



**INFLUENCE OF TEENS' PERCEPTIONS OF  
PARENTAL DISAPPROVAL AND PEER BEHAVIOUR ON THEIR  
INITIATION OF SEXUAL INTERCOURSE**

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***ABSTRACT:** This study of 2,353 grade 10 and 12 students asked whether their perceptions of parental approval/disapproval of their having sexual intercourse would predict whether or not they had ever had intercourse. Well over half of these students anticipated parental disapproval and 44% of the total sample had ever had intercourse. Logistic regression analyses showed no predictive effect of perceived parental disapproval on intercourse experience whereas students' perceptions of the sexual intercourse experience of same sex and other sex friends was predictive for both sexes. Females were significantly more likely than males to anticipate fathers' disapproval but the sexes did not differ with respect to mothers' disapproval. Students most often cited personal experience, friends and parents as main or preferred sources of information about healthy dating and relationships but generally favoured schools for information on pregnancy and STI prevention. The findings may suggest ways to support the potentially mutually reinforcing roles of schools, peers and parents in adolescent sexual health.*

*Key words:* Teens Sexual intercourse Parental disapproval Peer influence Gender differences

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**INTRODUCTION**

Traditionally, parents have been viewed as having a primary influence on adolescents' sexual behaviours (Miller et al., 1998; Newcomer & Udry, 1984). In a summary of two decades of research about family influences on the risk of adolescents becoming pregnant or causing a pregnancy, Miller, Benson and Galbraith (2001) suggest that researchers consistently find that parent/child closeness or connectedness, parental supervision or regulation of children's activities, and parents' values against teen intercourse decrease the risk of adolescent pregnancy. While several biological factors (timing of pubertal

development, hormone levels, and genes) are also related to adolescent pregnancy risk, these factors are impossible or difficult to change, so research focusing on family influence as a key proximal determinant is a useful focus for potential interventions. In this study, we investigated the influence of various parental communication variables (perception of parental disapproval, quality and content of sexual communication) as well as perception of peer sexual activity on Grade 10 and 12 students' sexual behaviour.

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### PARENTAL COMMUNICATION

Perception of parental approval/disapproval of teen sexual activity is considered a parental communication variable in Miller et al.'s (2001) mediated conceptual model of family relationships and adolescent pregnancy risk. They conclude that parental attitudes and values disapproving of adolescent sexual intercourse are related to lower adolescent pregnancy risk. While some studies have found a relationship between perceived parental disapproval and decreased sexual health risk (Resnick, Bearman, Blum, Bauman, Harris et al., 1997; Romer, Stanton, Galbraith, Feigelman Black, & Li, 1999), others have found that perception of parental (particularly mother) disapproval of teen sex is inversely related to onset of intercourse (Jaccard, Dittus, & Gordon, 1998; Somers & Paulson, 2000). The present study continues this line of inquiry by asking Grade 10 and 12 students about the extent to which they think their mothers and fathers would approve or disapprove of their having sexual intercourse.

In addition to perception of parental disapproval, quality of communication with parents and closeness of the relationship with parents appear to be among the other important aspects of parent-child communication that are related to lower levels of adolescent pregnancy. Many researchers conclude that parent/teen closeness combined with open, positive, and frequent parent/child communication about sex are associated with adolescents' abstinence, postponing sexual debut, having fewer sexual partners, and more consistent contraceptive use (Barnett, Papini, & Gbur, 1991; Gupta, Weiss, & Mane, 1996; Karofsky, Zeng, & Kosovok, 2000; Miller et al., 2001; Romer et al., 1999). Communication and family connectedness are logically related because parents' values are most effectively transmitted when they have a close relationship. A common finding in the literature is that adolescents (particularly female) want to talk to parents about sexual health (Young Pistella & Bonati, 1999; Youniss, 1989) and teens who perceive that they have a better level of communication with their parents have been found to be less likely to engage in sexual intercourse (Karofsky et al., 2000). Unfortunately, parents are generally rated by teens as problematic or ineffective communicators and very few parents report being comfortable discussing sex

(Feldman & Rosenthal, 2000; Rosenthal & Feldman, 1999; Rosenthal, Senserrick, & Feldman, 2001; Whitaker, Miller, May, & Levin, 1999). Process and content of communication by parents are related. Empirical findings suggest that when the process of sexual communication with mothers is more open and receptive, the frequency of sexual risk-taking behaviour is lower; when content of communication is higher, risk-taking is lower (Dutra, Miller, & Forehand, 1999). However, in the Dutra et al. (1999) study, neither fathers' process or content of communication predicted frequency of risk-taking behaviour. These researchers did find that sexual communication is a family variable; that is, content and process of sexual communication was significantly correlated across mothers and fathers. The present study included these parental communication variables by asking our female and male participants whether it was easy to talk with their parents about sex (process) and whether they did not want their parents to know that they were having sex (content). References to "having sex" hereafter mean sexual intercourse unless otherwise stated.

### GENDER DIFFERENCES

Consistent gender differences have been found in all aspects of parental communication about sexuality (Kirby, 1995; Romer et al., 1999). Several studies have found that, although rates of parent-teen sexual risk communication are generally low, mothers play a more pivotal role in sexual communication than fathers and girls receive more communication than boys (Rosenthal et al., 2001). Both process and content of sexual communication with mothers but not fathers have predicted adolescent risk-taking behaviour (Dutra et al., 1999; Hutchinson & Cooney, 1998). Fathers are generally rated as poorer communicators about sexuality than mothers, yet fathers are rated as slightly better communicators with boys, suggesting parents adjust communication to the gender of the teen (Rosenthal, Senserrick, & Feldman 2001; Rosenthal & Feldman, 1999; Fisher, 1990; Miller, Norton, Fan, & Christopherson, 1998). Mothers are more likely to discuss HIV/STI risk than sexual behaviours, contraceptive use, or physical development with teens. Fathers are most likely to communicate about condom use and STI prevention with sons (Miller et al., 1998). Quality of communication with parents appears to be more influential on female sexual activity, with higher quality

of communication with parents being associated with lower sexual intentions and sexual behaviours. In the case of males, the quality of parent/child communication is usually found to have no significant effect on intentions or behaviour (Miller et al., 1998). Not only do mothers communicate more with teens about sex, but female and male teens also discuss sexual topics more frequently with mothers than with fathers (Dilorio, Kelly, & Hockenberry-Eaton, 1999). However, male adolescents are more likely than female adolescents to discuss sex-based topics with their friends than with their mothers. In the present study, we asked female and male students to choose, from a list of options, what they consider to have been their main source of sexual information on each of three topics: healthy dating relationships, pregnancy prevention, and STI prevention. They were also asked for their preferred source of information on each topic with the understanding, as above, that they could cite a different source for each topic to determine whether parents serve as current or preferred sources of information for females and males for these various topics. In the context of the present study, our interest was in the place of parents in these choices.

