressed intentions to pursue further sexual health education, the following analyses are not

separated by gender.

Satisfaction with sexual health education as a predictor of intentions to pursue further sexual health education. At the zero-order level, intentions to pursue further sexual health education was weakly-to-moderately correlated with the GSSHE $r_{pb}(159) = -.26, p = .001$, but not with the composite index of the SPFPOI, r_{pb} (157) = -.11, *ns*, or any of the subscales of the SPFPOI, $r_{pb}(154 \text{ to } 159) = -.02 \text{ to } -.10$, *ns*, except for *Understanding of Self*, r_{pb} (155)= -.19, $p < .05$. In summary, students who intended to pursue further sexual health education tended to report *less* satisfaction with sexual health education on the GSSHE and lower scores on the *Understanding of Self* subscale of the SPFPOI than students who did not intend to pursue further sexual health education.

To test the hypothesis that satisfaction with and evaluation of past sexual health education predicts intentions to pursue further sexual health education, a logistic regression analysis was conducted with the GSSHE and the composite SPFPOI (entered together) as predictor variables and intentions to pursue sexual health education as the criterion variable. The overall model was significant, $\chi^2(2) = 10.42, p < .01$ and the GSSHE was a significant predictor, Wald statistic: $\chi^2(1) = 8.10, p < .01$, Odds Ratio = .64, of intention, but the SPFPOI was not, Wald statistic: $\chi^2(1) = .25$, *ns*.

A further logistic regression analysis was conducted using five subscales of the SPFPOI (*Program Characteristics*, *Changes in Knowledge, Understanding of Self, Changes in Values,* and *Changes in Interaction Skills*) as predictor variables and intentions to pursue sexual health education as the criterion variable. This overall model was only marginally significant, $\chi^2(7) = 10.07, p < .10$, but the *Understanding of Self* subscale was a significant predictor, Wald statistic: $\chi^2(1) = 4.77, p < .05$, odds ratio: .67.

None of the other subscales were significant, Wald statistic: $\chi^2(1) = .08$ to 2.37, *ns*.

Discussion

Results were consistent with the hypothesis that participants who were less satisfied with their high school sexual health education were more likely to pursue further sexual health education at the university level. In particular, it was found that satisfaction with sexual health education (as measured by the GSSHE) predicted intentions to pursue sexual health education. Less satisfied participants were more likely to say that they were currently enrolled in a university-level human sexuality course or that they intended to enrol in such a course in the future. While overall evaluation of sexual health eduation (as measured by the SPFPOI) was not a significant predictor, when individual subscales of the SPFPOI were considered, the *Understanding of Self* subscale was a significant predictor of intentions to pursue further sexual health education: Students who expressed less change in their understanding of themselves as a result of their high school sexual health education were more likely to indicate that they intended to pursue further sexual health education.

While participants were not asked to indicate their reasons for pursuing further sexual health education, results suggest that students who are somewhat less satisfied with their high school sexual health education are seeking more effective education at the university level. Conversely, students who are relatively more satisfied with their high school sexual health education may feel that they have learned enough about sexual health and have acquired sufficient information and skills to pursue a healthy sexuality; therefore, they may simply not fell they *need* further sexual health education. These results are consistent with the skills-training approach to sexual health education

advocated by the Public Health Agency of Canada (2008): It may be the case that once young people feel they have acquired sufficient knowledge and skills to ensure their own sexual well-being, further education is not required (whether students are accurate in this assessment is a different question). However, the Public Health Agency of Canada also suggests that sexual health education should be a lifelong pursuit. One goal of sexual health education, then, may be to encourage students to pursue further opportunities for sexual health education. The results of the current study suggest that students who are more satisfied may be missing the point – or that that the school system does not adequately encourage the further pursuit of sexual health education (e.g., students may only pursue further sexual health education if they believe that what they have is inadequate, not because they have been impressed with the value of ongoing sexual health education).

The results of the current study are not consistent with research concerning satisfaction with education in general. For example, research by Devinder and Biplab (2003) and Freeman and others (2007) suggest that students who are more satisfied with educational experiences are more likely to pursue similar educational experiences in the future. However, sexual health education may differ from many educational pursuits in that it is intended to influence students beyond the academic setting and beyond the workplace setting; sexual health education is intended to influence students in their everyday lives beyond these venues (Public Health Agency of Canada, 2008). Therefore, the motivation to pursue sexual health education may differ from the motivation for other education pursuits. In sum, future research should examine the potential differences between sexual health education and other forms of education and assessments of sexual

health education should take these potential differences into account.

General Discussion

Implications

Sexual health educators may use student satisfaction with and evaluation of sexual health education as one means of evaluating existing programs. While this should not be the only evaluative tool (satisfaction does not necessarily indicate that students have learned appropriate skills), satisfaction with educational experiences have been found to predict positive outcomes both inside and outside academic settings (e.g., Huebner & Gilman, 2006). The findings of Question 1 suggest that, while participants were generally satisfied with their sexual health education and tended to evaluate it positively, several topics could receive earlier coverage. Overall, the results of Question 1 suggest that sexual health educators in Ontario are doing a relatively good job of educating their students, especially in light of the lack of mandated training for sexual health education in the province. However, further research should consider other means of evaluating the program such as teacher's rating of their own performance, actual behavioural skills learned by the students (e.g., can they use a condom correctly? Students may believe they have acquired these skills, but may be incorrect in that assessment). The effectiveness of sexual health education can be demonstrating most convincingly through convergence of multiple methods of evaluation. In the meantime, a positive message may be given to sexual health educators in Ontario, who seem to be creating a satisfying educational experience for some students.

Question 2 suggests that different approaches to sexual health education may be appropriate for women and men: In particular, sexual health education may require a

focus on sexual self-concept for men and comfort with sexuality for women. However, much further investigation is required before we have a good understanding of the nature of these relationships. Further, investigations of the correlates of students who are more or less satisfied with a given curriculum should go far beyond the few variables considered in this preliminary investigation. This approach may ultimately allow the creation of a "modal profile" of students who are more or less likely to be satisfied with a particular curriculum, which, in turn, can inform the development of sexual health education around the specific educational needs of the students. Such profile information may determine the focus of sexual health education programs with regard to individual differences between students, recommend separate or intensive training for some students, and may generally enrich the sexual health experience for all students.

Question 3 suggests that dissatisfied students are more likely to seek out further sexual health education, perhaps because they view the education they have as inadequate. In addition, some participants who decided not to pursue further sexual health education, may have developed a sense of themselves as competent sexual beings who no longer require further sexual health education. However, the state of knowledge about sexual health is in continuous flux, and it is, therefore, crucial that students learn to view sexual health education as a life-long process in which they continue to learn new information and skills in order to maximize their development in this aspect of their adult lives. Therefore, educators and policy-makers should create programs that not only result in satisfied students, but also encourage those students to pursue further sexual health education.

Limitations

The current study has several limitations. For example, it depends on the retrospective memory of the participants; that is, participants may not accurately remember their high schools sexual health education experiences. However, it can be argued that it is their perceptions of past experience that determine current levels of satisfaction with those experiences, and further, that determine how their sexual health education is practiced in their everyday lives. More importantly, participants' evaluations of satisfaction may include sexual health information from a variety of sources (e.g., parents, peers, public health practitioners), as well as from formal sexual health education. Knowing the relative impact of each source of information and the satisfaction associated with information received from each source would provide a greater understanding of satisfaction regarding sexual health instruction.

Perhaps the most severe limitation is the sample. First-year university students are known to differ significantly from the general population on numerous factors (e.g., they tend to come from higher socio-economic backgrounds; they tend to hold more liberal attitudes). It should be noted that university students, because they are academically successful (by virtue of admittance to universities), may tend to rate their past experiences in a positive light, especially those related to high school. That is, past experiences may be evaluated in light of general success. The experiences of high school graduates who are *not* attending university -- and only fifty percent of Canadians ever attend university (Shaienks & Gluszinski, 2007) -- may differ significantly from those of participants in the current study. Results, therefore, cannot be generalized beyond first-year university students.

Conclusion

The three studies described in this paper provide a starting point for more comprehensive investigations of factors affecting satisfaction with sexual health education. The findings suggest that the Ontario school system provides a sexual health education experience that is perceived as satisfying and effective by the current sample of graduates of the system, without significant difference by gender or type of high school (public or Catholic) attended. Further, the correlates of satisfaction with and evaluation of sexual health education are different for men and women. Finally, satisfaction with past sexual health education has some impact on behaviour, at least in terms of pursuing sexual health education beyond high school. Further research is necessary to elucidate the nature of the relationship between satisfaction with sexual health education and the desired outcomes of sexual health and, especially, in determining how student satisfaction with sexual health education contributes to the potential for long-term, happy, and healthy sexual "lives".

Footnotes

[1]Regression analyses were run with gender, type of school attended, and gender by type of school interaction entered on the first step. The equation showed no effects of gender, type of school, or the gender by type of school interaction. However, the correlational analyses clearly showed different patterns of relationships for men and women, so it was considered prudent to proceed with separate regression analyses for men and women. It may be that small (non-significant) differences by gender are apparent *only* when the relationship between sexuality-related predictor variables and satisfaction with sexual health education is considered. See Appendix H for regression analyses by gender, type of school, and the gender x type of school interaction.

Table 1. *Participant Ratings of Importance of Sexual Health Education Topics*

It is important to learn about ___ in high school 1 (*strongly disagree*) to 7 (*strongly agree*)	*N*	*M*	*SD*	Higher than midpoint of the scale[a] M_{Δ}	Higher than midpoint of the scale[a] $t(n-1)$	Inclusion in Curriculum
Sexually Transmitted Infections	161	6.72	.83	2.72	41.55***	Mandatory
Personal Safety	161	6.52	.94	2.52	34.19***	Mandatory
Sexual Coercion and Sexual Assault	161	6.51	.89	2.51	35.85***	Optional
Teenage Pregnancy and Teen Parenting	161	6.48	.89	2.48	35.49***	Optional
Dealing with Peer Pressure to be Sexually Active	161	6.40	.96	2.40	31.85***	Mandatory
Sexual Decision-Making in Dating	161	6.25	1.19	2.26	24.15***	Mandatory
Sexual Problems and Concerns	161	6.16	1.20	2.16	22.89***	Mandatory
Building Equal Romantic Relationships	161	6.14	1.08	2.14	25.10***	Mandatory
Communicating about Sex	161	6.05	1.19	2.05	21.81***	Mandatory
Sexuality in the Media	160	6.02	1.20	2.03	21.40***	Mandatory
Sexual Orientation	161	5.99	1.27	1.99	19.96***	Unspecified
Attraction, Love, and Intimacy	161	5.81	1.31	1.81	17.49***	Optional
Being Comfortable with the Other Sex	160	5.80	1.35	1.80	16.81***	Optional
Sexual Behaviour	161	5.76	1.28	1.76	17.46***	Unspecified
Sex As Part of a Loving Relationship	160	5.73	1.35	1.73	16.18***	Mandatory
Abstinence	160	5.70	1.46	1.70	14.76***	Mandatory
Teenage Prostitution	161	5.48	1.60	1.48	11.72***	Unspecified
Sexual Pleasure and Orgasm	161	5.26	1.58	1.26	10.16***	Unspecified
Masturbation	161	5.23	1.59	1.23	9.84***	Unspecified
Pornography and Erotica	161	4.79	1.75	.79	5.72***	Unspecified

Note. Sorted by mean ratings of importance.

[a]One-Sample *t* test against 4 (midpoint of the scale).

***$p < .001$.

Table 2. *Perceived and Preferred Timing of Sexual Health Education*

Topic		Grade Level (N = 161)				$\chi^2(9)$	Mode	Mandated Grade
		K to 5	6 to 8	9 to 12	Never			
Abstinence	Perceived	9%	47%	38%	6%	114.38***	6 to 8	7 to 10
	Preferred	13%	61%	23%	3%		6 to 8	
Body image	Perceived	21%	54%	21%	4%	66.97***	6 to 8	6
	Preferred	35%	55%	9%	1%		6 to 8	
Comfort with the other sex	Perceived	15%	34%	20%	31%	111.03***	6 to 8	Never
	Preferred	25%	49%	23%	3%		6 to 8	
Correct names for genitals	Perceived	33%	51%	15%	1%	307.73***	6 to 8	1 to 2[a]
	Preferred	41%	44%	15%	1%		6 to 8	
Peer pressure to be sexually active	Perceived	2%	49%	39%	11%	69.53***	6 to 8	8 to 10
	Preferred	10%	65%	21%	1%		6 to 8	
Masturbation	Perceived	4%	38%	31%	28%	44.33***	6 to 8	Never
	Preferred	12%	51%	31%	6%		6 to 8	
Menstruation	Perceived	25%	56%	16%	3%	144.84***	6 to 8	5 to 7
	Preferred	31%	54%	12%	2%		6 to 8	
Personal safety	Perceived	16%	41%	34%	9%	81.54***	6 to 8	
	Preferred	21%	54%	24%	1%		6 to 8	10
Puberty / physical development	Perceived	25%	66%	8%	1%	128.66***	6 to 8	5 to 10
	Preferred	35%	59%	7%	0%		6 to 8	
Reproduction and birth	Perceived	23%	51%	25%	1%	117.48***	6 to 8	3 to 7
	Preferred	25%	59%	15%	1%		6 to 8	
Sexual behaviour	Perceived	4%	45%	35%	16%	68.90***	6 to 8	Never
	Preferred	9%	54%	37%	1%		6 to 8	
Wet dreams	Perceived	14%	60%	17%	9%	71.00***	6 to 8	Never
	Preferred	18%	65%	15%	2%		6 to 8	

Topic		Grade Level (N = 161) K to 5	6 to 8	9 to 12	Never	$\chi^2(9)$	Mode	Mandated Grade
Attraction, love, and intimacy	Perceived	5%	30%	40%	26%	89.00***	9 to12	Never
	Preferred	8%	44%	44%	1%		6 to 8 9 to12[b]	
Birth control methods and safer sex practices	Perceived	1%	34%	59%	5%	53.79***	9 to 12	7 to 10
	Preferred	3%	58%	37%	0%		6 to 8	
Communicating about sex	Perceived	3%	37%	37%	23%	48.12***	9 to 12	8 to 10
	Preferred	7%	44%	48%	1%		9 to 12	
Sex as a part of a loving relationship	Perceived	6%	28%	35%	32%	118.62***	9 to 12	10
	Preferred	8%	47%	48%	5%		9 to 12	
Sexual coercion and sexual assault	Perceived	5%	33%	48%	15%	61.03***	9 to 12	Never
	Preferred	13%	59%	27%	1%		6 to 8	
Sexual decision-making	Perceived	0%	23%	54%	22%	33.17***	9 to 12	8 to 10
	Preferred	3%	49%	47%	1%		6 to 8	
Sexual problems and concerns	Perceived	0%	23%	53%	25%	53.91***	9 to 12	8 to 10
	Preferred	2%	45%	51%	3%		9 to 12	
Sexuality in the media	Perceived	3%	32%	48%	17%	48.07***	9 to 12	10
	Preferred	5%	59%	35%	1%		6 to 8	
Sexually transmitted infections	Perceived	1%	39%	59%	1%	40.43***	9 to 12	7 to 8
	Preferred	7%	61%	32%	1%		6 to 8	
Teenage pregnancy / parenting	Perceived	1%	41%	56%	3%	77.22***	9 to 12	Never
	Preferred	3%	62%	33%	2%		6 to 8	
Building equal romantic relationships	Perceived	2%	20%	39%	40%	48.43***	Never	7 to 10
	Preferred	4%	44%	49%	3%		9 to 12	
Homosexuality	Perceived	4%	23%	34%	40%	44.43***	Never	Never
	Preferred	14%	41%	37%	7%		6 to 8	
Pornography	Perceived	3%	20%	25%	52%	58.54***	Never	Never
	Preferred	3%	38%	39%	20%		9 to 12	

Topic		Grade Level ($N = 161$)				$\chi^2(9)$	Mode	Mandated Grade
		K to 5	6 to 8	9 to 12	Never			
Sexual pleasure and orgasm	Perceived	1%	21%	39%	40%	101.80***	Never	Never
	Preferred	3%	38%	54%	6%		9 to 12	
Teenage prostitution	Perceived	1%	13%	32%	54%	85.50***	Never	Never
	Preferred	1%	39%	47%	13%		9 to 12	

Note. Sorted by modal Grade level. Percentages rounded to the nearest percent and may not add to 100.
[a]May be covered in Grades 1 and 2 under "Major parts of the body". [b]Multiple modes.
***$p < .001$. Exact significance test used where possible; Monte Carlo tests were used otherwise.