#### **PEER INFLUENCE**

Research on peer influence on sexual initiation reflects the idea that adolescents' decisions about whether or not to initiate sexual activity are strongly bound to social context, with peers playing an important role in creating a sense of normative behaviour. Social influence theory (Romer, Black, Ricardo, Feigelman, Kaljee et al., 1994; Costa, Jessor, Donovan, & Fortenberry, 1995) as well as peer norms have been used to explain initiation of sexual activity among adolescents (Brewster, 1994; DiClemente, Lodico, Grinstead et al., 1996; Furstenberg, Morgan, Moore, & Peterson, 1987). Empirical research suggests a strong relationship between perception of number of friends who had initiated sexual activity and teens' sexual behaviours (Kinsmen, Romer, Furstenberg, & Schwartz, 1998; Romer et al., 1999). Youth who report greater peer involvement in sex and more positive sex outcome expectancies have been found to be more likely to initiate sex at a younger age (O'Donnell, Myrint, O'Donnell, & Stueve, 2003). Adolescents with large networks and many opposite-gender friends are more likely to have a romantic relationship than other adolescents, suggesting that cliques (same gender)

and crowds (mixed-sex) function to provide access to heterosexual romantic partners and a context in which dating is initiated (Connolly & Johnson, 1996; Connolly, Furman, & Konarski, 2000). Few studies have separated perception of peer activity by gender, i.e., perception of numbers of female vs. male friends who have had sexual intercourse. There is some evidence to suggest that females are more likely than males to perceive that a larger proportion of their peers are engaging in sex and using birth control and to perceive less peer pressure for sex and more support for abstinence (DeGaston, Weed, & Jenson, 1996). As recommended in the literature (Nahom, Wells, Gillmore, Hoppe, Morrison et al., 2001), the present study asked participants for their perception of number of female and male friends who have had sex.

#### **FAMILY VS. PEER INFLUENCE**

High risk peer associations are included as mediating variables in Miller et al.'s (2001; 2002) conceptual model of family relationships and pregnancy risk. They conclude that family influence plays a role, but does not account for all of the variance. Although parents can have some influence, many antecedents influence whether adolescents have intercourse or become pregnant. There appears to be a developmental progression for strength of familial or peer influence. Socialization within families may provide an initial environment for adolescent pregnancy risk, but during adolescence, non-familial environmental influences (e.g., peers, neighbourhoods, schools, and media) become increasingly important (Miller et al., 2001). Peer associations may be seen as extensions of parental relationships rather than as counter forces that lead them away from cultural/parental values and expectations (Furman & Wehner, 1994; Youniss, 1989). Watts and Nagy (2000) examined whether attitudes toward intercourse would differ by perceived peer influence compared to perceived parent-guardian influence in a sample of Grade 10 and 12 students and concluded that students rely on both sources of communication to meet different needs. Gender differences have been found when comparing family and peer influence. For example, females appear to be more influenced by family factors and males more influenced by individual factors (Werner-Wilson, 1998). Some studies indicate that if daughters perceive parental disapproval of contraception, they will turn to peers (especially female friends) for help in



obtaining a method of contraception (Nathanson & Becker, 1986; Young Pistella & Bonati, 1998). Many studies conclude that lack of positive parental communication and closeness leaves adolescents more open to peer influence (DiIorio et al., 1999). Feldman and Brown (1993) and Whitbeck et al. (1992; 1993) concluded that a lack of closeness in the parent/teen relationship increases the influence of peers on adolescent sexual activity and that the negative influence of peers is intensified for both male and female adolescents who have poor or distant relationships with their parents.

### RESEARCH QUESTIONS

In order to further our understanding of the relationship between parental communication variables, peer influence and sexual activity among adolescents, we investigated the following hypotheses:

- (1) Females and males will differ significantly in their perceptions of parental approval of their having sexual intercourse; female adolescents will be more likely than males to anticipate father's disapproval and less likely than males to anticipate mother's disapproval. Secondly, females will be more likely to perceive fathers than mothers as disapproving and males more likely to perceive mothers than fathers as disapproving.
- (2) Participants' perceptions of their mothers' and fathers' disapproval of their having sexual intercourse will not predict their age at first intercourse.
- (3) Perception of number of friends who have had intercourse will predict participants' having had sex, but perception of parental approval/disapproval will not.
- (4) For both males and females, there will be an inverse relationship between participants reporting that it is easy for them to talk to their parents about sex and their reporting that they would not want their parents to know they were having sex.
- (5) Students' main and preferred sources of sex information will differ according to topic with schools predominant in pregnancy prevention and STI prevention and parents being more influential, along with friends and personal experience, in the area of healthy dating and relationships. It is anticipated that females and younger students will be more likely to

cite parents as preferred sources than will males and older students.

## METHODS

### PARTICIPANTS

Grade 10 and 12 high school students were surveyed as part of our evaluation of Planned Parenthood Regina's Sexual Health Centre (Hampton et al., 2001; Smith et al., 2001). All ten Regina public secondary schools and one private high school participated. The total number of student participants was 2,353. This sample includes 1,120 grade 10 students (48%) and 1,233 grade 12 students (52%). The sample consisted of 1,177 (50%) males and 1,176 (50%) females. Mean age of grade 10 students was 15.6 years and mean age of grade 12 students was 17.6 years. Following methodological examples from previous sexual health surveys, we sampled two age groups for comparison. The two-year cross-section was selected to allow comparison with previous Canadian high school based surveys (King, Beazley, Warren, Hankins, Robertson, & Radford, 1988; Schissel & Eisler, 1998). Grades ten and twelve students were appropriate age groups to study since most databases include information on adolescents who are 15 to 19 years old.

### INSTRUMENT

A questionnaire was developed by adapting sexual health surveys previously used with adolescents and young adults as a template (Card, Peterson, Mizuno, Muller, McKean, Lang, Peterson, Kaplan, & Deser, 1994; Card, Niego, Mallari, & Farrell, 1996; King et al., 1988; Schissel & Eisler, 1998; Zabin & Hirsch, 1988). The final instrument was a 73-item questionnaire that took approximately 40 minutes to complete. Topics included questions on basic demographic information, knowledge of sexual health issues, sexual and contraceptive behaviour, and use of specific health services. All items were closed-ended. Response options were yes/no, multiple choice, or Likert-type scales. A few items included available space for written numbers such as age or space to include demographic responses that were not included on our checklists. Choice of language and sexual terminology used in the questionnaire was technical as recommended in previous sexual health research (Hardy & Zabin, 1991; Zabin & Hirsch, 1988).

#### *Wording of questions reported in current study.*

The second section of the questionnaire was entitled, "Your Health Education" and included two linked questions that asked participants to identify what has been their current main source of information for each of three sexual health topics and their preferred source of information for each of three sexual health topics using the same list of possible sources. The three topics were healthy dating relationships, pregnancy prevention, and sexually transmitted disease prevention. The 12 sources listed to choose one from were: your own personal experience; parents; school teacher; school nurse or guidance counsellor; your friends; other family members; religious or spiritual advisor or counsellor; your own or your family's doctor; community health services; Planned Parenthood Regina; television, videos, radio; newspaper, magazines. An additional option "no good source" was also included in the list. Participants made a check in the box next to what has been their main source and in the next question beside their preferred source of information for each topic. They were thus able to make different source choices for each of the three topics in both main and preferred designations. The conceptual basis for these questions comes from McKay and Holowaty (1997) but our study differs in that we listed a greater number of information source options, included three sexual health topics for assessment, and invited only one source choice, rather than rankings, for each topic.

Also included in this section of the questionnaire was a series of 20 questions designed to measure participants' general knowledge of sexual health and to obtain self-reports of their ability to communicate with significant others. Two variables included in this latter analysis asked about communication with parents and read: "I would not want my parents to know that I was having sex" and "It's easy for me to talk to my parents about sex." Participants were asked to check the box under "True" or "False."

The third section of the questionnaire asked students for their opinions about sexual behaviour and contraceptive use in their social context. The fourth section of the questionnaire included questions about perception of peer sexual activity, report of their own sexual experience, as well as perception of parental approval or disapproval. Students were first asked:

"As far as you know, how many of your female friends have ever had sexual intercourse? Please make just one choice." They were asked to circle numbers on a 5-point Likert type scale that read: "None of them = 1; Just a few = 2; More than a few = 3; Most of them = 4; Almost all or all of them = 5." The next question asked: "And how many of your male friends have? Again, just one choice, please" followed by the same Likert-type items used in the previous question. The next question determined whether participants had engaged in sexual intercourse and read: "Have you ever had sexual intercourse?" Options were "No" or "Yes". The wording is the same as that used in the Saskatchewan Institute on Prevention of Handicaps survey (Schissel & Eisler, 1999) and the U.S. Youth Risk Behavior Surveillance survey which sampled adolescents attending school (Singh & Darroch, 1999). An earlier question defined sexual intercourse as: "making love," "having sex," or "going all the way." The following page included a question that read: "How do you think your mother and father feel about your having sexual intercourse with someone? If you're not, how do you think they would feel? Please circle just one choice for each person." Students were then asked to circle numbers on a 5-point Likert type scale: "Strongly Disapprove = 1", "Somewhat Disapprove = 2", unnamed midpoint = 3, "Somewhat Approve = 4", and "Strongly Approve = 5" for mother and then for father ("Don't Know" = 8).

#### **PROCEDURE**

Following ethical approval from the University of Regina and the Board of Education Ethics Committees, gender-balanced teams of university students were trained in 3-hour practice sessions to describe the study using a standardized script. They visited the schools twice. On the first visit they explained the study to students and distributed parent/guardian authorization forms. Forty-eight hours later these same university student teams returned to administer the survey. In their initial visit, research assistants attempted to elicit enthusiasm for the study by explaining the importance of the study and emphasizing the opportunity for students to have an impact on their sexual health by expressing their opinions. When the research assistant teams returned to their assigned classrooms, they solicited consent



from those students who had returned parent/guardian authorization forms. Students who did not return forms or declined to participate continued to work on assignments or, more commonly, went to the library. Research assistants then distributed the questionnaire and encouraged students to be honest in their responses and to take the survey seriously. In most instances, the teachers remained in the classrooms and worked unobtrusively at their desks. Research assistants (female and male) were available to answer questions and found that students occasionally raised their hands to clarify an item. English Language Arts classes were chosen as the subject area in which to administer our survey in all high schools. This subject was chosen because it is a required course for grade 10 and 12 students and would give us a broader and more representative sample than an elective course that would include only specific sectors of the high school population. The response rate was 72% for all students enrolled in the English Language Arts, and 92% for students who were present on Visit One to receive the parent/guardian authorization form.

## RESULTS

### PARTICIPANT CHARACTERISTICS PERTINENT TO DATA ANALYSIS

Among the 1116 grade 10 students in this study (average age 15.6 years), 33.8% of females and 31.2% of males had ever had sexual intercourse. Among the 1232 grade 12 students (average age 17.6

**Table 1** Percentage of Participants who have and have not had Sexual Intercourse by Grade and Gender

	Grade 10 (n=1116)		Grade 12 (n=1232)	
	Females (n=562)	Males (n=554)	Females (n=609)	Males (n=623)
Have had intercourse	33.8% (n=190)	31.2% (n=173)	58.5% (n=356)	49.8% (n=310)
Have not had intercourse	66.2% (n=372)	68.8% (n=381)	41.5% (n=253)	50.2% (n=313)

years), 58.5% of females and 49.8% of males had ever had intercourse (Table 1). Since subsequent analyses of students' perception of parental attitudes and age at first intercourse will use the total sample, it should be noted that males and females are about equally represented, that students who have had intercourse represent less than half of the total sample, and that among those who have had intercourse the older grade 12 students represent about 65%.

### STUDENTS' PERCEPTION OF PARENTAL DISAPPROVAL/APPROVAL OF THEIR HAVING SEXUAL INTERCOURSE

Based on a scale in which 1 indicated anticipation of strong parental disapproval of their having sex and 2 indicated a perception that parents would be somewhat disapproving, the mean disapproval/approval scores in Table 2 are skewed notably toward

**Table 2** Mean Scores for Participants' of Parental Disapproval of Their Having Sexual Intercourse by Grade, Gender and Intercourse Experience

	Mean Score of Parental Approval/Disapproval Scale <sup>1</sup>			
	Have Had Intercourse		Have Not Had Intercourse	
	Females	Males	Females	Males
<b>Grade 10</b>				
Mother's disapproval	2.10 (n = 170)	2.24 (n = 148)	1.56 (n = 342)	1.74 (n = 331)
Father's disapproval	1.60 (n = 154)	2.53 (n = 136)	1.33 (n = 320)	1.85 (n = 313)
<b>Grade 12</b>				
Mother's disapproval	2.37 (n = 323)	2.35 (n = 258)	1.84 (n = 226)	1.88 (n = 265)
Father's disapproval	1.92 (n = 281)	2.60 (n = 245)	1.56 (n = 203)	2.06 (n = 259)

<sup>1</sup> On a five-point scale, 1 = strongly disapprove, 2 = disapprove, 3 = neutral, 4 = somewhat approve, 5 = strongly approve.



the disapproval end of the scale. Among students who have not had intercourse, means scores for female and male expectation of mother's and father's disapproval ranged from 1.33-2.06. Comparable mean scores for those who had ever had intercourse were 1.60-2.60.

**GENDER DIFFERENCES IN PERCEPTIONS OF PARENTAL DISAPPROVAL OF THEIR HAVING SEXUAL INTERCOURSE**

We hypothesized that females would be more likely than males to anticipate disapproval from fathers. Based on the total sample, the female mean score for anticipated fathers' disapproval (1.60) was significantly lower than for males (2.20) (Table 3). Contrary to expectation, females were not less likely than males to anticipate mothers disapproval; the sexes did not differ significantly in this respect. As hypothesized, females were significantly more likely to anticipate father's than mother's disapproval (mean score 1.60 and 1.95 respectively;  $p < .05$ ,  $t = 7.53$ ) and males were significantly more likely to anticipate mother's than father's disapproval (means scores 2.01 and 2.20 respectively;  $p < .05$ ,  $t = 3.65$ ) (Table 3, analyses not shown).

Overall, a majority of participants perceived their parents as somewhat or very disapproving toward their having sexual intercourse. Depending upon the gender and intercourse experience of the student and gender of the parent, about 4-20% of students felt their parents would somewhat or strongly approve of their having intercourse. The upper end of this range

**Table 3 Students' Perception of Parental Approval/Disapproval of their Having Sexual Intercourse**

Perception of Parents	Mean Approval/Disapproval Score <sup>1</sup>				t
	Females		Males		
	M	SD	M	SD	
Mother	1.95	1.09	2.01	1.09	1.2
Father	1.60	0.96	2.20	1.21	75.54*

\*  $p < .05$

<sup>1</sup> Low scores 1, 2 = strongly or somewhat disapprove; high score, 4, 5 = somewhat or strongly approve; 3 = mid range. n values for mothers: females, 1061; males, 1004. n values for fathers: females, 958; males, 954.

Among all participants 228 answered that they did not know their parents' feelings. They were excluded from this analysis as were the 61 non-repondents.

was reserved for females who had intercourse assessing mothers' attitude and males who had intercourse assessing fathers' attitudes.