Table 3. *Descriptive Statistics and Intercorrelations for Subscales of the Sexuality Program Feature / Program Outcome Inventory*

Subscale 1 (*strongly disagree*) to 7 (*strongly agree*)	Descriptives			Higher than midpoint[a]			Intercorrelations				
	N	*M*	*SD*	M_Δ	$t(n-1)$	*p*	1	2	3	4	5
1. Changes in Knowledge	160	5.30	1.14	1.30	14.53	.001	--	.78	.79	.71	.77
2. Changes in Values	156	5.20	1.31	1.20	11.48	.001		--	.85	.69	.76
3. Changes in Interaction Skills	159	5.12	1.25	1.12	11.38	.001			--	.64	.72
4. Program Characteristics	161	5.11	1.12	1.11	12.56	.001				--	.62
5. Understanding of Self	157	4.32	1.66	0.32	2.39	.02					--

Note. Sorted by mean score. All correlations significant ($p < .05$).

[a]One-Sample *t test* against 4 (the midpoint of the scale).

Table 4. *Descriptive Statistics and Intercorrelations for Sexuality-Related Individual Difference Variables*

		Descriptive Statistics				Intercorrelations			
		M	*SD*	Above midpoint (4)	Gender Difference	2	3	4	5
1. Sexual Self-Concept	Men	4.14	.54	$t(49) = 1.83$, *ns*	$t(153) = .86$, *ns*	.20	.05	.10	.30*
	Women	4.07	.49	$t(104) = 1.36$, *ns*		.40**	.30*	.37*	.30**
2. Erotophobia-Erotophilia	Men	4.66	.81	$t(48) = 5.74$***	$t(130.42) = 66$[1], *ns*	--	.36*	.30*	.28
	Women	4.55	1.17	$t(104) = 4.86$***		--	.62*	.70*	.41**
3. Attitudes toward Sexual Curiosity in Children	Men	4.13	.80	$t(49) = .24$, *ns*	$t(154) = 1.49$, *ns*		--	.24	.11
	Women	4.33	.78	$t(104) = 4.43$***			--	.53*	.20*
4. Comfort with Sexual Behaviour	Men	3.96	.96	$t(49) = .30$, *ns*	$t(153) = .25$, *ns*			--	.34*
	Women	4.00	.90	$t(104) = 1.00$, *ns*				--	.51**
5. Past Sexual Behaviour	Men	1.90	.85	n/a	$\chi^2(2) = 4.34$, *ns*				--
	Women	2.20	.85						--

Note. $n_{♂} = 50$. $n_{♂} = 106$.

[1]Nonhomogenous variance (Levene's Test: $F = 7.52$, $p < .01$).

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

Table 5. *Zero-Order Correlations between Sexuality-Related Individual Difference Variables and Satisfaction with and Evaluation of Sexual Health Education*

			Sexuality Education Program Feature / Program Outcome Inventory (SPFPOI)					
		GSSHE	Composite	*Program Characteristics*	*Changes in Knowledge*	*Understanding of Self*	*Changes in Values*	*Changes in Interaction Skills*
Sexual Self-Concept	Men	.18	.42**	.30*	.39**	.41**	.39**	.42**
	Women	-.10	.05	.08	.05	.09	-.03	.06
Erotophobia-Erotophilia	Men	-.18	-.05	-.03	.02	.09	-.09	-.08
	Women	-.27**	-.28**	-.16	-.23*	-.27**	-.32**	-.27**
Attitudes toward Sexual Curiosity in Children	Men	.04	-.20	-.12	-.12	-.26	-.13	-.23
	Women	-.25*	-.13	-.05	-.16	-.18	-.12	-.11
Comfort with Sexual Behaviour	Men	-.09	-.26	-.30*	-.22	-.18	-.19	-.23
	Women	-.22*	-.25*	-.13	-.23*	-.24*	-.31**	-.22*
Past Sexual Behaviour	Men	.05	.09	.06	.02	.28	.11	.05
	Women	-.18	-.26*	-.20*	-.22*	-.23*	-.26*	-.23*

*$p < .05$. **$p < .01$.

Table 6. *Sexuality-Related Individual Difference Variables as Predictors of Satisfaction with and Evaluation of Sexual Health Education*

Dependent Variable	Gender	F^1	Predictors (Final Beta)	Adjusted R^2
General Satisfaction with Sexual Health Education (GSSHE)				
	Men	.83, *ns*	n/a	n/a
	Women	1.87, *ns*	n/a	n/a
Sexuality Education Program Feature / Program Outcome Inventory (SPFPOI)				
Composite Index	Men	2.95*	Sexual Self-Concept (.43*)	.20
	Women	2.96*	Erotophobia – Erotophilia (-.35*)	.10
Program Characteristics	Men	1.94, *ns*	n/a	n/a
	Women	1.89, *ns*	n/a	n/a
Changes in Knowledge	Men	2.60*	Sexual Self-Concept (.42*)	.15
	Women	1.86, *ns*	n/a	n/a
Understanding of Self	Men	3.55**	Sexual Self-Concept (.34*)	.25
	Women	3.68**	Erotophobia – Erotophilia (.-.40*)	.15
Changes in Values	Men	2.08, *ns*	Sexual Self-Concept (.40*)	.12
	Women	3.15**	Erotophobia – Erotophilia (-.37*)	.12
Changes in Interaction Skills	Men	2.88*	Sexual Self-Concept (.45**)	.20
	Women	2.22*	Erotophobia – Erotophilia (-.34*)	.07

Note. $n_{♂} = 46$. $n_{♀} = 92$. The equation was *not* significant for men with Changes in Values as a dependent measure. However, Sexual Self-Concept is listed as a predictor because it was significant and the beta was similar to betas found in significant equations.

[1] $df_{♂} = 6, 40$. $df_{♀} = 6, 86$.

$^*p < .05$. $^{**}p < .01$.

Table 7. *Descriptive Statistics and Intercorrelations for Subscales of the Multidimensional Sexual Self-Concept Questionnaire for Men*

	Descriptives			Intercorrelations							
	M	*SD*	Different from Midpoint (4)?	2	3	4	5	6	7	8	9
1. *Sexual Self-Efficacy*	3.85	.94	$t(52) = 1.17$, *ns*	.65**	.25	.54**	.36**	.53**	-.25	.61**	.41**
2. *Sexual Consciousness*	4.16	.68	$t(52) = 1.71$, *ns*	--	.35*	.24	.13	.50**	-.25	.36**	.41**
3. *Motivation to Avoid Risky Sex*	4.44	.68	$t(52) = 4.71$***		--	.55**	.20	.29*	-.42**	.30*	.49**
4. *Sexual Optimism*	3.77	.70	$t(52) = 2.39$**			--	.40**	.29*	-.48**	.58**	.48**
5. *Sexual Problem Self-Blame*	3.47	.96	$t(52) = 4.06$***				--	.50**	.04	.26	.38**
6. *Sexual Problem Management*	3.81	.69	$t(52) = 2.03$*					--	-.13	.26	.49**
7. *Power/Other Sexual Control*	2.13	1.03	$t(52) = 13.18$***						--	-.17	-.15
8. *Sexual Self-Schemata*	3.88	.94	$t(52) = .94$, *ns*							--	.43**
9. *Sexual Problem Prevention*	4.03	.74	$t(52) = .30$, *ns*								--

Note. $n = 53$.

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

Table 8. *Zero-Order Correlations between Dimensions of Sexual Self-Concept and Satisfaction with and Evaluation of Sexual Health Education for Men*

		Sexuality Program Feature / Program Outcome Inventory (SPFPOI)					
Sexual Self-Concept	GSS HE	Composite Index	*Program Characteristics*	*Changes in Knowledge*	*Understanding of Self*	*Changes in Values*	*Changes in Interaction Skills*
Sexual Self-Efficacy	.20	.42**	.30*	.35*	.48**	.39**	.44**
Sexual Consciousness	.15	.31*	.28*	.34*	.23	.24	.31*
Motivation to Avoid Risky Sex	.05	.34*	.41**	.34*	.21	.30*	.28*
Sexual Optimism	.22	.29*	.22	.23	.32*	.29*	.30*
Sexual Problem Self-Blame	.14	.25	.09	.22	.25	.23	.28*
Sexual Problem Management	.17	.20	.16	.18	.11	.19	.23
Power/Other Sexual Control	.12	.01	.04	-.04	.00	.00	.03
Sexual Self-Schemata	.23	.35*	.29*	.25	.42**	.34*	.37**
Sexual Problem Prevention	.08	.16	.18	.13	.15	.09	.19

Note. $n = 53$.
*$p < .05$. $p < .01$.

Table 9. *Dimensions of Sexual Self-Concept as Predictors of Satisfaction with and Evaluation of Sexual Health Education for Men*

Dependent Variable	$F(9, 41)$	Significant Predictors (Final Beta)	Adjusted R^2
General Satisfaction with Sexual Health Education (GSSHE)			
	.88, *ns*	n/a	n/a
Sexuality Education Program Feature / Program Outcome Inventory (SPFPOI)			
Composite Index	2.26*	*Motivation to Avoid Risky Sex* (.42*)	.18
Program Characteristics	2.11, $p = .05$	*Motivation to Avoid Risky Sex* (.55**) *Power / Other Sexual Control* (.34*)	.17
Changes in Knowledge	1.74, *ns*	n/a	n/a
Understanding of Self	2.45*	*Sexual Self-Efficacy* (.59*)	.20
Changes in Values	1.98, $p = .07$	*Motivation to Avoid Risky Sex* (.41*)	.15
Changes in Interaction Skills	2.01, $p < .06$	n/a	n/a

Note. $n = 50$. Marginally significant results ($p = .05$ to .10) are reported when significant predictors ($p < .05$) emerged in the model test.

*$p < .05$.

Appendix A: Email Recruitment Script

Hello, my name is *Investigator's Name*, and I am a fourth year student in the Department of Psychology. I am conducting a study about the perceptions of and satisfaction with prior sex education in the secondary school system of recent high school graduates. If you would like to participate for a course credit, you will be asked to fill out a few questionnaires about the experiences you have had with sexual education in secondary school as well as your sexual attitudes and behaviors. Please note that you have to be in your first year and have received sexual education in high school in order to participate.

Your participation in this study together with your short summary will be worth one credit towards your Psychology 101 class. The questionnaires will take somewhere between 40 and 60 minutes to complete.

If you are willing to participate, please email me back, and I will email you the questionnaire package that you can print out and complete at your convenience. I will provide blank paper when you pick up your participation slip in order to reimburse you for any printing costs. Alternatively, you can also pick up a hard copy of the questionnaire.

You can drop off the completed package to the room Room number and location during the following office hours: *office hours listed here.*

*You can find more information about the nature of the study in the end of this e-mail. It will be especially helpful when you write the experimental summary. You will also receive a feedback letter when you drop off the completed questionnaire.

Please contact me at *contact information* if you have any questions.

Thank you in advance for your time,

Investigator's Name

****

Additional Information:

Sexual Education in Secondary School: Assessment of University Students' Satisfaction

The main purpose of this research project is to investigate the perceptions of and satisfaction with prior sex education in the secondary school system of recent graduates. The study is being conducted by *Investigator's Name* for her Honours thesis with assistance from Dr. Rye of the Department of Psychology at St. Jerome's University. Participation in this study is worth one participation credit for Psychology 101.

Participation in this study is entirely voluntary. As a participant in the study, you will be asked to complete a number of measures about your sexual education and sexual behaviours (e.g., "With how many partners have you had sexual contact in your lifetime?"). Most questionnaires will assess the attitudes you have towards and the experiences you have had with sexual education in secondary school, typically, in the context of health education classes. Examples of items include: "I was encouraged to ask questions about sexuality in class", "Sex play is a normal thing in children", "Masturbation can be an exciting experience" and "I would not enjoy seeing an erotic (sexually explicit) movie". We anticipate that these questionnaires will take somewhere between 30 and 45 minutes to complete, although some participants may take more or less time.

Although the purpose of this study is not to evoke stress, we are aware that thinking back and reflecting on your own sexual education may be uncomfortable for

some people, and even cause some emotional distress. We would anticipate that this stress/discomfort to be minor and temporary. However, if you feel that completing this task will cause you significant emotional distress, you are strongly advised not to participate.

Besides contributing to the body of current research on sexual education in Canada, your participation in this study provides you with an opportunity to learn more about the process of psychological research. You may also realize the importance of your own experiences with sexual education and the effects that this education has had on you.

Your completed materials will be stored in a secure location at St. Jerome's University and will be confidentially destroyed after any potential publication. Only the above-named investigators will have access to your completed materials. You will not be required to put your name on the materials (the only place you will be required to put your name is at the bottom of this letter so that we can give you your participation credit and obtain your written consent to participate). You may withdraw from participation at any time and your completed materials will be destroyed at your request as long as you verbally inform the experimenter. If you withdraw, you will still receive participation credit.

This project has been reviewed and received ethics clearance through the Office of Research Ethics at the University of Waterloo. If you have any concerns or questions about your participation please contact that office (519-888-4567, Ext. 6005). If participation in this study raises any issues for you, you are encouraged to contact Counseling Services (519-888-4567, ext. 2655).

Appendix B: In-Class Recruitment Script

Hello, my name is *Investigator's Name* and I am a 4th year Psychology student. I am currently working on my Honours thesis with Dr. Rye. We are investigating the levels of satisfaction that university students report in regards to the sexual education in secondary schools. This research will hopefully lead to a better understanding of factors that affect students' satisfaction with sexual health education provided in school and eventually be used to develop more effective educational approaches to teach sexual health to youth.

If you decide to participate in this study, you will be asked to complete a package of questionnaires, assessing your attitudes towards and experiences with sexual health education. The session should take approximately 30 minutes of your time. You will receive $7 for your participation.

I would like to assure you that this study has been reviewed and received ethics clearance through the Office of Research Ethics. However, the final decision about participation is yours.

If you are interested in participating, please fill out one of the individual confidential recruitment cards and I will be in touch with you. Alternatively, you can come to St. Jerome's TA office during my office hours and see me. Thank you.

Appendix C: Information-Consent Letter for Psychology 101 Students

Project: *Sexual Education in Secondary School: Assessment of University Students' Satisfaction*

Student Investigator: *Investigator's Name*

Faculty Investigator: Dr. BJ Rye, Psychology, St. Jerome's University (bjrye@uwaterloo.ca)

The main purpose of this research project is to investigate the perceptions of and satisfaction with prior sex education in the secondary school system of recent graduates. The study is being conducted by *Investigator's Name* for her Honours thesis with assistance from Dr. Rye of the Department of Psychology at St. Jerome's University. Participation in this study is worth one participation credit for Psychology 101.