As noted in Table 3, participants who responded "don't know" to the question about parental feelings (about 9-10% of the available sample) were excluded from the analyses.

Females appeared less likely (6.5% sexually inexperienced, 8.2% sexually experienced participants) than males (10.6% sexually inexperienced, 14.5% sexually experienced) to "not know" what their mothers would feel about their having sexual intercourse. Participants of both genders were more likely to say "don't know" about their fathers' feelings (17.4%) than their mothers' (11.2%).

**INTERCORRELATIONS AMONG PERCEIVED PARENTAL ATTITUDES AND AGE AT FIRST INTERCOURSE**

Among the 1029 participants who had ever had intercourse (43.8% of the total sample), the 801 who answered the questions about parental attitudes and their own age at first intercourse were used to test our hypothesis that student perceptions of parental disapproval of their having sexual intercourse would have no association with age at first intercourse. The regression analysis in Table 4 showed a very modest correlation for age of first intercourse and perception of both mothers' and fathers' disapproval. However, a correlation of 0.08 represents decidedly less than 1% of the shared variance and we doubt that either of these values can support the hypothesis that among all students' who have had intercourse that their perception of either mothers' or fathers' disapproval had a meaningful impact on age at which they first had intercourse. The correlation between students' perception of mothers' and fathers' disapproval is

**Table 4 Means, Standard Deviation, and Intercorrelations for Age at Sexual Debut and Perception of Parents' Disapproval (n = 801)**

Variable	1	2	3
1. Age at sexual debut	--		
2. Mothers' disapproval	-0.08*	--	
3. Fathers' disapproval	-0.07*	0.65*	--

\*  $p < .05$



clearly significant indicating that if they feel that their mother would disapprove they also believe that their father would disapprove.

The regression analysis above was also done for males and females who had intercourse separately rather than as a pooled sample (Table 5). For females, neither mothers' nor fathers' disapproval was associated with age at first intercourse. As expected, there is a strong association between perception of disapproval by both parents if one parent is thought to disapprove. In the case of males who had ever had intercourse, perception of both mothers' and fathers' disapproval was modestly associated with age at first intercourse but again the magnitude of the correlation is negligible (Table 5) and provides insufficient basis to reject our hypothesis that participants' perceptions of mothers' and fathers' disapproval is not associated with age at first intercourse for either females or males.

**PREDICTORS OF INTERCOURSE EXPERIENCE BY GENDER: THE EFFECT OF PERCEPTION THAT FRIENDS HAVE HAD INTERCOURSE AND THAT PARENTS DISAPPROVE**

To test the hypothesis that perceptions of friends experience of intercourse would predict participants' intercourse experience but that perceptions of parental disapproval would not, we conducted two separate direct logistic regression analyses by gender with "having had sex" as the outcome variable and "number of female and male friends" and "perception of mother and father disapproval" as the predictor variables. A test of the full model was statistically significant for both males (Chi square (8, N = 932) = 319.02,  $p < .001$ ) and females (Chi square (8, N = 932) = 399.02,  $p < .001$ ) indicating that the set of predictors distinguished between those who have had or have not had sex for both groups. The overall

variance accounted for in the full model was 47% for females and 39% for males. The success of prediction for males having had sex was 62%; for those not having had sex it was 87% with an overall success rate of 77%. For females, the overall success rate of prediction was similar at 78%; prediction success was 75% for those having had sex and 80% for those females not having had sex.

Table 6 shows the odds ratios and 95% confidence intervals for each of the four predictors by gender. We were conservative in using a  $p$  value of .01 to assess statistical significance. We first ran the full model separately for both females and males based on the original 5 point Likert scale for each of the four predictor variables. Due to the extremely large parameter estimates for perception of both mothers' and fathers' attitudes toward their having sex, we collapsed the categories and ran the analysis again with three points on the Likert scale (1 = strongly/somewhat disapprove; 2 = neutral; 3 = strongly/somewhat disapprove), a method recommended by Tabachnick & Fidell (1996) when there are too many cells with too few cases in each cell. Similarly, we also collapsed the categories for the number of female and male friends who they believe have had sex to a three point scale (1 = Almost all/most of them; 2 = More than a few of them; 3 = Just a few of them/none of them).

For females, the number of both female and male friends they perceive as having had sex reliably predicted whether they had had sex. They were more likely to have had sex if they perceived that more than a few or just a few of both their female and male friends had previously had sex. In contrast, female students' perceptions of how either their

**Table 5 Means, Standard Deviation, and Intercorrelations for Age at Sexual Debut and Perception of Parents' Disapproval by Gender**

Variable	Females (n = 426)			Males (n = 367)		
	1	2	3	1	2	3
1. Age at sexual debut	--			--		
2. Mothers' disapproval	-0.03*	--		-0.11*	--	
3. Fathers' disapproval	-0.001*	0.63*	--	-0.10*	0.71*	--

\*  $p < 0.5$



**Table 6 Predictors of Intercourse Experience by Gender: Effects of Anticipated Parental Disapproval and of Perceived Peer Sexual Experience**

	Females (n=1172)		Males (n = 1157)	
	OR	95% CI	OR	95% CI
Female friends who have had intercourse				
Most/almost all of them	1.00		1.00	
More than a few	4.88*	3.03-7.83	3.76*	2.31-6.14
Just a few/none of them	2.82*	1.79-4.46	1.55	1.02-2.38
Male friends who have had intercourse				
Most/almost all of them	1.00		1.00	
More than a few	6.04*	3.77-9.68	7.03*	4.29-11.52
Just a few/none of them	2.01*	1.26-3.21	2.51*	1.67-3.81
How mother would feel				
Strongly/somewhat disapprove	1.00			1.00
Neutral	0.37	.17-.81	1.23	.58-2.62
Strongly/somewhat approve	0.68	.29-1.60	1.50	.70-3.22
How father would feel				
Strongly/somewhat disapprove	1.00		1.00	
Neutral	0.89	.33-2.38	0.45*	.24-.84
Strongly/somewhat approve	1.28	.42-3.86	0.61	.32-1.15

*Note.* Missing values = 21% for males and 20% for females which includes those who responded “don’t know”.

\*  $p < .01$ .

mothers or their fathers would feel about their having had sex was not a significant predictor of females who had or had not had intercourse. For males, the number of female friends who had intercourse was a significant predictor when the number was more than a few, and for male friends in both cases tested. As was the case with female students, neither mother’s nor father’s disapproval/approval of their having intercourse was a significant predictor of whether males had ever had sex.

**EASE OF COMMUNICATION WITH PARENTS ABOUT SEX; DESIRE THAT PARENTS NOT KNOW IF THEY WERE HAVING INTERCOURSE**

About one third of both females and males indicated that it was easy for them to talk to their parents about sex (33.6% and 31.7% respectively) and that two

thirds of both sexes did not (response options were “true” or “false” to the statement “It’s easy for me to talk to my parents about sex.”). Closer to three quarters of females and males would not want their parents to know they were having sex (69.2% and 75.1% respectively) and one quarter would not mind if parents knew (Table 7).

We hypothesized that participants who found it easy to talk to their parents about sex would not object to their parents knowing if they were having intercourse. Results of Chi-square analysis indicates that the hypothesis is supported in that males and females who felt that their parents were easy to talk to about sex were also more likely to not mind if their parents knew they were having sex (females:  $\phi = .411, p = .001$ ; males:  $\phi = -.412, p = .001$ ).

**Table 7 Communication with Parents About Having Sex**

	Easy to Talk to Parents		Would not Want Parent to Know I am Having Sex	
	Yes	No	Yes	No
Females	33.6	66.4	69.2	30.8
Males	31.7	68.3	75.1	24.9



**Table 8** Top Three Current and Preferred Sources of Information Reported by Grade 10 and 12 Students

Sexual Health Topics	Grade 10 (n = 1112)		Grade 12 (n = 1223)	
	Current Source of Information	Preferred Source of Information	Current Source of Information	Preferred Source of Information
Healthy Dating/Relationships	friends (31%)	experience (29%)	experience (34%)	experience (33%)
	experience (26%)	friends (25%)	friends (25%)	friends (25%)
	parents (18%)	parents (19%)	parents (23%)	parents (24%)
Pregnancy Prevention	school (56%)	school (44%)	school (41%)	school (39%)
	parents (17%)	parents (16%)	friends (17%)	parents (16%)
	friends (13%)	doctor/clinic (14%)	parents (17%)	doctor/clinic (15%)
STD/I Prevention	school (68%)	school (53%)	school (55%)	school (44%)
	friends (11%)	doctor/clinic (19%)	friends (19%)	doctor/clinic (22%)
	parents (7%)	friends (11%)	doctor/clinic (9%)	friends (15%)

**GRADE 10 AND 12 STUDENTS' MAIN CURRENT SOURCE AND PREFERRED SOURCE OF INFORMATION ON THREE SEXUAL HEALTH TOPICS**

Students were asked to choose from 13 sources of information one main source and one preferred source of information on each of three topics: healthy dating relationships, pregnancy prevention, and STI prevention. In total, 88% of students checked off appropriate boxes from among the 13 options presented on the questionnaire. The remaining 11.2% gave combinations of answers and were thus deleted from the analysis summarized in Table 8. It should be noted that overlapping categories were collapsed so that reporting is based on 7 categories. For example, the previously separate categories "television/video/radio" and "newspaper/magazines" were collapsed into one category titled "media". Similarly "school teacher" and "school nurse/guidance counsellor" were collapsed into "school." Since students did not do a ranking but rather listed one first choice from among the options for each of the three topics, the ranking sequences in Tables 8 and 9 reflect our listing of the three most frequent single choices that students cited as main and preferred source for each topic.

*Information on Healthy Dating/Relationships; Grades 10 and 12*

Personal experience, friends and parents, in that order (with one exception), were the sources most often cited by grade 10 and 12 students as both main sources and preferred sources of information about healthy

dating and relationships. Overall, 72% and 75% of grade 10 students respectively cited one of these three as a current main source and preferred source of information as did 82% of grade 12 students for both (Table 8). Parents placed third in this hierarchy although among grade 12 students in particular parents and friends did not appear to differ appreciably in frequency of citation. Contrary to our hypothesis, there is no indication that younger students (grade 10 as compared to grade 12) were more likely to favour parents as an information source on this topic. When the Wilcoxon Signed Ranks Test for two related samples was used to compare main sources and preferred sources for healthy dating and relationships for the entire sample, the relationship was not significant ( $Z = -1.093; p = .274$ ). Visual inspection of the data in Table 8 affirms the lack of difference between current main source and preferred source for this topic.

*Information on Pregnancy Prevention and STI Prevention: Grades 10 and 12*

Consistent with our hypothesis, school was most often cited as the main source (41% and 56%) and preferred source (39% and 41%) of information on pregnancy prevention for both grades. Parents (16% and 17%) and friends (13% and 17%) appeared less often in relation to this topic and doctor/clinic (14% and 17%) emerged as a third preferred source for both grade 10 and 12 students (Table 8). In two cases, both involving doctor/clinic placing higher than friends,



**Table 9** Top Three Current and Preferred Sources of Information Reported by Gender

Sexual Health Topics	Females (n = 1160)		Males (n = 1161)	
	Current Source of Information	Preferred	Current Source of Information	Preferred
Healthy Dating/Relationships	friends (29%) experience (28%) parents (23%)	experience (27%) parents (26%) friends (24%)	experience (32%) friends (26%) parents (18%)	experience (35%) friends (25%) parents (18%)
Pregnancy Prevention	school (41%) parents (20%) friends (13%)	school (35%) doctor/clinic (27%) parents (19%)	school (52%) friends (17%) parents (16%)	school (47%) friends (17%) parent (13%)
STD/I Prevention	school (60%) friends (14%) doctor/clinic (9%)	school (45%) doctor/clinic (23%) parents (11%)	school (63%) friends (16%) parents (7%)	school (51%) doctor/clinic (17%) friends (17%)

preferred source differed from main source for information on pregnancy prevention. The Wilcoxon Signed Ranks Test showed the difference between current main source and preferred source to be significant ( $Z = -8.879, p < .001$ ) in relation to pregnancy prevention information. The magnitude of this difference appears to be modest. Schools remained the predominant preferred source in all cases with doctor/clinic appearing as a noteworthy entry into the preferred sources cited. Based on the percentages in Table 8, this difference may be at the expense of schools and friends for both grades although the nature of the question makes this difficult to ascertain.

The response pattern was similar for STI prevention in that school predominated as a main source (55% and 68%) and preferred source (44% and 53%) of information for both grades but differed in that doctor/clinic was the second preferred source (19% and 22%), parents appeared only for grade 10 students as a main source (7%), and in four of six cases (also involving friends, parents, and doctor clinic) preferred source appeared to differ from main source. As above, the Wilcoxon Signed Ranks Test showed the extent of difference between main and preferred source to be significant ( $Z = -12.680, p < .001$ ) in relation to STI information. Also as above, schools retained a predominant status as a preferred source on this topic with doctor/clinic again more apparent in the preferred category at the expense of schools, parents and friends.

**FEMALE AND MALE STUDENT’S CURRENT MAIN SOURCE AND PREFERRED SOURCE OF INFORMATION ON THREE SEXUAL HEALTH TOPICS**

Overall, 76%-80% of both sexes cited either experience, friends, or parents as their main and preferred source of information on healthy dating and relationships (Table 9). One possible difference between the sexes in relation to this topic was that females appeared more likely to cite parents as main and preferred sources (23% and 26 % respectively) than did males (18% in both cases). In the context of pregnancy prevention, schools were the most often cited main and preferred source of information by both sexes although more so by males (52% and 47% respectively) than by females (41% and 35%). This difference may be explained by the 27% of females who cited doctor/clinic as a preferred source (which was included in the top male sources). With respect to STI prevention, schools again predominated for both sexes as main (60% and 63%) and preferred (45% and 51%) for both sexes. Doctor clinic was again a notable preferred choice (23%) but also appeared on the preference list for males as well (17%). While females cited parents among their main sources on pregnancy prevention (20%), parents were not in their top three citations as a main source for STI prevention and less often cited as a preferred source for pregnancy prevention. Males were similarly unlikely to cite parents as a main or preferred source on this topic but they appeared more likely to choose friends for STI information (17%) than were females (not listed, below 11%).



## DISCUSSION

Overall, about 44% of this sample of grade 10 and 12 students had ever had intercourse and 56% had not. The goal of the present study was to ascertain the extent to which student perceptions of parental attitudes and peer behaviour might influence their presence in one or the other of these groups. This report does not address the range of other non-intercourse behaviours students may have experienced but rather deals with influences on occurrence and timing of intercourse.