Participation in this study is entirely voluntary. As a participant in the study, you will be asked to complete a number of measures about your sexual education and sexual behaviours (e.g., "With how many partners have you had sexual contact in your lifetime?"). Most questionnaires will assess the attitudes you have towards and the experiences you have had with sexual education in secondary school, typically, in the context of health education classes. Examples of items include: "I was encouraged to ask questions about sexuality in class", "Sex play is a normal thing in children", "Masturbation can be an exciting experience" and "I would not enjoy seeing an erotic (sexually explicit) movie". We anticipate that these questionnaires will take somewhere between 30 and 45 minutes to complete, although some participants may take more or less time.

Although the purpose of this study is not to evoke stress, we are aware that thinking back and reflecting on your own sexual education may be uncomfortable for some people, and even cause some emotional distress. We would anticipate that this stress/discomfort to be minor and temporary. However, if you feel that completing this task will cause you significant emotional distress, you are strongly advised not to participate.

Besides contributing to the body of current research on sexual education in Canada, your participation in this study provides you with an opportunity to learn more about the process of psychological research. You may also realize the importance of your own experiences with sexual education and the effects that this education has had on you. Your completed materials will be stored in a secure location at St. Jerome's University and will be confidentially destroyed after any potential publication. Only the above-named investigators will have access to your completed materials. You will not be required to put your name on the materials (the only place you will be required to put your name is at the bottom of this letter so that we can give you your participation credit and obtain your written consent to participate). You may withdraw from participation at any time and your completed materials will be destroyed at your request as long as you verbally inform the experimenter. If you withdraw, you will still receive participation credit.

This project has been reviewed and received ethics clearance through the Office of Research Ethics at the University of Waterloo. If you have any concerns or questions about your participation please contact that office (519-888-4567, ext. 6005). If participation in this study raises any issues for you, you are encouraged to contact

Counselling Services (519-888-4567, ext. 2655).

I agree to participate in this study being conducted by Dr. Rye and *Investigator's Name*. I have made this decision based on the information I have read in the information-consent letter and have had the opportunity to receive any additional details I wanted about the study. As a participant in the study, I understand that I will be asked to complete a number of measures about my sexual behaviours and my experiences with sexual education. All information I provide will be held in confidence and I will not be identified in any way in the final report. I also understand that this project has been reviewed and received ethics clearance through the Office of Research Ethics at the University of Waterloo and that I may contact this office if I have any concerns or questions about my involvement in this study.

Date: _____

Participant's Name (please print):

_____

Participant's Signature:

_____

Appendix D: Information-Consent Letter for SMF 204 Students

Project: *Sexual Education in Secondary School: Assessment of University Students' Satisfaction*

Student Investigator: *Investigator's Name*

Faculty Investigator: Dr. BJ Rye, Psychology, St. Jerome's University (bjrye@uwaterloo.ca)

The main purpose of this research project is to investigate the perceptions of and satisfaction with prior sex education in the secondary school system of recent graduates. The study is being conducted by *Investigator's Name* for her Honours thesis with assistance from Dr. Rye of the Department of Psychology at St. Jerome's University.

It is important that you know that this study is not related to this course; your instructor will not know if you have participated or not. Your participation is in NO WAY associated with this course and is entirely voluntary. As a participant in the study, you will be asked to complete a number of measures about your sexual education and sexual behaviours (e.g., "With how many partners have you had sexual contact in your lifetime?"). Most questionnaires will assess the attitudes you have towards and the experiences you have had with sexual education in secondary school, typically, in the context of health education classes. Examples of items include: "I was encouraged to ask questions about sexuality in class", "Sex play is a normal thing in children", "Masturbation can be an exciting experience" and "I would not enjoy seeing an erotic (sexually explicit) movie". These questionnaires will take somewhere between 30 and 45 minutes to complete, although some participants may take more or less time. You may

complete the questionnaire package right after class, or alternatively, take the package home and drop it off at St. Jerome's TA office during specified office hours.

Although the purpose of this study is not to evoke stress, we are aware that thinking back and reflecting on your own sexual education may be uncomfortable for some people, and even cause some emotional distress. We would anticipate that this stress/discomfort to be minor and temporary. However, if you feel that completing this task will cause you significant emotional distress, you are strongly advised not to participate.

Besides contributing to the body of current research on sexual education in Canada, your participation in this study provides you with an opportunity to learn more about the process of psychological research. You may also realize the importance of your own experiences with sexual education and the effects that this education has had on you. In addition, you will receive $7 for your participation in this study when you drop off your completed package.

Your completed materials will be stored in a secure location at St. Jerome's University and will be confidentially destroyed after any potential publication. Only the above-named investigators will have access to your completed materials. You will not be required to put your name on the materials. All information you provide will be held in confidence and you will not be identified in any way in the final report. You may withdraw from this study at any time and your completed materials will be destroyed at your request as long as you inform the experimenter during or right after your participation. If you withdraw, you will still receive partial payment.

This project has been reviewed and received ethics clearance through the Office

of Research Ethics at the University of Waterloo. If you have any concerns or questions about your participation please contact that office (519-888-4567, Ext. 6005).

I agree to participate in this study being conducted by Dr. Rye and *Investigator's Name*. I have made this decision based on the information I have read in the information-consent letter and have had the opportunity to receive any additional details I wanted about the study. As a participant in the study, I understand that I will be asked to complete a number of measures about my sexual behaviours and my experiences with sexual education. All information I provide will be held in confidence and I will not be identified in any way in the final report. I also understand that this project has been reviewed and received ethics clearance through the Office of Research Ethics at the University of Waterloo and that I may contact this office if I have any concerns or questions about my involvement in this study.

Date: _____

Participant's Name (please print):

_____

Participant's Signature:

_____

Appendix E: Debriefing Letter

Project: *Sexual Education in Secondary School: Assessment of University Students' Satisfaction*

Student Investigator: *Investigator's Name*

Faculty Investigator: Dr. BJ Rye, Psychology, St. Jerome's University (bjrye@uwaterloo.ca)

Dear Participant,

We would like to thank you for your participation in this study. As a reminder, the main purpose of this research project is to investigate the perceptions of and satisfaction with prior sex education in the secondary school system of recent graduates. We hypothesize that students who have less reported sex education will have less satisfaction with their post-secondary sex education experience. We also hypothesize that individual sexual attitudes, experiences and behaviors will be correlated with the overall level of satisfaction with sexual education received in high school. Further, we propose to compare first year students who chose to enroll in an undergraduate level introductory human sexuality course to undergraduates not enrolled in such a course to determine if satisfaction levels with secondary school sex education differ between the two groups (i.e., it is possible that students enrolled in a human sexuality course were dissatisfied with sexual education received in high school and this is the reason they enrolled in a human sexuality course or students in a human sexuality course so enjoyed their sex education in high school that they decided to further their knowledge). Thus, we wonder if satisfaction with prior high school sexual education is an underlying motivator for taking or not taking university level sexual education.

Please remember that any data pertaining to yourself as an individual participant will be kept confidential. Once all the data are collected and analyzed for this project, we plan on sharing this information with the research community through seminars, conferences, presentations, and journal articles. If you are interested in receiving more information regarding the results of this study, or if you have any questions or concerns, please contact us at either the phone number or email address listed at the top of the page. If you would like a summary of the results, please let us know now by providing us with your email address. When the study is completed, we will send it to you.

As with all University of Waterloo projects involving human participants, this project was reviewed by, and received ethics clearance through, the Office of Research Ethics at the University of Waterloo. Should you have any comments or concerns resulting from your participation in this study, please contact Dr. Susan Sykes in the Office of Research Ethics at 519-888-4567, Ext., 6005. If participation in this study raises any issues for you, you are encouraged to contact Counselling Services (519-888-4567, ext. 2655).

If you are interested in reading more about sexual health education, please consult the following sources:

Byers, S.E., Sears, H.A., Voyer, S.D., Thurlow, J.L., Cohen, J.N., & Weaver, A.D. (2003). An adolescent perspective on sexual health education at school and at home: I. High school students. *Canadian Journal of Human Sexuality, 12*(1), 1-17.

McKay, A. (1998). *Sexual ideology and schooling: Towards democratic sexuality education.* Toronto: Althouse Press.

Appendix F : Complete Questionnaire Package

Part 1. Background Information

1. Age:_____
2. Gender (*M*/F):_____
3. Faculty:_____
4. Major_____
5. Year of Study_____
6. What is your ethnic/cultural background (e.g., White, Black, Asian, Hispanic)?

   _____
7. In what country & region (province, state, etc.) were you born?

   _____
8. In what country & region (province, state, etc.) were you raised?

   _____
9. Did you go to high school in Canada? Yes _____ No _____
10. If yes, where? City/Town _____ Province _____
11. What kind of high school did you go to? Public ____ Catholic ____

    Other_____
12. Are you currently involved in a romantic relationship? Yes _____ No _____
13. If yes, how long have you been involved in your current relationship?

    _____(months)
14. How would you describe your current relationship? (check as many as apply)

    Casual dating ____ Dating this partner and others ____

    Long distance ____ Exclusively/seriously dating ____

Living together ____ Engaged ____

Married ____ Widowed ____ Other (explain?)

_____

15. How satisfied are you with your current relationship? (circle one)

1	2	3	4	5	6	7
Extremely Dissatisfied	*Moderately Dissatisfied*	*Slightly Dissatisfied*	*In Between*	*Slightly Satisfied*	*Moderately Satisfied*	*Extremely Satisfied*

16. How religious do you consider yourself? (circle one)

1	2	3	4	5
Not At All Religious	*A Little Religious*	*Somewhat Religious*	*Quite Religious*	*Extremely Religious*

17. How satisfied are you with your sexual functioning? (circle one)

1	2	3	4	5	6	7
Extremely Dissatisfied	*Moderately Dissatisfied*	*Slightly Dissatisfied*	*In Between*	*Slightly Satisfied*	*Moderately Satisfied*	*Extremely Satisfied*

18. "SMF" stands for Sexuality, Marriage and Family Studies. Please circle all of the following statements that apply to you:

    1. I am currently taking Psychology 101
    2. I am currently taking Introduction to Human Sexuality course (SMF 204)
    3. I intend to take Introduction to Human Sexuality course (SMF 204) in the future
    4. I do not intend to take Introduction to Human Sexuality course (SMF 204) in

the future

Part 2. Attitudes Towards And Satisfaction With Sexual Health Education Survey

Below is a list of topics that could be covered in high school sexual health education. For each topic, place an "x" in the column of the grade level at which you have covered this topic. Then place an "x" in the column of the grade level at which you would have liked to learn about this topic.

	*I learned about this in:				I would have liked to learn about this in:			
	Gr. K-5	Gr. 6-8	Gr. 9-12	This topic was never covered	Gr. K-5	Gr. 6-8	Gr. 9-12	This topic should not be included
Correct names for genitals								
Body image								
Puberty/physical development								
Wet dreams								
Menstruation								
Reproduction and birth								
Birth control methods & safer sex practices								
Abstinence								
Sexually transmitted infections								
Teenage pregnancy/parenting								
Personal safety								
Sexual coercion & sexual assault								
Building equal romantic relationships								
Homosexuality								
Attraction, love, intimacy								
Communicating about sex								
Being comfortable with the other sex								
Dealing with peer pressure to be sexually active								
Masturbation								
Sexual behavior								
Sex as a part of a loving relationship								
Sexual pleasure & orgasm								
Sexual problems and concerns								
Sexuality in the media								
Pornography								
Teenage prostitution								
Sexual decision-making in dating relationships								

We are interested in your general feelings about sexual health education. For each of the following questions, please circle ONE response that best describes your opinion.

	Strongly Disagree	*Moderately Disagree*	*Slightly Disagree*	*Neither / In Between*	*Slightly Agree*	*Moderately Agree*	*Strongly Agree*
Sexual health education should be provided in the schools.	1	2	3	4	5	6	7
The school and the parents should share responsibility for providing children with sexual health education.	1	2	3	4	5	6	7
The sexual health education I have received in school has covered the topics that I am most interested in.	1	2	3	4	5	6	7
My sexual health education classes left out a lot of crucial and important information.	1	2	3	4	5	6	7
I learned most of what I know about sexual health from my high school sexual health education.	1	2	3	4	5	6	7
I wish I knew more about sexuality and sexual health.	1	2	3	4	5	6	7
I am satisfied with the way(s) in which I found out most of what I know about things having to do with sex.	1	2	3	4	5	6	7
I am satisfied with the sex education I have received in the Canadian school system.	1	2	3	4	5	6	7
The amount of sexual education I had in school was inadequate.	1	2	3	4	5	6	7

Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	*Moderately Disagree*	*Slightly Disagree*	*Neither/In Between*	*Slightly Agree*	*Moderately Agree*	*Strongly Agree*
It is important that students are taught about abstinence in high school.	1	2	3	4	5	6	7
It is important that students are taught about *sexually transmitted infections* in high school.	1	2	3	4	5	6	7
It is important that students are taught about teenage pregnancy and teen parenting in high school.	1	2	3	4	5	6	7
It is important that students are taught about personal safety in high school.	1	2	3	4	5	6	7
It is important that students are taught about sexual coercion & sexual assault in high school.	1	2	3	4	5	6	7
It is important that students are taught about building equal romantic relationships in high school.	1	2	3	4	5	6	7
It is important that students are taught about sexual orientation in high school.	1	2	3	4	5	6	7
It is important that students are taught about attraction, love, & intimacy in high school.	1	2	3	4	5	6	7
It is important that students are taught about communicating about sex in high school.	1	2	3	4	5	6	7
It is important that students are taught about being comfortable with the other sex in high school.	1	2	3	4	5	6	7
It is important that students are taught about dealing with peer pressure to be sexually active in high school.	1	2	3	4	5	6	7
It is important that students are taught about masturbation in high school.	1	2	3	4	5	6	7
It is important that students are taught about sexual behavior in high school.	1	2	3	4	5	6	7
It is important that students are taught about sex as part of a loving relationship in high school.	1	2	3	4	5	6	7
It is important that students are taught about sexual pleasure & orgasm in high school.	1	2	3	4	5	6	7
It is important that students are taught about sexual problems & concerns in high school.	1	2	3	4	5	6	7
It is important that students are taught about sexuality in the media in high school.	1	2	3	4	5	6	7
It is important that students are taught about pornography & erotica in high school.	1	2	3	4	5	6	7
It is important that students are taught about teenage prostitution in high school.	1	2	3	4	5	6	7
It is important that students are taught about sexual decision making in dating in high school.	1	2	3	4	5	6	7

Part 3. The Sexuality Education Program Feature / Program Outcome Inventory

This survey is designed to gather important information about your feelings concerning the sexual education you had in high school. We are interested in your opinions about how sexual health education is taught in school. Use a separate line for each teacher, in case you had more than one, and specify the grade at which this teacher taught. Rate each of your teachers on their confidence, knowledge, approachability, and comfort with the topics presented on the following scale:

1	2	3	4	5
Very Poor	*Poor*	*Average*	*Good*	*Very Good*

Teacher	Grade	Confidence	Knowledge	Approachability	Comfort
1					
2					
3					

Please respond to each statement by placing appropriate letters on the left side of the statements. Use the following scale.