### STUDENT PERCEPTION OF PARENTAL DISAPPROVAL/APPROVAL OF THEIR HAVING SEX

We have previously reported descriptive data for this sample which showed that both female and male students anticipated high levels of disapproval of their having sex from both mothers and fathers (Hampton et al., 2001). Analysis of the mean disapproval/approval scores reported in the present study were consistent with our hypothesis that females would be significantly more likely than males to anticipate fathers' disapproval but did not show the expected sex difference with respect to mothers' disapproval. As hypothesized, females were more likely to anticipate fathers than mothers disapproval and males more likely to anticipate mothers than fathers disapproval. Inter-correlation analyses for the total sample and for males and females as a group, showed a strongly significant relationship between perception of both mothers' and fathers' disapproval i.e. if teens felt their mother would disapprove, they also felt their father would disapprove. These observations collectively reinforce the identification of parental disapproval as a family variable (Dutra et al., 1999) and support our use of this measure as a possible predictor of intercourse experience and/or age at first intercourse.

### ASSOCIATION OF PERCEIVED PARENTAL ATTITUDES AND PEER BEHAVIOUR ON INTERCOURSE EXPERIENCE

With respect to whether or not students had ever had intercourse, our regression analyses showed that perception of number of peers who have had sex was more influential than perception of parental disapproval in predicting whether students have had sex. Our intercorrelation analyses with only students had ever had intercourse also showed no persuasive

evidence for an association of perceived parental attitudes and age of first intercourse. These observations contrast with theoretical models suggesting that perceived parental disapproval of their having sex strongly influences teens' behaviour (Jaccard et al., 1998; Miller et al., 2001) and age at first intercourse (Resnick et al., 1997) and reinforce social influence theory which has identified perception of peer behaviour as a stronger influence on adolescent sexual activity than perception of parental disapproval (Costa et al., 1995; Romer et al., 1994).

### ASSESSING PERCEPTIONS OF BOTH MALE AND FEMALE PEERS' BEHAVIOUR AS A PREDICTOR OF STUDENTS' INTERCOURSE EXPERIENCE

The literature recommends investigation of teens' perceptions of the intercourse experience of both their female and male friends as a predictor of their own likelihood of having had intercourse (Nahom et al., 2001). For example, Nahom et al. (2001) found that the influence of male peer behaviour on males' sexual experience was a stronger predictor of their having had sex than their perception of female friends' behaviour, whereas females' behaviour was associated with their perception of the behaviour of both male and female peers. In the present study, perceived behaviour of both male and female friends' was a predictor on intercourse experience for both sexes.

### EASE OF COMMUNICATION WITH PARENTS

About one third of both males and females in the present study found it easy to talk with their parents about sex and a slightly smaller percentage would not mind if their parents knew they were having sex. Females may have been marginally more receptive in both respects but the overall impression is that about two thirds of both sexes did not find such communication easy and somewhat more than that would not want their parents to know. Students who found communication easy were more likely to not mind their parents knowing and perhaps some may already have shared this information. Since the response options for both questions were limited to yes or no, we do not have intermediate measures of communication that might differentiate possible differences between the sexes in this respect. Among the 9-10% of participants who indicated they did not know how their parents would feel about their having sex, males appeared more likely than females to not



know and both sexes were more likely to have not known about fathers than mothers. Fisher (1991) noted that openness in communication may be the strongest and most consistent characteristic of parents who talk to their adolescent children about sexuality. Previous research has found that teens who feel their parents are easy to talk to about sex are more likely to tell their parents when they were having sex, that females may be more open to discussing sex with parents (Rosenthal et al., 2001; Werner-Wilson, 1998; Young et al., 1999; Younis, 1989), that mothers play a more pivotal role in sexual communication than fathers (Rosenthal et al., 2001), and that mothers are more likely to communicate attitudes about their teens' sexual behaviour than fathers and are more likely to communicate these attitudes to daughters than sons (Dilorio et al., 1999).

#### **CURRENT MAIN SOURCES AND PREFERRED SOURCES OF INFORMATION ON SEXUAL HEALTH TOPICS**

Our findings showed that students main and preferred sources of information varied with the sexual health topics identified. When the topic was healthy dating and relationships, personal experience, friends, and parents were cited as the three common choices; schools and doctor/clinic were not in that hierarchy. The sexes were notably similar in their choices for this topic, with males appearing to slightly favour experience as their most common choice and to list friends more often than parents among the two other most frequently cited sources. In contrast, schools were the predominant and preferred choice for information on pregnancy prevention and STI prevention with the combined percentages choosing the second and third sources reaching the percentage choosing schools in only one of sixteen comparisons. Female students made doctor/clinic their second most frequent choice over parents for both of these topics but did cite parents at a level that placed them second as a current source of pregnancy prevention information. Parents were cited infrequently as a source of STI prevention information. Although the literature suggests that parents discuss STI prevention more often with males than females (Dilorio et al., 1999; Kirby, 1995; Miller et al., 1998), this observation is not borne out by our findings.

It would appear that all of the sources identified here have a role to play, with slight variations in importance

to youth according to their age and gender, and to the topic. Parents were most frequently cited in relation to healthy dating and relationships and it would appear that this is one of the domains in which the interplay of parents and schools could be beneficial. While some research suggests that females are more influenced by family factors and males more influenced by individual factors (Werner-Wilson, 1998), our findings show both domains represented in relation to this topic. That overlap is less apparent for subjects such as pregnancy prevention and STI prevention. In relation to these latter sexual health topics, it is noteworthy that doctor/clinic appeared as a second or third preferred source for both grades and sexes. This may reflect a lack of access they wish to have or a recognition of a resource that they have begun to recognize, use or consider in relations to their sexual health behaviour. Campbell and Aggleton (1999) state that in order to be effective, education needs to be backed up by youth-focused sexual health services. It would appear that adolescents would like more information for pregnancy and STI prevention from health professionals than they are currently receiving.

#### **IMPLICATIONS OF THE FINDINGS**

The findings reported here fit with the recommendations put forward for policy development in the area of adolescent sexual health (Campbell & Aggleton, 1999). In this framework, family, school and community/neighbourhood contexts are important in providing young people with maximum social support and social capital. An open approach to sex in the community, comprehensive sex education, and frank and open communication with parents may be important determinants of healthy sexuality among youth. It is widely accepted in health policy and promotion that health behaviours and lifestyle choices are learned in the context of the family (Young et al., 2001). Miller (2002) concludes that parental values are most effectively communicated when youth and parents have a close relationship (connectedness). However, although family influences play a role, they do not cover the spectrum of information and service needs of young adults. In our study, parents emerged as an important source of information only for healthy dating relationships, somewhat so for pregnancy prevention, and only slightly for STI prevention. These results suggest that teens look to parents as models for healthy relationships but a high percentage of



participants perceived their parents as likely to disapprove of their having sex, reported that it is not easy to talk with parents about sex, and that they do not want their parents to know they are having sex. These perceptions were not universal in the sample but the findings do suggest that it is often difficult for teens and parents to talk about sexual behaviour. It is noteworthy that among the students who generally anticipated parental disapproval of their having sex 88% of males and females nevertheless felt that both their mothers and fathers would strongly approve of their using condoms (Hampton et al., 2001). In students' minds, parents appear to make a distinction between their having sex and safer sex.