1	2	3	4	5	6	7
Strongly Disagree	*Moderately Disagree*	*Slightly Disagree*	*In Between/ Neutral*	*Slightly Agree*	*Moderately Agree*	*Strongly Agree*

Think back to your most recent or most memorable sexual education teacher. "My sexual education teacher:"

____ was enthusiastic about teaching the course.
____ discussed topics in a way that made me feel comfortable.
____ encouraged me to talk about my opinions.
____ encouraged me to think about my own values concerning sexuality.
____ encouraged me to consider the use of birth control in order to avoid an unplanned pregnancy.
____ provided class activities aimed at improving decision-making skills.
____ provided class activities aimed at improving factual knowledge.
____ was comfortable during class discussions concerning sexuality.
____ got along well with students in the class.
____ encouraged me to think about the consequences of sexual relationships before I enter into them.
____ I was permitted to express my own values in the class.
____ I was encouraged to ask questions about sexuality in class.

1	2	3	4	5	6	7
Strongly Disagree	*Moderately Disagree*	*Slightly Disagree*	*In Between/ Neutral*	*Slightly Agree*	*Moderately Agree*	*Strongly Agree*

"As a result of my high school's sexuality education, I feel that I have a greater understanding of"

____	physical changes during adolescence
____	human reproduction
____	the emotional needs of adolescents
____	the social needs of adolescents
____	the emotional changes during adolescence
____	the social changes during adolescence
____	abstinence as an alternative to sexual intercourse
____	the effectiveness of different birth control methods
____	the probability of becoming pregnant
____	the problems associated with adolescent parenthood
____	sexually transmitted infections
____	common myths concerning sexuality
____	the positive role of sexuality in my life
____	my long-range life goals
____	my own emotional needs
____	my sexual feelings
____	being responsible for my own behaviour
____	accepting my own body variation
____	accepting my own set of rules to guide my behaviour

"As a result of the sexual education I have received in high school, I feel I have a greater ability to:"

____	make decisions
____	communicate my feelings verbally
____	discuss sexual behaviour with my potential partner
____	express my desire to use birth control in order to avoid an unplanned pregnancy
____	express my desire not to be involved sexually if I don't wish to be
____	resolve conflicts that may exist between me and another person
____	respect the individual dignity of each person
____	feel comfortable when discussing sexual issues with friends
____	feel comfortable with my own bodily functions
____	be satisfied with who I am
____	form my own sex role standards
____	be responsible for my own behaviour
____	accept my own body variations
____	accept my own set of rules to guide my behaviour

Part 4. Sex Education Inventory: Preferred And Actual Sources

1. Circle the one letter identifying the person or persons who should have primary responsibility for teaching young people about sexual matters.

(a) No one in particular

(b) Friends

(c) Young people should find out on their own

(d) Teachers in school (content of schoolwork)

(e) Physician and/or nurse

(f) Parents

(g) Professional sex educators or counselors

(h) Ministers, priests, or other religious leaders

(i) Other (please specify) _____

2. Now complete items 2 through 5 by using the list in item 1. Write one letter to indicate who should have primarily responsibility for teaching young people about each of the following:

3. Physical development and puberty _____

4. Sex-related health topics and consequences (e.g. sexually transmitted infections, abortion) ___

5. Moral and ethical questions related to sex _____

6. Interpersonal relations and sexuality _____

7. Circle the letter beside your one main source of information about sex in general.

(a) No source

(b) Female friends

(c) Male friends

(d) Father

(e) Mother

(f) Other family members

(g) Physician and/or nurse

(h) Professional sex education or counselor (including personnel at family planning clinic)

(i) Minister, priest or other religious leader

(j) Media (TV, radio)

(k) Reading on my own

(l) Teachers in school (content of schoolwork)

(m) Other (please specify)

_____

Now complete items 7 through 10 by using the list in item 6. Write the letter of the one main source from which you learned most of what you know about each of the following:

8. Physical development and puberty _____

9. Sex-related health topics and consequences (e.g. sexually transmitted infections, abortion) __

10. Moral and ethical questions related to sex _____

11. Interpersonal relations and sexuality _____

Indicate the extent to which you agree or disagree with the following statements. The word "parents" refers to adult(s) who have raised you (for example: parent(s), stepparent(s), grandparent(s), guardian(s)).

	Strongly Disagree	*Moderately Disagree*	*Slightly Disagree*	*Neither / In Between*	*Slightly Agree*	*Moderately Agree*	*Strongly Agree*
When it comes to sex, my attitudes and my parents' attitudes are pretty much the same.	1	2	3	4	5	6	7
My parents and I find it uncomfortable to talk about sex.	1	2	3	4	5	6	7
I often ask my parents for advice about sexual matters.	1	2	3	4	5	6	7
My parents would probably stand by me if I had a serious problem related to sex.	1	2	3	4	5	6	7
When I talk about sex with my parents, I tell them only what I think they can accept.	1	2	3	4	5	6	7
My parents have very traditional ideas about a man's role in life.	1	2	3	4	5	6	7
My parents hugged and kissed me a lot when I was a child.	1	2	3	4	5	6	7
I have often seen my parents show physical affection for each other.	1	2	3	4	5	6	7
As a child, I was encouraged to be affectionate with my parents and other family members.	1	2	3	4	5	6	7
My parents permitted me to see them nude after I was five or six years old.	1	2	3	4	5	6	7

Part 5. The Multidimensional Sexual Self-Concept Questionnaire

The items in this questionnaire refer to people's sexuality. Please read each item carefully and decide to what extent it is characteristic of you. Give each item a rating of how much it applies to you by using the following scale.

1	2	3	4	5
Not At All Characteristic	*Slightly Characteristic*	*Somewhat Characteristic*	*Moderately Characteristic*	*Very Characteristic*

Note: Remember to respond to all items, even if you are not completely sure. Your answers will be kept in the strictest confidence. Also, please be honest in responding to these statements.

___ I have the ability to take care of any sexual needs and desires that I may have.

___ I am very aware of my sexual feelings and needs.

___ I am motivated to avoid engaging in "risky" (i.e., unprotected) sexual behavior.

___ I expect that the sexual aspects of my life will be positive and rewarding in the future.

___ I would be to blame if the sexual aspects of my life were not going very well.

___ If I were to experience a sexual problem, I myself would be in control of whether this improved.

___ My sexual behaviors are determined largely by other more powerful and influential people.

___ Not only would I be a good sexual partner, but it's quite important to me that I be a good sexual partner.

___ If I am careful, then I will be able to prevent myself from having any sexual problems.

___ I am competent enough to make sure that my sexual needs are fulfilled.

___ I am very aware of my sexual motivations and desires.

___ I am motivated to keep myself from any "risky" sexual behaviour (e.g., exposure to sexually transmitted infections).

___ I believe that in the future the sexual aspects of my life will be healthy and positive.

___ If the sexual aspects of my life were to go wrong, I would be the person to blame.

___ If I were to experience a sexual problem, my own behaviour would determine whether I improved.

___ My sexual behaviours are largely controlled by people other than myself (e.g., my partner, friends, family).

___ Not only would I be a skilled sexual partner, but it's quite important to me that I be a skilled sexual partner.

___ I can pretty much prevent myself from developing sexual problems by taking good care of myself.

___ I have the skills and ability to ensure rewarding sexual behaviours for myself.

___ I tend to think about my own sexual beliefs and attitudes.

___ I want to avoid engaging in sex where I might be exposed to sexually transmitted infections.

___ I do not expect to suffer any sexual problems or frustrations in the future.

___ If I were to develop a sexual disorder, then I would be to blame for not taking good care of myself.

___ If I were to become sexually maladjusted, I myself would be responsible for making myself better.

___ My sexual behaviour is determined by the actions of powerful others (e.g., my partner, friends, family).

___ Not only could I relate well to a sexual partner, but it's important to me that I be able to do so.

___ If I look out for myself, then I will be able to avoid any sexual problems in the future.

___ I am able to cope with and to handle my own sexual needs and wants.

___ I'm very alert to changes in my sexual thoughts, feelings and desires.

___ I really want to prevent myself from being exposed to sexually transmitted infections.

___ I will probably experience some sexual problems in the future.

___ If I were to develop a sexual problem, then it would be my own fault for letting it happen.

___ If I developed any sexual problems, my recovery would depend in large part on what I myself would do.

___ In order to be sexually active, I have to conform to other, more powerful individuals.

___ I am able to "connect" well with a sexual partner, and it's important to me that I am able to do so.

___ I will be able to avoid any sexual problems, if I just take good care of myself.

___ I have the capability to take care of my own sexual needs and desires.

___ I am very aware of the sexual aspects of myself (e.g., habits, thoughts, beliefs).

___ I am really motivated to avoid any sexual activity that might expose me to sexual diseases.

___ I anticipate that in the future the sexual aspects of my life will be frustrating.

___ If something went wrong with my own sexuality, then it would be my own fault.

___ If I developed a sexual disorder, my recovery would depend on how I myself dealt with the problem.

___ My sexual behaviour is mostly determined by people who have influence and control over me.

___ Not only am I capable of relating to a sexual partner, but it's important to me that I relate very well.

___ If I just pay careful attention, I'll be able to prevent myself from having any sexual problems.

Part 6. Human Sexuality Questionnaire

Indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	*Moderately Disagree*	*Slightly Disagree*	*Neither / In Between*	*Slightly Agree*	*Moderately Agree*	*Strongly Agree*
A young child should be protected from hearing about sex.	1	2	3	4	5	6	7
Children should be taught about sex as soon as possible.	1	2	3	4	5	6	7
Children are normally curious about sex.	1	2	3	4	5	6	7
Young children should be prevented from contact with erotic pictures.	1	2	3	4	5	6	7
There is usually something wrong with a child who asks a lot of questions about sex.	1	2	3	4	5	6	7
Sex play is a normal thing in children.	1	2	3	4	5	6	7
Sex is one of the greatest problems to be contended with in children.	1	2	3	4	5	6	7
Erotica[1] is not harmful to young children and there is no need to be concerned about their coming into contact with it.	1	2	3	4	5	6	7
There is nothing wrong with bathing boys and	1	2	3	4	5	6	7

1 Erotica is any sexually explicit material that does not depict violence or degradation.

girls in the same bathtub.							
Sex is no great problem for children if the parents do not make it one.	1	2	3	4	5	6	7
It is very important that young boys and girls not be allowed to see each other completely undressed	1	2	3	4	5	6	7
Children who take part in sex play become sex criminals when they grow up.	1	2	3	4	5	6	7

Answer these based on what you feel is right for most persons of your own sex and age.

Response options for all items are:

1	2	3	4	5	6
Never all right, regardless of how much you love the person	All right if you are married	All right if you are engaged and/or live together	All right if you are deeply in love with the person / dating seriously	All right if you feel strong affection for the person / dating casually	All right, regardless of how you generally feel about the person or how long you have known them

____ 1. Erotic kissing

____ 2. "Petting" above the waist

____ 3. Body-to-body rubbing ("dry humping")

____ 4. Manipulation of partner's genitals / mutual masturbation or masturbating your partner

____ 5. Mouth-to-genital contact (oral sex)

____ 6. Sexual intercourse in a traditional position with the male on top.

____ 7. Sexual intercourse in an alternate position (e.g., female on top, side position, etc.)

____ 8. Sexual intercourse, face to face, in side position.

____ 9. Same-sex sexual activity

____ 10. Anal intercourse (any gender composition)

Indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	*Moderately Disagree*	*Slightly Disagree*	*Neither / In Between*	*Slightly Agree*	*Moderately Agree*	*Strongly Agree*
Homosexuals (male or female) should have the right to legally marry.	1	2	3	4	5	6	7
Homosexual couples (male or female) should have the right to adopt children.	1	2	3	4	5	6	7
Nearly all homosexuals are psychiatrically disturbed.	1	2	3	4	5	6	7
Except for differences in sexual preference, homosexuals are as normal as heterosexuals.	1	2	3	4	5	6	7

Orgasmic Experience (orgasm = sudden spasmodic discharge of sexual tension usually accompanied by ejaculation in the male). Please respond to the following statements by placing an appropriate number in the blank beside each item. Response options for all items are:

1	2	3	4	5	6
Never	*Rarely*	*Sometimes*	*Frequently*	*Always*	*Not applicable*
(0% of the time)	(25% of the time)	(50% of the time)	(75% of the time)	(100% of the time)	(never have engaged in this activity)

How many times have you experienced orgasm through:

____ 1. Masturbation

____ 2. Petting, or body contact without manipulation of genitals

____ 3. Manipulation of your genitals by someone else

____ 4. Heterosexual intercourse

____ 5. Homosexual relations

____ 6. Oral stimulation by another

____ 7. Fantasy and/or dreams

Part 7. Sexual Opinion Survey

Please respond to each item as honestly as you can. There are no right or wrong answers.

Indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	*Moderately Disagree*	*Slightly Disagree*	*Neither / In Between*	*Slightly Agree*	*Moderately Agree*	*Strongly Agree*
I think it would be very entertaining to look at erotica (sexually explicit books, movies, etc).	1	2	3	4	5	6	7
Erotica (sexually explicit books, movies, etc.) is obviously filthy and people should not try to describe it as anything else.	1	2	3	4	5	6	7
Swimming in the nude with a member of the opposite sex would be an exciting experience.	1	2	3	4	5	6	7
Masturbation can be an exciting experience.	1	2	3	4	5	6	7
If I found out that a close friend of mine was a homosexual, it would annoy me.	1	2	3	4	5	6	7
If people thought I was interested in oral sex, I would be embarrassed.	1	2	3	4	5	6	7
Engaging in group sex is an entertaining idea.	1	2	3	4	5	6	7
I personally find that thinking about engaging in sexual intercourse is arousing	1	2	3	4	5	6	7
Seeing an erotic	1	2	3	4	5	6	7

(sexually explicit) movie would be sexually arousing to me.							
Thoughts that I may have homosexual tendencies would not worry me at all.	1	2	3	4	5	6	7
The idea of my being physically attracted to members of the same sex is not depressing.	1	2	3	4	5	6	7
Almost all erotic (sexually explicit) material is nauseating.	1	2	3	4	5	6	7
It would be emotionally upsetting to me to see someone exposing themselves in publicity.	1	2	3	4	5	6	7
Watching a stripper of the opposite sex would not be very exciting.	1	2	3	4	5	6	7
I would not enjoy seeing an erotic (sexually explicit) movie.	1	2	3	4	5	6	7
When I think about seeing pictures showing someone of the same sex as myself masturbating, it nauseates me.	1	2	3	4	5	6	7
The thought of engaging in unusual sex practices is highly arousing.	1	2	3	4	5	6	7
Manipulating my genitals would probably be an arousing experience.	1	2	3	4	5	6	7
I do not enjoy daydreaming about sexual matters.	1	2	3	4	5	6	7
I am not curious about explicit erotica	1	2	3	4	5	6	7

(sexually explicit books, movies, etc).							
The thought of having long-term sexual relations with more than one sex partner is not disgusting to me.	1	2	3	4	5	6	7

Part 8. Experience Subtest Of The Derogatis Sexual Functioning Inventory

Below is a list of 25 sexual behaviors. First, indicate which behaviors you have engaged in at least once during your sexual life by checking off the first space. Second, indicate which behaviors you have engaged in at least once during the last three months by checking off the second space.

At Least Once	Within The Last 3 Months	
		Your partner lying on you while you are clothed
		Stroking and petting your sexual partner's genitals
		Erotic embrace while dressed
		Penis-in-vagina intercourse, vagina entry from rear
		Having your genitals caressed by your partner
		Mutual oral stimulation of genitals
		Oral stimulation of your partner's genitals
		Penis-in-vagina intercourse, side by side
		Kissing of sensitive (non-genital) areas of the body
		Penis-in-vagina intercourse, sitting position
		Masturbating alone
		Your partner kissing your nude breast/chest
		Having your anal area caressed
		Breast petting while clothed
		Caressing your partner's anal area
		Penis-in-vagina intercourse, female superior position
		Mutual petting of genitals to orgasm
		Having your genitals orally stimulated
		Mutual undressing of each other
		Deep kissing
		Penis-in-vagina intercourse, male superior position
		Kissing on the lips
		Breast petting while nude
		Used a sex toy (e.g., vibrator, dildo)
		Anal intercourse

Age at first intercourse _____ (write in a number)
With how same-sex many partners have you had sexual contact in your lifetime? _____ (write in number)
With how many opposite-sex partners have you had sexual contact[1] in your lifetime? _____ (write in number)
With how many partners have you had a "one-night stand"? _____ (write in number)

1 This term is used deliberately as sexual intercourse does not necessarily apply to some participants. Sexual contact is meant to be broader than merely penis-in-vagina intercourse; it involves any sexual activity (e.g., oral sex, 'petting', mutual masturbation, anal sex, etc).

Appendix G: Preliminary Analyses of the GSSHE and SPFPOI

A preliminary analysis was conducted on the *General Satisfaction with Sexual Health Education* (GSSHE) scale and the *Sexuality Education Program Function/Program Outcome Inventory* (SPFPOI) to examine the normality of the distributions. Frequency distributions for each variable were examined for the entire sample, then separately by gender, type of school (public or Catholic), and course of enrollment (Introduction to Psychology or Introduction to Human Sexuality). Participants were excluded from analysis by type of school if they did not attend public or Catholic schools ($n = 5$) and from analyses by course of enrolment if they were enrolled in both Introductory Psychology and Introduction to Human Sexuality ($n = 11$). Tests of normality are based on the Shapiro-Wilk statistic (W).

General Satisfaction With Sexual Health Education (GSSHE)

Figure A1 shows the distribution of GSSHE scores for our entire sample; a stem-and-leaf plot is shown in Figure A2. These diagrams show a distribution skewed toward the high end of the scale (skewness = -.44, $SE_{skew} = .19$) with a fairly mesokurtic shape (kurtosis = -.39, $SE_{kurt} = .38$). This distribution differs significantly from normal, $W(145) = .97$, $p < .01$. Most scores appear to be distributed between 3 and 6, and the shape of the distribution appears roughly normal within this range, especially considering the small sample size. A normal probability plot (Figrue A3) suggests a roughly normal distribution.

Gender. Figure A5 shows the distribution of GSSHE scores by gender; Figure A6 shows stem-and-leaf plots by gender. The distribution for men appears relatively normal (skewness = -.28, $SE_{skew} = .33$; kurtosis = -.33, $SE_{kurt} = .64$), $W(53) = .20$, *ns*, with a high

concentration of scores between 3 and 7; the distribution for women appears more skewed (skewness = -.54, SE_{skew} = .23) and leptokurtic (kurtosis = -.378, SE_{kurt} = .46) with scores along the range of the scale, although the majority are still concentrated within the 3-to-7 range. The distribution differs significantly from normal for women, $W(108) = .96$, $p < .01$).The distribution of women's scores appears to account for the departure from normality observed in the entire sample. However, normal probability plots (Figure A6) for GSSHE scores by gender suggest that both distributions are relatively normal.

Type of School Attended. Figure A7 shows the distribution of scores on the GSSHE by type of school attended (public or Catholic); Figure A8 shows stem-and-leaf diagrams for GSSHE scores by type of school attended. The distribution appears skewed toward the higher end of the scale (skewness = -.51, SE_{skew} = .23) and mesokurtic (kurtosis = -.40, SE_{kurt} = .45) graduates of public schools. The distribution differs significantly from normal, $W(112) = .96$, $p < .01$. For graduates of Catholic schools, the distribution is relatively normal (skewness = -.28, SE_{skew} = .36; kurtosis = -.22, SE_{kurt} = .70), $W(44) = .98$, ns. Normal probability plots (Figure 9) show a relatively normal distribution for graduates of both public and Catholic schools, especially considering small sample sizes.

Course of Enrollment. Figure A10 shows the distribution of scores on the GSSHE by course of enrollment; Figure A11 shows stem-and-leaf diagrams for GSSHE scores by course of enrollment. The distribution appears skewed toward the higher end of the scale (skewness = -.53, SE_{skew} = .22) and mesokurtic (kurtosis = -.20, SE_{kurt} = .43) for participants enrolled in Psychology. The distribution is significantly different from

normal, $W(125) = .97, p < .01$. For participants enrolled in Sexuality, the distribution appears more normal (skewness = -.41, $SE_{skew} = .46$; kurtosis = -.52, $SE_{kurt} = .90$), $W(25) = .97$, *ns*. Normal probability plots by course of enrollment (Figure A12) suggest a relatively normal distribution of scores for both Psychology and Sexuality students.

Sexuality Education Program Feature/Program Outcome Inventory (SPFPOI)

Figure A13 shows the distribution of composite SPFPOI scores for the entire sample; Figure A14 shows a stem-and-leaf plot of the scores. The distribution was skewed toward the high end of the scale (skewness = -.65, $SE_{skew} = .12$), but has a generally mesokurtic shape (kurtosis = .15, $SE_{kurt} = .38$). The majority of scores were in the 3-to-6. The distribution is significantly different from normal, $W(159) = .97$, p = .001. However, a normal probability plot (Figure A15) suggests that the distribution is a fairly good fit to the normal distribution except at the extremes.

Gender. Figure A16 shows the distribution of composite SPFPOI scores by gender; Figure A17 shows stem-and-leaf plots by gender. The distribution was skewed toward the high end of the scale (skewness = -.60, $SE_{skew} = .33$) and mesokurtic (kurtosis = -.46, $SE_{kurt} = .65$). The distribution differs significantly from normal, $W(52) = .95, p < .05$. A similar, but somewhat more pronounced trend, is seen in the distribution of composite SPFPOI scores for women (skewness = -.67, $SE_{skew} = .23$; kurtosis = -.57, $SE_{kurt} = .46$), $W(107) = .97, p = .01$. Examination of the normal probability plots for men and women (Figure A18) suggests that both distributions are fairly normal, except at the extremes.

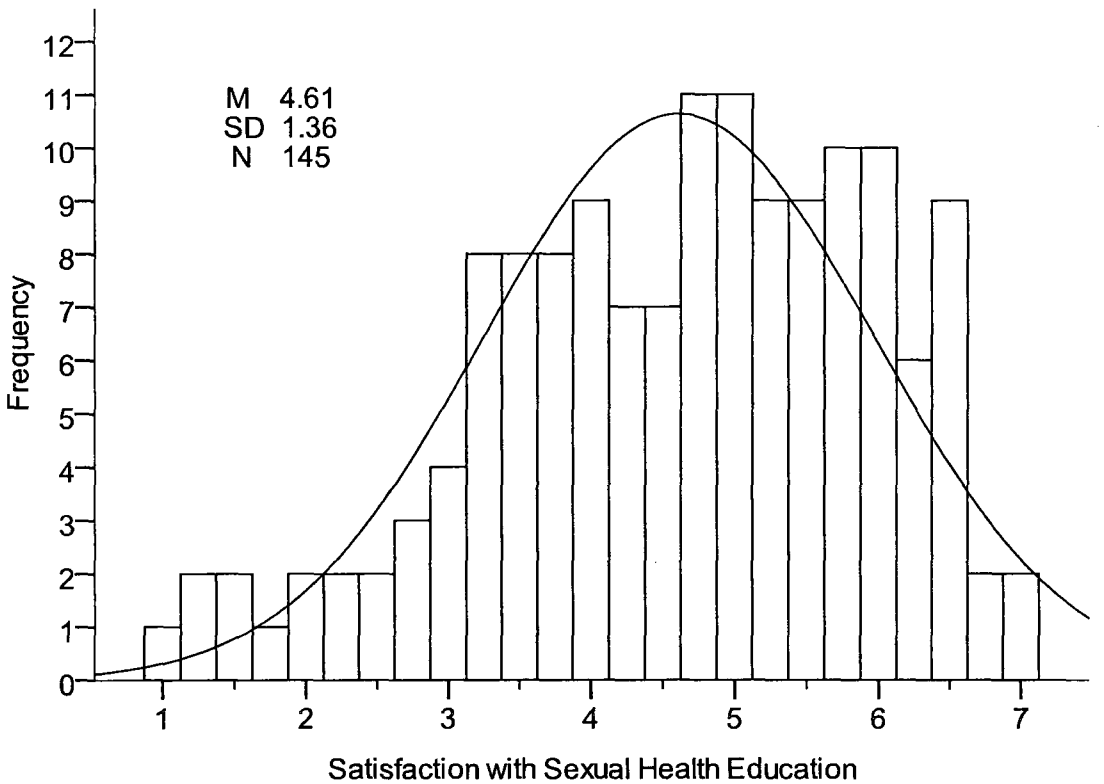
Type of School Attended. Figure A19 shows the distribution of composite SPFPOI scores by type of school attended; Figure A20 shows stem-and-leaf plots by type

of school attended. These figures suggest that the distribution is slightly skewed toward the higher end of the scale (skewness = -.65, SE_{skew} = .23) and has a generally mesokurtic shape (kurtosis = 38, SE_{kurt} = .46) for public school students. The distribution is significantly different from normal ($W(110)$ .97, $p < .01$). For graduates of Catholic schools, the distribution is somewhat skewed (skewness = -.60, SE_{skew} = .36) and has a generally mesokurtic shape (kurtosis = -.18, SE_{kurt} = .70). This distribution does not differ significantly from normal, $W(44) = .96$, *ns*. Normal probability plots by type of school attended (Figure A21) suggest that the distribution is relatively normal for graduates of both public and Catholic high schools, except at the extremes.

Course of Enrollment. Figure A22 shows the distribution of composite SPFPOI scores by course of enrollment; Figure A23 shows stem-and-leaf plots by course of enrollment. For students enrolled in an Inroductory Psychology course, the distribution was skewed toward the high end of the scale (skewness = -.83, SE_{skew} =.22) and relatively mesokurtic (kurtosis = .38, SE_{kurt} = .43). The distribution of scores differed significantly from normal, $W(123) = .95$, $p < 001$. For students enrolled in Introduction o Human Sexuality, the distribution was not different from normal, $W(25) = .97$, ns (skewness = .29, SE_{skew} = .46; kurtosis = -.42, SE_{kurt} = .90). Normal probability plots (Figure A24) suggest that the distribution of scores is relatively normal (with some deviation at the extremes) for Introduction to Psychology students and normal for Introduction to Human Sexuality students.

Figure A1

Frequency Distribution of GSSHE Scores for the Entire Sample



Note. Normal curve superimposed.

Figure A2

Stem-and-Leaf Diagram of GSSHE Scores for the Entire Sample

Frequency	Stem & Leaf
3.00	1 . 022
3.00	1 . 557
4.00	2 . 0022
5.00	2 . 55777
12.00	3 . 000022222222
16.00	3 . 5555555577777777
16.00	4 . 0000000002222222
18.00	4 . 555555577777777777
20.00	5 . 00000000000222222222
19.00	5 . 5555555557777777777
16.00	6 . 0000000000222222
11.00	6 . 55555555577
2.00	7 . 00

Note. Stem width = 1.00. Each leaf represents 1 case.

Figure A3

Normal Q-Q Plot of Satisfaction with Sexual Health Education

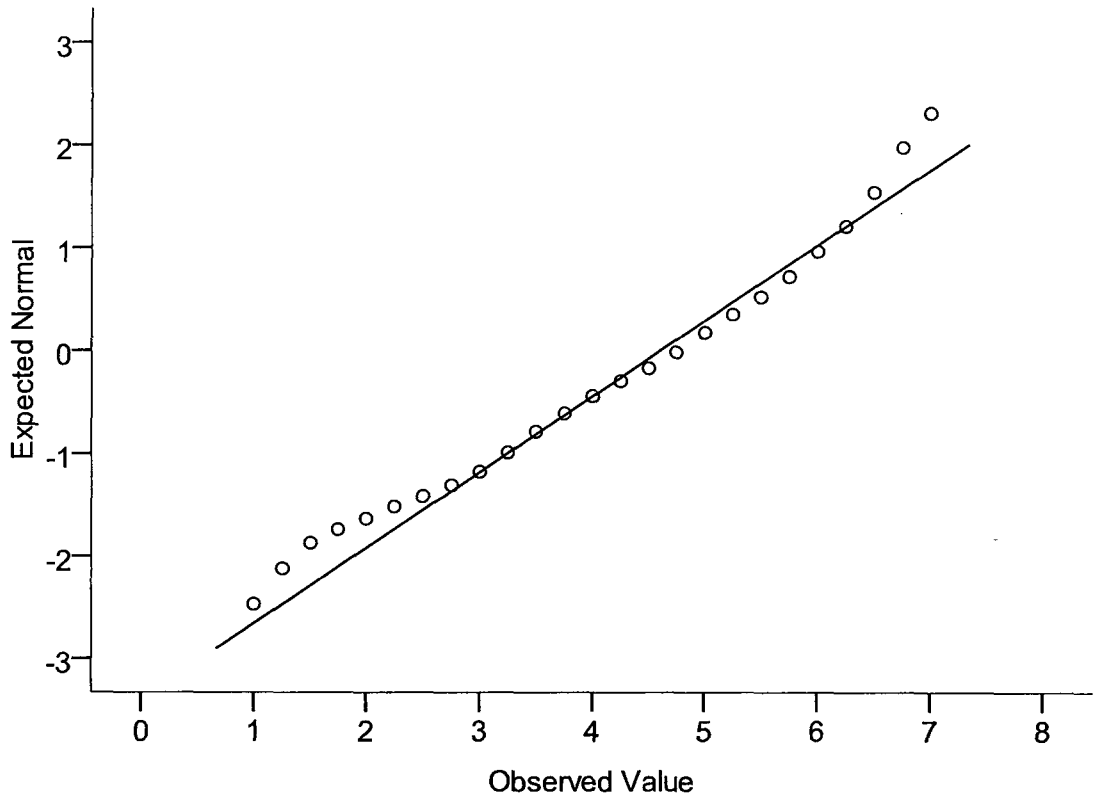
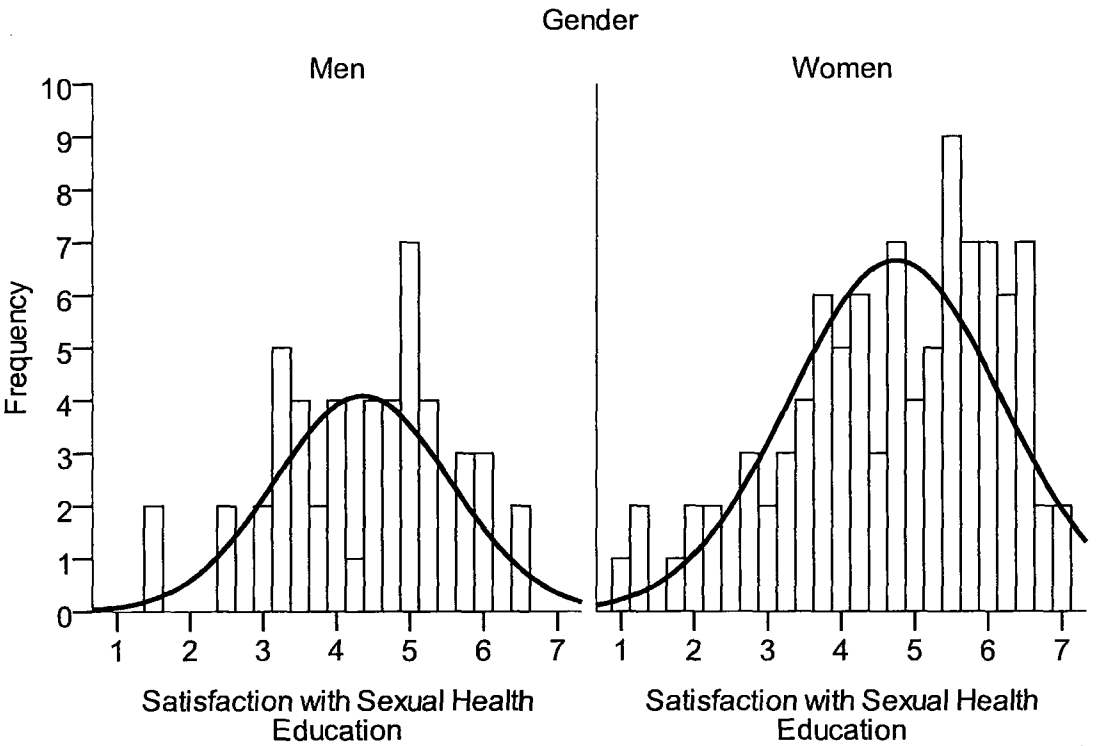


Figure A4

Frequency Distributions of GSSHE Scores for Men and Women



Note. Normal curve superimposed.