School emerged as the most important source for information about pregnancy and STI prevention. Coupled with the finding that peer influence is more important than parental disapproval in predicting whether a student had ever had intercourse, our results suggests that we must address peer norms as well as parent-child discussion for topics such as pregnancy and STI prevention (Maticka-Tyndale, 1997; Maticka-Tyndale et al., 2000; Maticka-Tyndale, 2001; O'Donnell et al., 2003). School settings are influential for creating a context of peer norm behaviour as well as providing an educational context in which sexual health information is accessible. These results reinforce recent evaluation studies that suggest behavioural and social change interventions delivered in school settings are priority health care agendas (Kirby, 2000; McKay et al., 2001). The importance of perceived peer sexual activity (particularly male peer sexual activity) as well as our findings that school serves as the primary current source and preferred source of information for two significant sexual health topics suggests that peer education programs may be a relevant method for delivering sexual health education (Dunn et al., 1998; Hampton et al., 2005; Mellanby et al., 2000). However, sex education should ideally be delivered in tandem with access to age-appropriate sexual health service delivery, as recommended in the literature (Langille et al., 2002; Maticka-Tyndale, 1997).

#### LIMITATIONS

According to Miller et al. (2001), the larger picture of family influence on risk of adolescent pregnancy includes not only parental disapproval of teen sex (or

unprotected teen sex) but also having a supportive parent/teen relationship (connectedness) and appropriately monitoring (regulation) of teen activities. A limitation of our study is that we did not include these variables, although our findings lend support to this model. Other limitations of our study include lack of information about the 28% of Language Arts students in our school district who did not participate in our study and the fact that our sample did not include more participants from the separate school system. Since our study comprises only students in one urban Canadian setting, it is also difficult to generalize our findings to other settings.

#### References

- Barnett, J.K., Papini, D.R., & Gbur, E. (1991). Familial correlates of sexually active pregnant and non-pregnant adolescents. *Adolescence, 26*(102), 457-472.
- Brewster, K.I. (1994). Neighborhood context and the transition to sexual activity among young black women. *Demography, 31*, 603-614.
- Campbell, C., & Aggleton, P. (1999). Young people's sexual health: A framework for policy debate. *The Canadian Journal of Human Sexuality, 8*, 249-260.
- Card, J.J., Peterson, E.C., Mizuno, S., Muller, K.L., McKean, E.A., Lang, E.L., Peterson, J.L., Kaplan, A.S., & Deser, T. (1994). *The American Family: A compendium of data and services*. New York: Garland Publishing, Inc.
- Card, J.J., Niego, S., Mallari, A., & Farrell, W.S. (1996). The program archive on sexuality, health and adolescence: Promising "prevention programs in a box." *Family Planning Perspectives, 28*, 210-220.
- Connolly, J., Furman, W., & Konarski, R. (2000). The role of peers in the emergence of heterosexual romantic relationships in adolescence. *Child Development, 71*, 1395-1408.
- Connolly, J., & Johnson, A. (1996). Adolescents' romantic relationships and the structure and quality of their close interpersonal ties. *Personal Relationships, 3*, 185-195.
- Costa, F.M., Jessor, R., Donovan, J.E., & Fortenberry, J.D. (1995). Early initiation of sexual intercourse: The influence of psychosocial unconventionality. *Journal of Research on Adolescence, 5*, 93-121.



- DeGaston, J.F., Weed, S., & Jensen, L. (1996). Understanding gender differences in adolescent sexuality. *Adolescence*, 3, 217-231.
- DiClemente, R.J., Lodico, M., Grinstead, O.A. et al. (1996). African-American adolescent residing in high-risk urban environments do use condoms: correlates and predictors of condom use among adolescents in public housing developments. *Pediatrics*, 98, 269-278.
- DiLorio, C., Kelley, M., & Hockenberry-Eaton, M. (1999). Communication about sexual issues. Mother, fathers and friends. *Journal of Adolescent Health Research*, 24, 181-184.
- Dunn, L., Ross, B., Caines, T., & Howorth, P. (1998). A school-based HIV/AIDS prevention education program: Outcomes of peer-led versus community health nurse-led interventions. *The Canadian Journal of Human Sexuality*, 7, 339-345.
- Dutra, R., Miller, K.S. & Forehand, R. (1999). The process and content of sexual communication with adolescents in two-parent families: Associations with sexual risk-taking behavior. *AIDS and Behavior*, 3, 59-66.
- Feldman, S.S., & Rosenthal, D.A. (2000). The effect of communication characteristics on family members' perceptions of parents as sex educators. *Journal of Research on Adolescence* 10, 119-150.
- Feldman, S.S., & Brown, N. (1993). Family influence on adolescent male sexuality: The mediational role of self-restraint. *Social Development*, 2, 15-35.
- Fisher, T.D. (1991). Characteristics of mothers and fathers who talk to their adolescent children about sexuality. *Journal of Psychology and Human Sexuality*, 3, 53-70.
- Furman, W., & Wehner, E.A. (1994). Romantic views: Toward a theory of adolescent romantic relationships. In R. Montemayor, G.R. Adams, & G.P. Gullota (Eds.), *Advances in Adolescent Development: Volume 6. Relationships During Adolescence* (pp. 168-195). Thousand Oaks, CA: Sage Publications.
- Furstenberg, F.F., Morgan, S.P., Moore, K.A., & Peterson, J.L. (1987). Race differences in the timing of adolescent intercourse. *American Social Review*, 52, 511-518.
- Gupta, G.R., Weiss, E., & Mane, P. (1996). Talking about sex: A prerequisite for AIDS prevention. In L.D. Long, & E.M. Ankrah (Eds.), *Women's Experiences: An international perspective*. New York, NY: Columbia University Press.
- Hampton, M.R., Fahlman, S., Goertzen, J., & Jeffery, B. (2005). A process evaluation of the Youth Educating About Health (YEAH) Program: A peer-designed and peer-led sexual health education program. *The Canadian Journal of Human Sexuality*, 14; *SIECCAN Newsletter*, 40, 129-141.
- Hampton, M.R., Smith, P., Jeffery, B., & McWatters, B. (2001). Sexual experience, contraception, and STI prevention among high school students: Results from a Canadian urban center. *The Canadian Journal of Human Sexuality*, 10, 111-126.
- Hardy, J.B., & Zabin, L.S. (1991). *Adolescent Pregnancy in an Urban Environment: Issues, programs and evaluation*. Washington, D.C.: The Urban Institute Press.
- Hutchinson, M.K., & Cooney, T.M. (1998). Patterns of parent-teen sexual risk communication: Implications for interventions. *Family Relations*, 47, 185-194.
- Jaccard, J., Dittus, P.J., & Gordon, V.V. (1998). Parent-adolescent congruency in reports of adolescent sexual behavior and in communication about sexual behavior. *Child Development*, 69, 247-261.
- Karofsky, P., Zeng, L., & Kosovok, M. (2000). Relationship between adolescent-parental communication and initiation of first intercourse by adolescents. *Journal of Adolescent Health*, 28, 49-45.
- King, A. Beazley, R., Warren, W., Hankins, C., Robertson, A., & Radford, J. (1988). *The Canada Youth and AIDS Study*. Kingston, ON: Queen's University.
- Kinsman, S.B., Romer, D., Furstenburg, F.F., & Schwartz, D.F. (1998). Early sexual initiation: The role of peer norms. *Pediatrics*, 102, 1185-1192.
- Kirby, D. (1995). *A review of educational programs designed to reduce sexual risk-taking behaviors among school-aged youth in the United States*. National Technical Information Services, Springfield, VA.