Table A5

Normal Q-Q Probability Plots for GSSHE by Gender

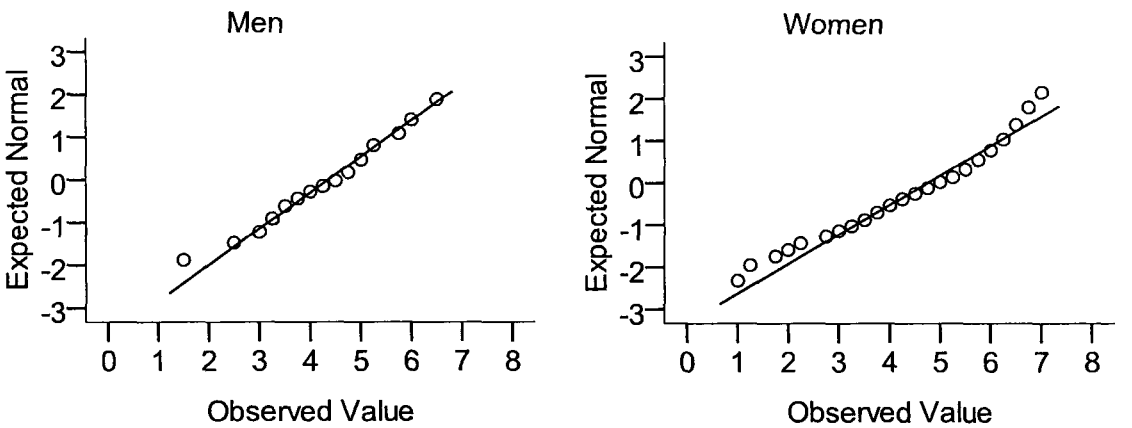


Figure A6

Stem-and-Leaf Plots of GSSHE Scores for Men and Women

Men

```
 0   1.
 2   1. 55
 0   2.
 2   2. 55
 7   3. 0022222
 6   3. 555577
 5   4. 00002
 8   4. 55557777
11   5. 00000002222
 3   5. 777
 3   6. 000
 2   6. 55
```

Women

```
 4   1.  0227
 7   2.  0022777
15   3. 002225555777777
21   4. 000002222225557777777
25   5. 00002222255555555577777777
22   6. 0000000222222555555577
 2   7. 00
```

Note. First column = frequency. Second column = stem. Third column = leaves.

Stem width = 1. Each leaf represents 1 case

Figure A7

Frequency Distributions of GSSHE Scores by Type of School Attended

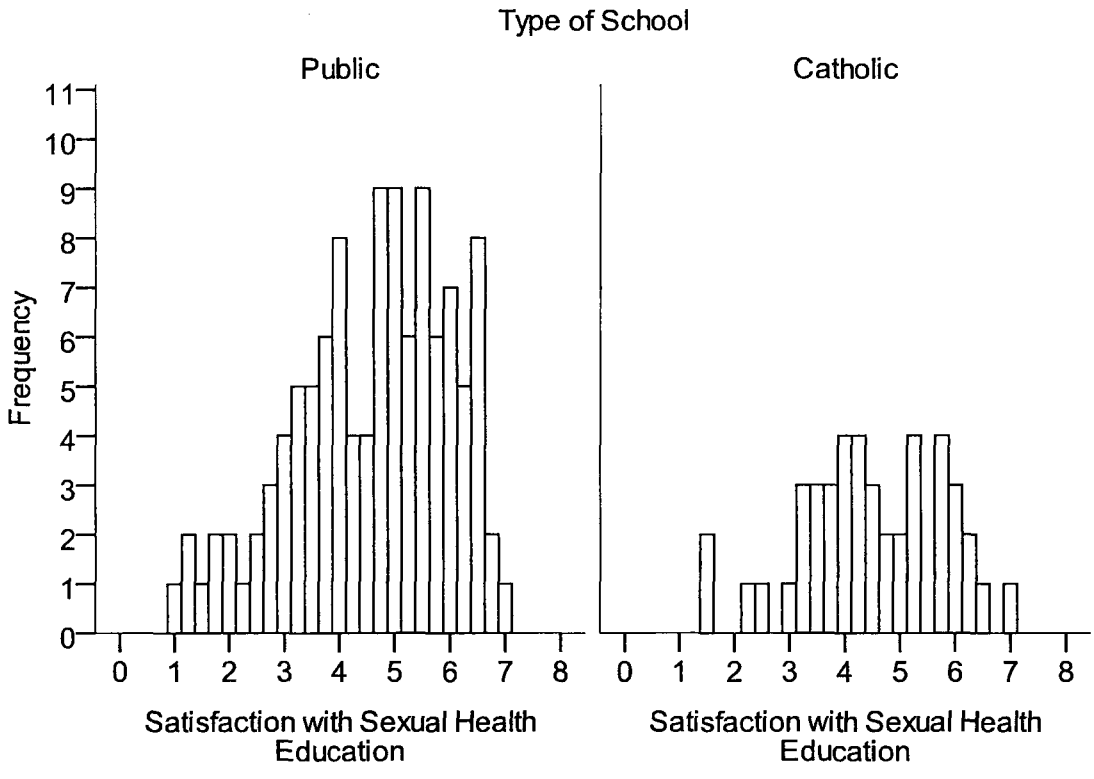


Figure A8

Stem-and-Leaf Plots for GSSHE Scores by Type of School Attended

Public

3	1 .	022
3	1 .	577
3	2 .	002
5	2 .	55777
9	3 .	000022222
11	3 .	55555777777
12	4 .	000000002222
13	4 .	5555777777777
15	5 .	000000000222222
15	5 .	555555555777777
12	6 .	000000022222
10	6 .	5555555577
1	7 .	0

Catholic

2	1 .	55
2	2 .	25
10	3 .	0222555777
13	4 .	0000222255577
10	5 .	0022227777
6	6 .	000225
1	7 .	0

Note. First column = frequency. Second column = stem. Third column = leaves. Stem width = 1. Each leaf represents 1 case.

Figure 9

Normal Probability Plot of GSSHE Scores by Type of School Attended

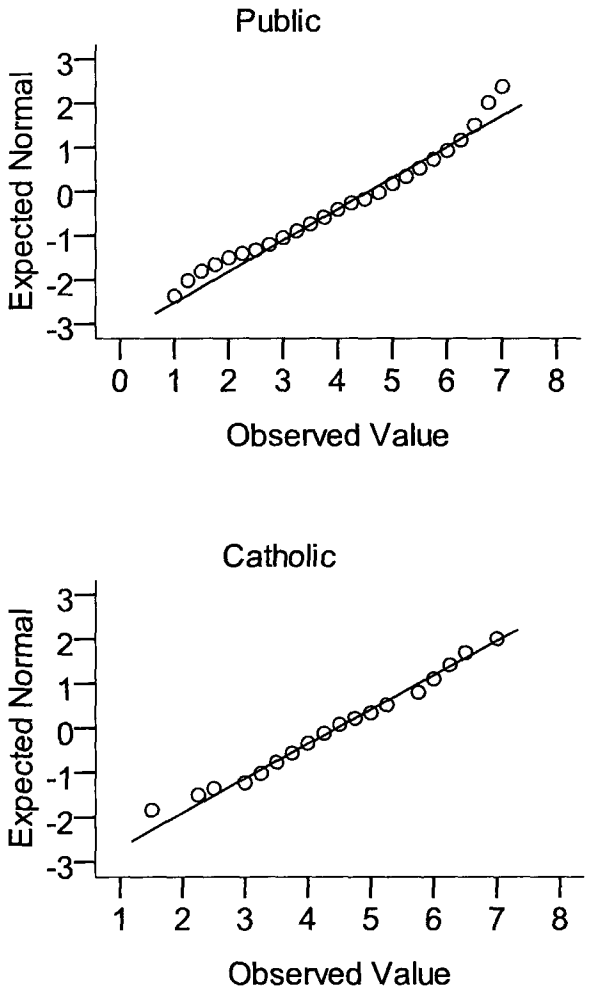
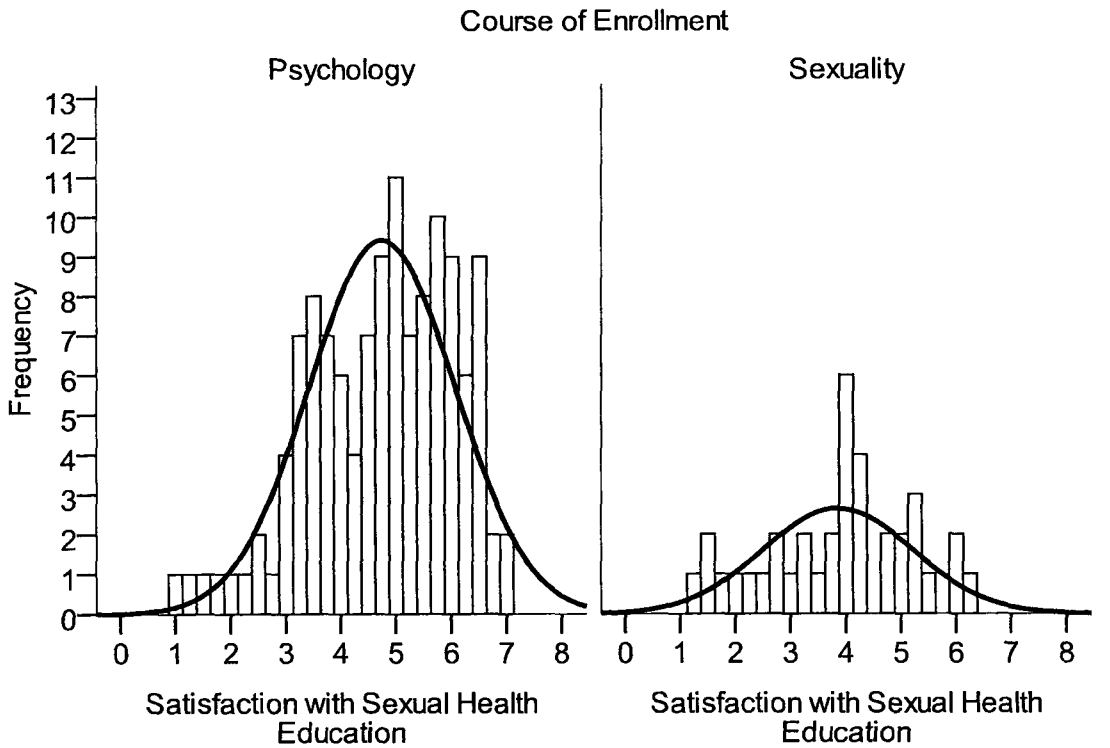


Figure A10

Distribution of GSSHE Scores by Course of Enrollment



Note. Normal curve superimposed.

Figure A11

Stem-and-Leaf Diagrams for GSSHE by Course of Enrolment

Psychology

```
 2    1 . 02
 2    1 . 57
 2    2 . 02
 3    2 . 557
11    3 . 00002222222
15    3 . 555555557777777
10    4 . 0000002222
16    4 . 5555555777777777
18    5 . 000000000002222222
18    5 . 555555557777777777
15    6 . 000000000222222
11    6 . 55555555577
 2    7 . 00
```

Sexuality

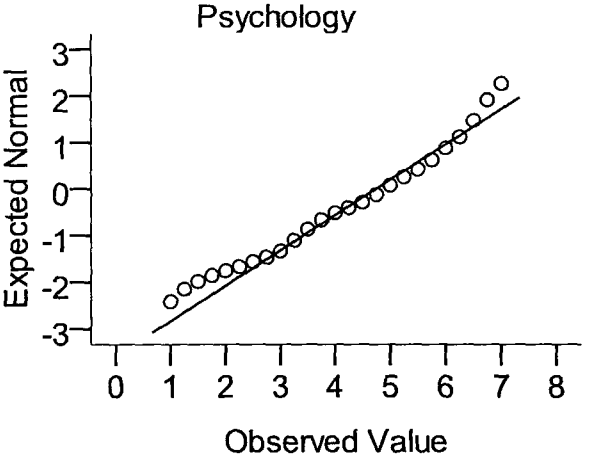
```
2    1 . 25
4    2 . 0277
4    3 . 2257
8    4 . 00022277
5    5 . 00225
2    6 . 00
```

Note. First column = frequency. Second column = stem. Third column = leaves. Stem width = 1.00. Each leaf represents 1 case.

Figure A12

Normal Probability Plots of GSSHE

\Scores by Course of Enrolment



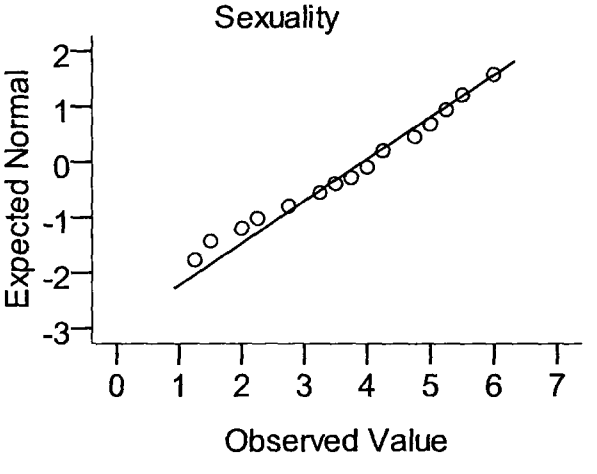


Figure A13

Frequency Distribution of SPFPOI Scores for the Entire Sample

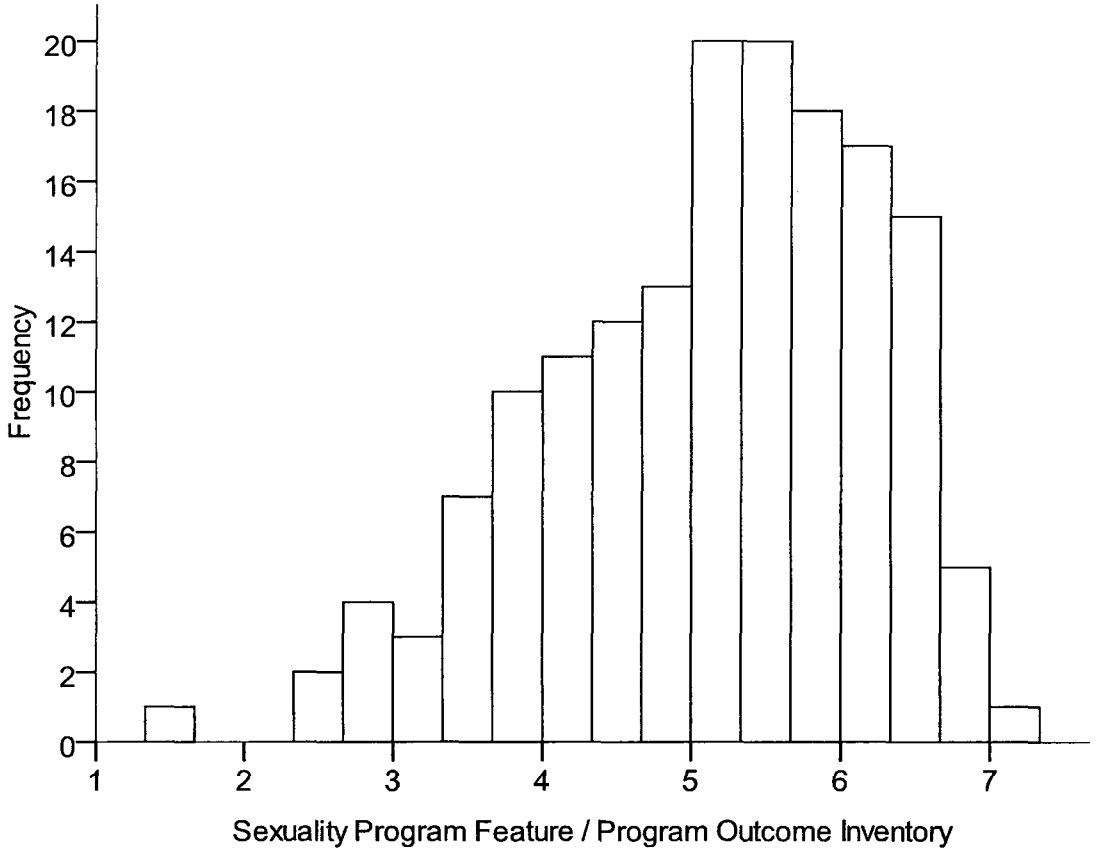


Figure A14

Stem-and-Leaf Plot of Composite

SPFPOI Scores for the Entire Sample

Frequency	Stem & Leaf
1	Extreme (1.36)
2	2 . 33
4	2 . 7889
5	3 . 00044
15	3 . 555666788888999
18	4 . 011112222233444444
18	4 . 555667777788889999
30	5 . 000000001111111222223333444444
28	5 . 555666666667777777888888899
24	6 . 000011111122222233334444
13	6 . 5555555566788
1	7 . 0

Note. Stem width = 1.00. Each leaf represents 1 case.

Figure A15

Normal Probability Plot of Composite SPFPOI Scores for the Entire Sample

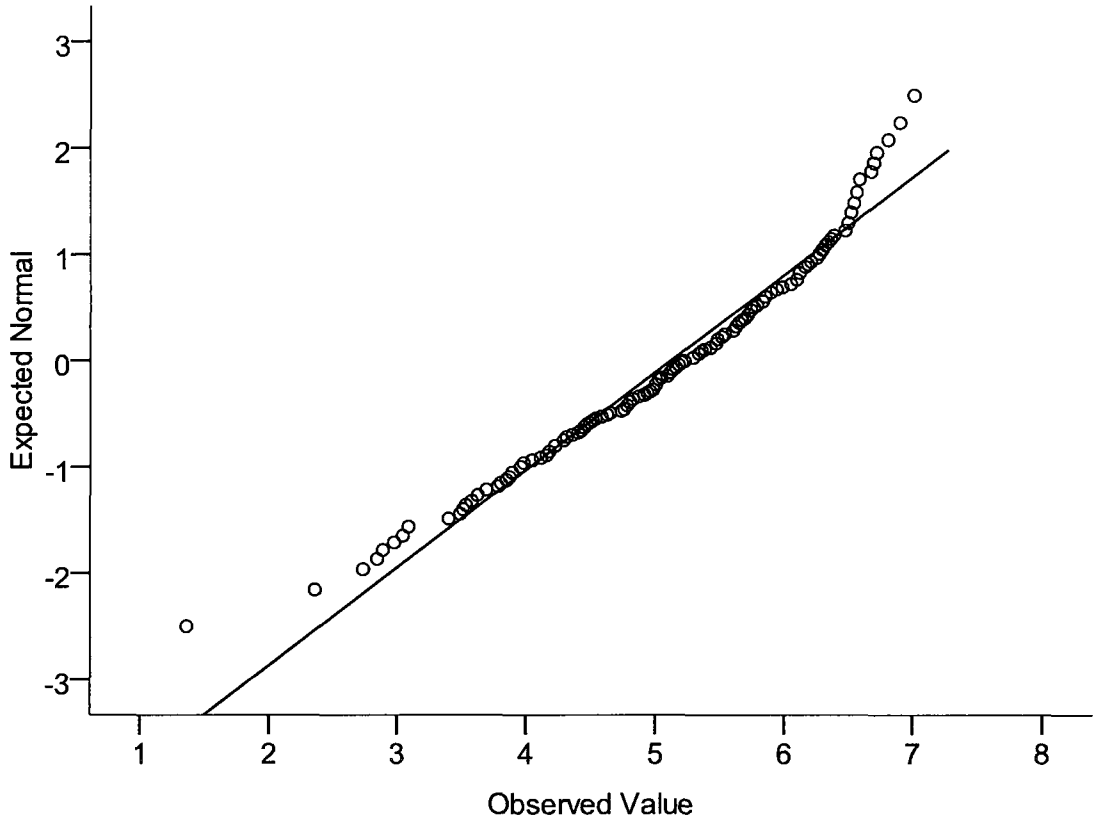


Figure A16

Distribution of composite SPFPOI Scores by Course of Enrollment

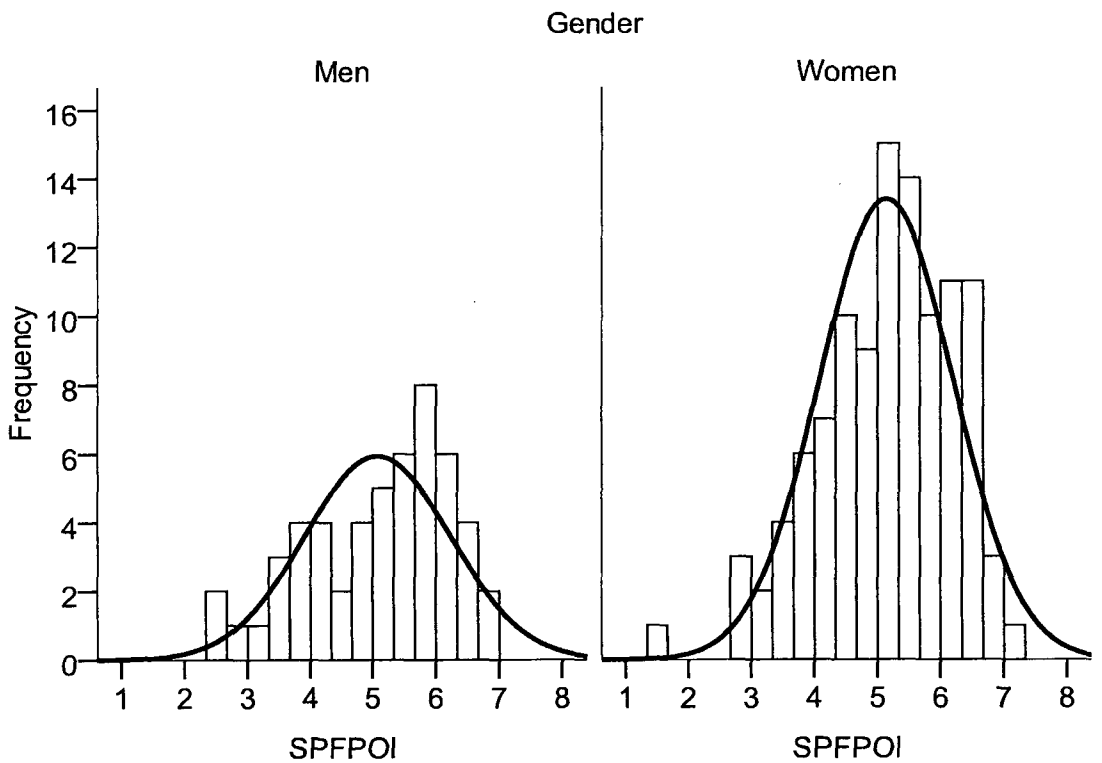


Figure A17

Stem-and-Leaf Plots of Composite SPFPOI Scores by Gender

Men

2	2 . 33
1	2 . 8
1	3 . 0
7	3 . 5566889
6	4 . 011334
4	4 . 7788
7	5 . 0012234
12	5 . 666677888889
9	6 . 001222344
3	6 . 568

Women

1	Extreme (1.36)
3	2 . 789
4	3 . 0044
8	3 . 56788899
12	4 . 112222244444
14	4 . 55566777889999
23	5 . 00000011111122233344444
16	5 . 5556666677777889
15	6 . 001111122233344
10	6 . 5555555678
1	7 . 0

Note. First column = frequency. Second column = stem. Third column = leaves. Stem width = 1.00. Each leaf represents 1 case.

Figure A18

Normal Probability Plots for Composite SPFPOI Scores by Gender

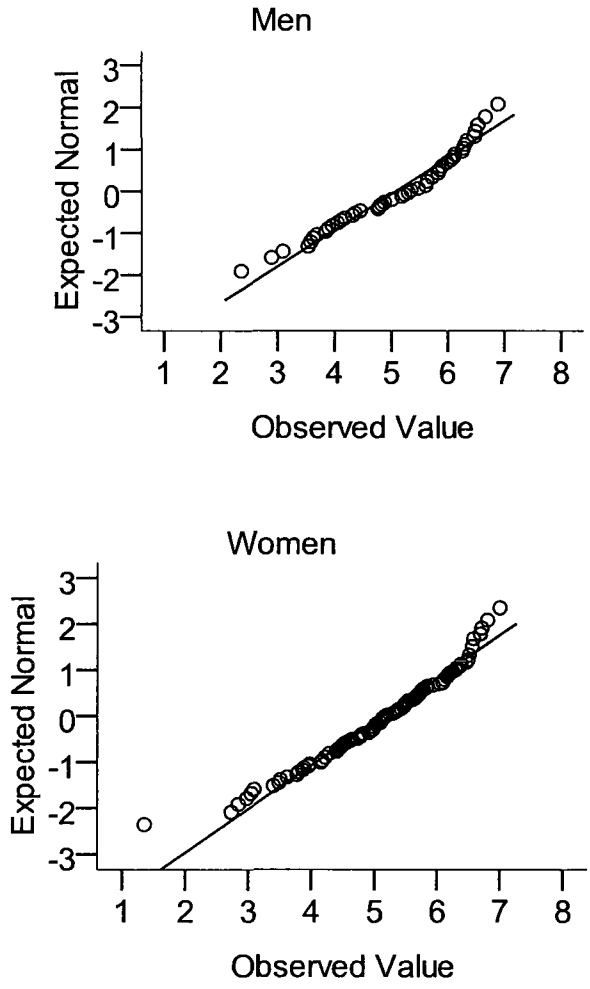
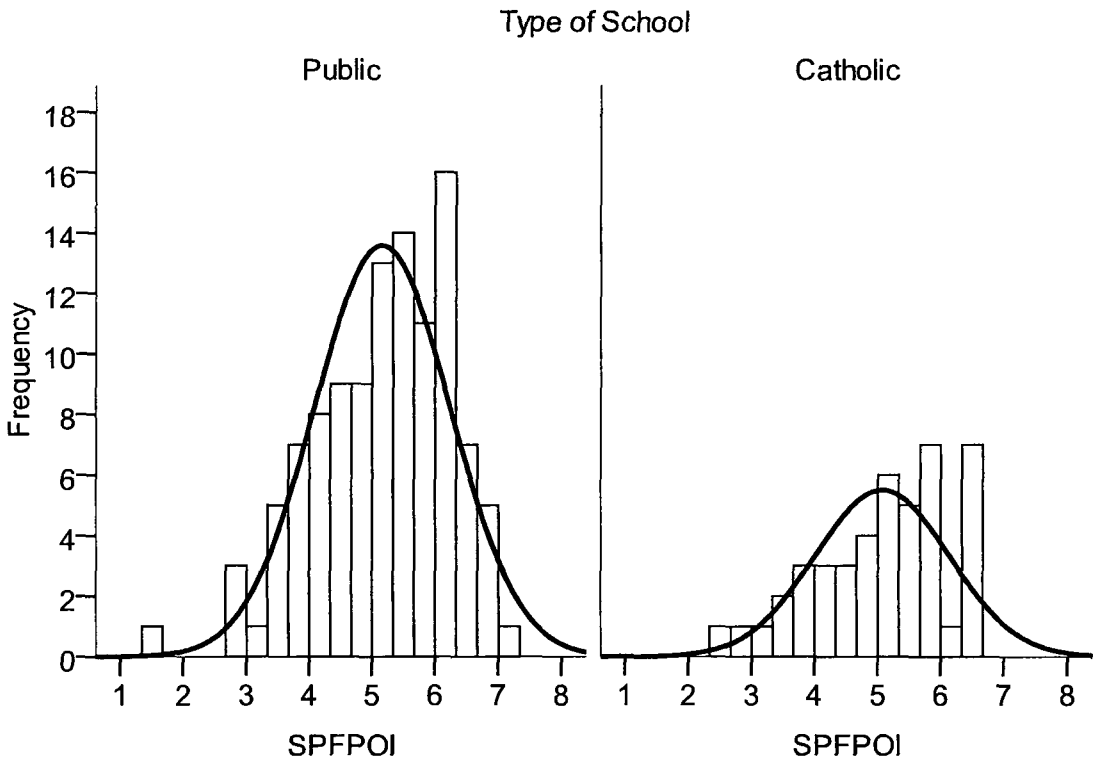


Figure A19

Distribution of composite SPFPOI Scores by Type of School Attended



Note. Normal curve superimposed.

Figure A20

Stem-and-Leaf Plots of Composite SPFPOI Scores by Type of School Attended

Public

1	Extreme (1.36)
3	2 . 788
2	3 . 04
11	3 . 55567888899
13	4 . 0111122334444
13	4 . 5566777788889
20	5 . 00000111112223344444
18	5 . 556666666777888889
19	6 . 0001111112222223344
9	6 . 555566788
1	7 . 0

Catholic

1	2 . 3
1	2 . 9
2	3 . 04
4	3 . 6689
5	4 . 22244
5	4 . 57999
8	5 . 00011234
10	5 . 5667777889
4	6 . 0334
4	6 . 5555

Note. First column = frequency. Second column = stem. Third column = leaves. Stem width = 1.00. Each leaf represents 1 case.