- Kirby, D. (2000). School-based intervention to prevent unprotected sex and HIV among adolescents. In J.L. Peterson & R.J. DiClemente (Eds.), *Handbook of HIV Prevention* (pp. 83-97). New York, NY: Plenum Publishers.
- Langille, D. (2002). Teen pregnancy prevention strategies: Why should they be effective? *Electronic Response to: Interventions to reduce unintended pregnancies among adolescents: Systematic review of randomized controlled trials*. BMJ.com. <http://bmj.com/cgi/eletters/324/7351/1426>.
- Maticka-Tyndale, E. (1997). Reducing the incidence of sexually transmitted disease through behavioural and social change. *The Canadian Journal of Human Sexuality*, 6, 89-104.
- Maticka-Tyndale, E., Barrett, M., & McKay, A. (2000). Adolescent sexual and reproductive health in Canada: A review of national data sources and their limitations. *The Canadian Journal of Human Sexuality*, 9, 41-46.
- Maticka-Tyndale, E. (2001). Sexual health and Canadian youth: How do we measure up? *The Canadian Journal of Human Sexuality*, 10, 1-17.
- McKay A., Fisher, W., Maticka-Tyndale, E., & Barrett, M. (2001). Adolescent sexual health education: Does it work? Can it work better? An analysis of recent research and media reports. *The Canadian Journal of Human Sexuality*, 10, 127-135.
- McKay, A., & Holowaty, P. (1997). Sexual health education: A study of adolescents' opinions, self-perceived needs, and current and preferred sources of information. *The Canadian Journal of Human Sexuality*, 5, 15-24.
- Mellenby, A.R., Rees, J.B., & Tripp, J.H. (2000). Peer-led and adult-led school health education: A critical review of available comparative research. *Health Education Research*, 15, 533-545.
- Miller, B.C. (2002). Family influences on adolescent sexual and contraceptive behavior. *The Journal of Sex Research*, 39, 22-26.
- Miller, B.C., Benson, B., & Galbraith, K.A. (2001). Family relationships and adolescent pregnancy risk: A research synthesis. *Developmental Review*, 39, 1-38.
- Miller, B.C., Norton, M.C., Fan, X., & Christopherson, C.R. (1998). Pubertal development, parental communication, and sexual values in relation to adolescents sexual behaviors. *Journal of Early Adolescents*, 18, 27-52.
- Miller, K.S., Kotchick, B.A., Dorsey, S., Forehand, R., & Ham, A.Y. (1998). Family communication about sex: What are parents saying and are their adolescents listening? *Family Planning Perspectives*, 30, 218-232.
- Nahom, D., Wells, E., Gillmore, M.R., Hoppe, M., Morrison, D.M., Archibald, M., Murowhick, E., Wilsdon, A., & Graham, L. (2001). Differences by gender and sexual experience in adolescent sexual behaviour: Implications for educations and HIV prevention. *Journal of School Health*, 71, 143-164.
- Nathanson, C.A., & Becker, M.H. (1986). Family and peer influence on obtaining a method of contraception. *Journal of Marriage and the Family*, 48, 513-525.
- Newcomer, S., & Udry, J. (1984). Mothers' influence on sexual behavior of their teenage children. *Journal of Marriage and the Family*, 46, 477-485.
- O'Donnell, L., Myint, U.A., O'Donnell, C.R., & Stueve, A. (2003). Long-term influence of sexual norms and attitudes on timing of sexual initiation among urban minority youth. *Journal of School Health*, 73, 68-76..
- Resnick, M.D., Bearman, P.S., Blum, R.W., Bauman, K.E., Harris, K.M., Jones, J., Tabor, J. Beuhring, T., Sieving, R.E., Shew, M., Ireland, M., Bearinger, L.H., & Udry, J.R. (1997). Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health. *Journal of American Medical Association*, 278, 823-832.
- Romer, D., Stanton, B., Galbraith, J., Feigelman, S., Black, M.S., & Li, X. (1999). Parental influence on adolescent sexual behavior in high-poverty settings. *Archives of Pediatrics and Adolescent Medicine*, 53, 1055-1062.
- Romer, D., Black, M., Ricardo, I., Feigelman, S., Kalijee, L., Galbraith, J., Nesbit, R., Hornik, R., & Stanton, B. (1994). Social influences on the sexual behavior of youth at risk for HIV exposure. *American Journal of Public Health*, 84, 977-985.
- Rosenthal, D.A., & Feldman, S. (1999). The importance of importance: Adolescents' perceptions of parental communication about sexuality. *Journal of Adolescence*, 22, 835-851.

- Rosenthal, D., Senserrick, T., & Feldman, S. (2001). A typology approach to describing parents as communicators about sexuality. *Archives of Sexual Behavior, 30*, 463-482.
- Schissel, B., & Eisler, L. (1998). *Saskatchewan Youth Attitudes Survey*. Unpublished tabulation from 1995-1996. Survey of 2,605 youth in Saskatchewan. Supported by Social Sciences and Humanities Research Council of Canada, grant 41-095-1532. University of Saskatchewan: Department of Sociology.
- Smith, P., Daniel, J., Hampton, M.R., Jacques, M., Jeffery, B., & McWatters, B. (2001). *Renewing Partnerships and Commitment: Community sexual health, services, education, and recommendations*. University of Regina: Sample Survey & Data Bank. Research Supported by Health Canada HTF #334.
- Somers, C.L., & Paulson, S.E. (2000). Students' perceptions of parent-adolescent closeness and communication about sexuality: relations with sexual knowledge, attitudes and behaviors. *Journal of Adolescence, 23*, 629-644.
- Tabachnick, B.G., & Fidell, L.S. (1996). *Using Multivariate Statistics*. New York, NY: Harper Collins Publisher, Inc.
- Watts, Sr., G.F., & Nagy, S. (2000). Attitudes toward sexual intercourse and relationship with peer and parental communication. *American Journal of Health Studies, 16*, 156-165.
- Werner-Wilson, J. (1998). Gender differences in adolescent sexual attitudes: The influence of individual and family factors. *Adolescence, 33*, 519-531.
- Whitaker, D.J., Miller, K.S., May, D.C., & Levin, M. (1999). Teenage partners' communication about sexual risk and condom use: The importance of parent-teenager discussions. *Family Planning Perspectives, 31*, 117-125.
- Whitbeck, L., Conger, R. & Kao, M. (1993). The influence of parental support, depressed affect, and peers on the sexual behaviors of adolescent girls. *Journal of Family Issues, 14*, 261-278.
- Whitbeck, L., Hoyt, D., Miller, M., & Kao, M. (1992). Parental support, depressed affect, and sexual experiences among adolescents. *Youth and Society, 24*, 166-177.
- Yamane, T. (1967). *Elementary Sampling Theory*. Englewood Cliffs, NY: Prentice Hall.
- Young Pistella, C.L., & Bonati, F.A. (1999). Adolescent women's recommendations for enhanced parent-adolescent communication about sexual behavior. *Child and Adolescent Social Work Journal, 16*, 305-315.
- Youniss, J. (1989). Parent-adolescent relationships. In W. Daman (Ed.), *Child Development Today and Tomorrow* (pp. 379-392). San Francisco, CA: Jossey-Bass/Pfeifer.
- Zabin, L.S., & Hirsch, M.B. (1988). *Evaluation of Pregnancy Prevention Programs in the School Context*. Lexington, Massachusetts: Lexington Books.