Figure A21

Normal Probability Plots of Composite SPFPOI Scores by Type of School Attended

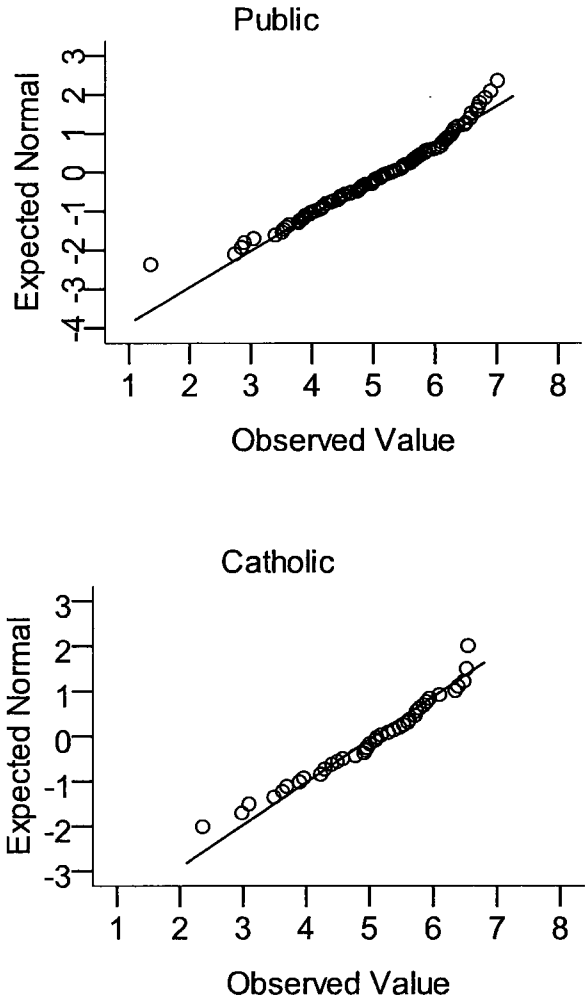
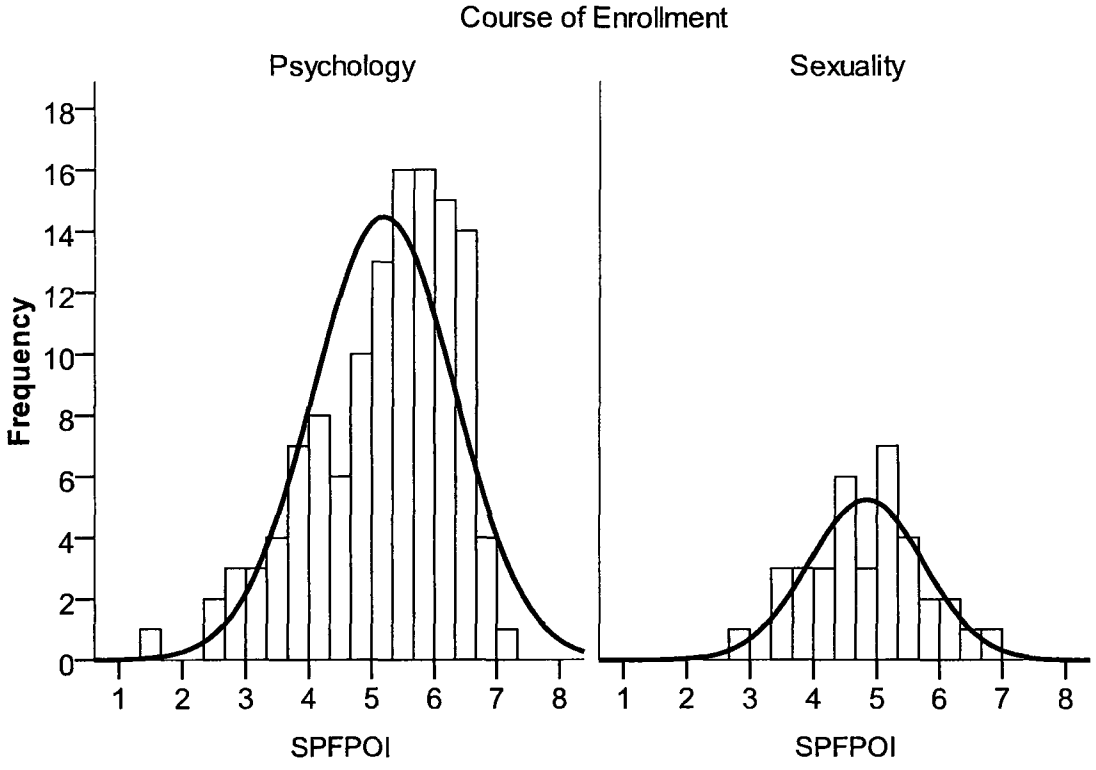


Figure A22

Distribution of composite SPFPOI Scores by Course of Enrollment



Note. Normal curve superimposed.

Figure A23

Stem-and-Leaf Plots for Composite SPFPOI Scores by Course of Enrollment

Psychology

1	Extreme (1.36)
2	2 . 33
3	2 . 889
4	3 . 0004
10	3 . 5567888899
12	4 . 011122233444
12	4 . 557777889999
22	5 . 0000011112222333344444
23	5 . 55566666777777788888899
22	6 . 0001111122222233334444
11	6 . 55555556688
1	7 . 0

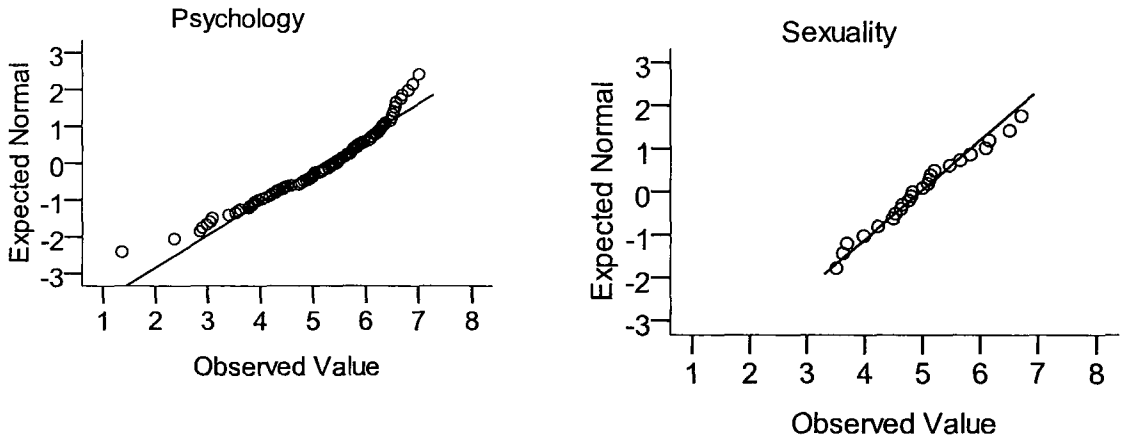
Sexuality

4	3 . 5669
3	4 . 224
6	4 . 566788
6	5 . 001124
2	5 . 68
2	6 . 01
2	6 . 57

Note. First column = frequency. Second column = stem. Third column = leaves. Stem width = 1.00. Each leaf represents 1 case.

Figure A24

Normal Probability Plots of Composite SPFPOI Scores by Course of Enrolment



Appendix H: Gender Differences (or the Lack Thereof) In Sexuality-Related Individual Difference Variables and Satisfaction with Sexual Health Education

In Question 2 (Correlates of satisfaction with sexual health education), regression analyses were conducted for men and women separately to determine whether a set of sexuality-related variables predicted satisfaction with sexual health education. This was done for practical reasons (i.e., averaging across gender is statistically, but not practically, possible). However, it was not specified whether participants actually differed by gender and, further, the potential effects of type of school attended was not addressed in the main text. These questions were analyzed using hierarchical multiple regression techniques; these analyses are presented here for the interested reader.

Does The Influence Of Sexuality-Related Individual Difference Variables On Satisfaction With And Evaluation Of Sexual Health Education Depend On Gender?

This question was tested using hierarchical multiple regression analyses wherein sexuality-related individual difference variables were entered on the first step of the equation, gender was entered on the second step, and the interaction of those individual difference variables with gender was entered on the third step. This equation was tested with each of the GSSHE, the composite SPFPOI, and the five subscales of the SPFPOI as criterion variables. When the GSSHE was the dependent variable, the equation was significant on the first step, $F(5, 134) = 2{,}50$, $p < .05$, $R^2_{\text{adjusted}} = .05$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .92$, *ns*, or third, $F^{\Delta}(5, 128) = .72$, *ns*, steps. Therefore, adding gender and the interaction of gender with sexuality-related individual difference variables did not significantly improve the fit of the model. Similar results were found for the composite index of the SPFPOI: the equation was significant

on the first step, $F(5, 134) = 5.15, p < .001, R^2_{adjusted} = .013$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .27$, *ns*, or third, $F^{\Delta}(5, 128) = 1.38$, *ns*, steps. Adding gender and the interaction of gender with individual difference variables did not significantly improve the fit of the model beyond simply using sexuality-related individual difference variables.

The model was tested for each of the subscales of the SPFPOI (Program Characteristics, Changes in Knowledge, Understanding of Self, Changes in Values, and Changes in Interaction Skills) as criterion variables. For Program Characteristics, the equation was significant on the first step, $F(5, 134) = 2.33, p < .05, R^2_{adjusted} = .05$, but was not significantly better on the second, $F^{\Delta}(1, 133) = 1.90$, *ns*, or third, $F^{\Delta}(5, 128) = .92$, *ns*, steps. Similar results were found for Changes in Knowledge: the equation was significant on the first step, $F(5, 134) = 3.95, p < .01, R^2_{adjusted} = .10$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .05$, *ns*, or third, $F^{\Delta}(5, 128) = .87$, *ns*, steps. For Understanding of Self, the equation was significant on the first step, $F(5, 134) = 5.86, p < .001, R^2_{adjusted} = .15$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .29$, *ns*, or third, $F^{\Delta}(5, 128) = 2.28$, *ns*, steps. For Changes in Values, the equation was significant on the first step, $F(5, 134) = 5.01, p < .001, R^2_{adjusted} = .13$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .00$, *ns*, or third, $F^{\Delta}(5, 128) = 1.21$, *ns*, steps. For Changes in Interaction Skills, the equation was significant on the first step, $F(5, 134) = 4.60, p < .01, R^2_{adjusted} = .15$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .34$, *ns*, or third, $F^{\Delta}(5, 128) = 1.49$, *ns*, steps. Therefore, adding gender and the interaction of gender with sexuality-related individual differences variables did not significantly improve the fit of the model beyond simply considering the effect of

individual difference variables.

Does The Influence Of Sexuality-Related Individual Difference Variables On Satisfaction With And Evaluation Of Sexual Health Education Depend On Type Of School?

This question was tested using hierarchical multiple regression analyses wherein sexuality-related individual difference variables were entered on the first step of the equation, type of school was entered on the second step, and the interaction of those individual difference variables with type of school was entered on the third step. This equation was tested with each of the GSSHE, the composite SPFPOI, and the five subscales of the SPFPOI as criterion variables. When the GSSHE was the dependent variable, the equation was significant on the first step, $F(5, 134) = 2.50, p < .05, R^2_{adjusted} = .05$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .70$, *ns*, or third, $F^{\Delta}(5, 128) = .47$, *ns*, steps. Therefore, adding type of school and the interaction of type of school with sexuality-related individual difference variables did not significantly improve the fit of the model. Similar results were found for the composite index of the SPFPOI: the equation was significant on the first step, $F(5, 134) = 5.15, p < .001, R^2_{adjusted} = .013$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .01$, *ns*, or third, $F^{\Delta}(5, 128) = .20$, *ns*, steps. Adding type of school and the interaction of type of school with individual difference variables did not significantly improve the fit of the model beyond simply using sexuality-related individual difference variables.

The model was tested for each of the subscales of the SPFPOI (Program Characteristics, Changes in Knowledge, Understanding of Self, Changes in Values, and Changes in Interaction Skills) as criterion variables. For Program Characteristics, the

equation was significant on the first step, $F(5, 134) = 2.33, p < .05, R^2_{adjusted} = .05$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .49$, *ns*, or third, $F^{\Delta}(5, 128) = .71$, *ns*, steps. Similar results were found for Changes in Knowledge: the equation was significant on the first step, $F(5, 134) = 3.95, p < .01, R^2_{adjusted} = .10$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .42$, *ns*, or third, $F^{\Delta}(5, 128) = .23$, *ns*, steps. For Understanding of Self, the equation was significant on the first step, $F(5, 134) = 5.86, p < .001, R^2_{adjusted} = .15$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .53$, *ns*, or third, $F^{\Delta}(5, 128) = .46$, *ns*, steps. For Changes in Values, the equation was significant on the first step, $F(5, 134) = 5.01, p < .001, R^2_{adjusted} = .13$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .04$, *ns*, or third, $F^{\Delta}(5, 128) = .48$, *ns*, steps. For Changes in Interaction Skills, the equation was significant on the first step, $F(5, 134) = 4.60, p < .01, R^2_{adjusted} = .15$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .73$, *ns*, or third, $F^{\Delta}(5, 128) = .93$, *ns*, steps. Therefore, adding type of school and the interaction of type of school with sexuality-related individual differences variables did not significantly improve the fit of the model beyond simply considering the effect of individual difference variables.

Does The Influence Of Sexuality-Related Individual Difference Variables On Satisfaction With And Evaluation Of Sexual Health Education Depend On Gender And Type Of School?

This question was tested using hierarchical multiple regression analyses wherein sexuality-related individual difference variables were entered on the first step of the equation, gender and type of school were entered on the second step, and the interaction of those individual difference variables with gender and type of school was entered on the

third step. This equation was tested with each of the GSSHE, the composite SPFPOI, and the five subscales of the SPFPOI as criterion variables. When the GSSHE was the dependent variable, the equation was significant on the first step, $F(5, 134) = 2.50, p < .05$, $R^2_{adjusted} = .05$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .96$, *ns*, or third, $F^{\Delta}(5, 128) = .23$, *ns*, steps. Therefore, adding gender and type of school and the interaction of gender and type of school with sexuality-related individual difference variables did not significantly improve the fit of the model. Similar results were found for the composite index of the SPFPOI: the equation was significant on the first step, $F(5, 134) = 5.15, p < .001$, $R^2_{adjusted} = .013$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .21$, *ns*, or third, $F^{\Delta}(5, 128) = .33$, *ns*, steps. Adding gender and type of school and the interaction of gender and type of school with individual difference variables did not significantly improve the fit of the model beyond simply using sexuality-related individual difference variables.

The model was tested for each of the subscales of the SPFPOI (Program Characteristics, Changes in Knowledge, Understanding of Self, Changes in Values, and Changes in Interaction Skills) as criterion variables. For Program Characteristics, the equation was significant on the first step, $F(5, 134) = 2.33, p < .05$, $R^2_{adjusted} = .05$, but was not significantly better on the second, $F^{\Delta}(1, 133) = 1.90$, *ns*, or third, $F^{\Delta}(5, 128) = .22$, *ns*, steps. Similar results were found for Changes in Knowledge: the equation was significant on the first step, $F(5, 134) = 3.95, p < .01$, $R^2_{adjusted} = .10$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .07$, *ns*, or third, $F^{\Delta}(5, 128) = .35$, *ns*, steps. For Understanding of Self, the equation was significant on the first step, $F(5, 134) = 5.86, p < .001$, $R^2_{adjusted} = .15$, but was not significantly better on the second, $F^{\Delta}(1, 133)$

= .02, *ns*, or third, $F^{\Delta}(5, 128) = .37$, *ns*, steps. For Changes in Values, the equation was significant on the first step, $F(5, 134) = 5.01$, $p < .001$, $R^2_{adjusted} = .13$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .00$, *ns*, or third, $F^{\Delta}(5, 128) = .01$, *ns*, steps. For Changes in Interaction Skills, the equation was significant on the first step, $F(5, 134) = 4.60$, $p < .01$, $R^2_{adjusted} = .15$, but was not significantly better on the second, $F^{\Delta}(1, 133) = .02$, *ns*, or third, $F^{\Delta}(5, 128) = .92$, *ns*, steps. Therefore, adding gender and type of school and the interaction of gender and type of school with sexuality-related individual differences variables did not significantly improve the fit of the model beyond simply considering the effect of individual difference variables.

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