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Mothers Who Do and Do Not Intend to Discuss Sexual Health With Their Young Adolescents

This study distinguished two groups of mothers who have not communicated with their young adolescents about sexual health based on their intentions of having these discussions. We also compared these 2 groups to mothers who have had such communications. Overall, 29% of mothers had engaged in sexual discussions with their adolescent in some detail (active group), 22% intended to do so in the next 6 months (intender group), and 49% did not intend to do so in the next 6 months (nonintender group). Higher scores on variables consistent with the integrative model of behavioral prediction (parent knowledge, comfort, attitudes, perceptions of social norms, and self-efficacy for sexual communication) differentiated the 3 groups: The active group had the highest scores, the nonintender group had the lowest scores, and the scores of the intender group fell in between. Group membership varied by sexual topic. Suggestions for enhancing parent-adolescent sexual communication are discussed.

As with other areas of development, parents play an important role in their children's sexual socialization (Fox & Inazu, 1980; Lefkowitz & Stoppa, 2006; L'Engle & Jackson, 2008). In particular, many parents believe that they have a responsibility to talk to their children about sexuality as a way of communicating attitudes

and family values, preventing negative sexual outcomes, and preparing them for adulthood (Feldman & Rosenthal, 2000; Lagus, Bernat, Bearinger, Resnick, & Eisenberg, 2011; Wilson, Dalberth, Koo, & Gard, 2010). Talking about sexuality is, however, a complicated issue for parents (Byers, Sears, & Weaver, 2008). This may be especially true during early adolescence, when parents are confronted with their child's pubertal development, emerging sexuality, and increasing involvement in romantic relationships (Laursen & Collins, 2009; Steinberg & Silk, 2002). Perhaps as a result, many parents do not communicate with their young adolescents about sexuality (Jerman & Constantine, 2010; Weaver, Byers, Sears, Cohen, & Randall, 2002). Those who do are more likely to be mothers than fathers and tend to report that they have had only general or global discussions with their children (Jaccard, Dittus, & Gordon, 1998; Jerman & Constantine, 2010; Jordan, Price, & Fitzgerald, 2000). The limited sexual communication is unfortunate because, generally, more extensive sexual communication between mothers and their adolescent is associated with a number of positive outcomes for the adolescent, including increased sexual knowledge (Fox & Inazu, 1980; Somers & Paulson, 2000), greater condom use self-efficacy (Fox & Inazu, 1980; Hutchinson & Cooney, 1998), and later initiation of sexual intercourse (DiIorio, Kelley, & Hockenberry-Eaton, 1999). The purpose of this study was to enhance our understanding of parents in Canada who have and have not communicated with their young adolescents in detail about sexual health by examining not only their past behavior but also their intentions of having these discussions. Only mothers' data were analyzed, however, because too few fathers chose to participate.

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Parents' Intentions to Communicate About Sexual Health

To develop effective interventions to facilitate parent-adolescent sexual communication, it is important to recognize that parents differ with respect to their behavior and also their intentions. That is, there are two groups of parents who have not had in-depth discussions about sexuality with their adolescent: those who intend to do so but have not enacted the behavior and those who do not have these intentions. For example, Pluhar, Jennings, and DiIorio (2006) found that many mothers of 6- to 10-year-olds planned to be proactive about sexual communication with their child. Some mothers, however, planned to wait for their child to approach them and others expected to avoid the topic should their child raise sexual issues. Despite considerable research on parent-adolescent sexual communication behavior, we could find no studies that had assessed parents' general intentions to discuss a range of sexual health topics with their young adolescent. Yet, in order to enhance communication, different interventions are likely needed for parents who have formed an intention but have not acted on it and for parents who have little intention of engaging in the behavior (Fishbein, 2000). In keeping with the Information-Motivation-Behavioral Skills Model of sexually related behaviors (Fisher & Fisher, 1998) for example, interventions for parents without intentions to talk to their children about sexuality need to enhance motivation as well as increase behavioral skills.

There is indirect evidence that most parents intend to communicate with their adolescents about sexuality (Fitzharris & Werner-Wilson, 2004; McKay, 1996). For example, Weaver and colleagues (2002) found that 95% of parents agreed that schools and parents should share responsibility for providing sexuality education, suggesting that parents expect to be accountable for this activity. Parents may, however, differ in the time frame they envision for having these discussions (e.g., when their children are "older" rather than immediately). El-Shaieb and Wurtele (2009) asked parents of preschoolers about their intentions to communicate with their children about 15 sexual topics. They found that, on average, parents expected to start discussing "sex education" when their child was 6.7 years old. Note that because these were parents of preschoolers, their ratings represented future

intentions rather than more immediate intentions. Askelson et al. (2010) found that only 53% of mothers of 9- to 15-year-old girls planned to use the opportunity of having their daughter vaccinated for the human papilloma virus (HPV) to "talk to them about sex" (not defined). This study focused on this one "teachable moment" and did not assess the mothers' more general intentions regarding sexual communication. Further, these studies did not assess parents' past sexual communication with their children, even though parents have relevant knowledge about and experiences with their children. Thus, it is particularly important to evaluate parents' intentions to communicate with their young adolescents about sexual health in light of their past behavior.

We expected to find three groups: mothers who have had previous sexual health discussions with their adolescent in at least some detail (active group), mothers who have not had these discussions but report that they are likely or very likely to do so within the next 6 months (intender group), and mothers who have not had these discussions and do not intend to do so in the next 6 months (nonintender group). Thus, our first goal was to examine the percentage of mothers who fell into each of these three groups. In particular, we were interested in the percentage of inactive mothers who were in the intender group compared to the nonintender group.

Factors That May Distinguish Intender Parents From Nonintender and Active Parents

Our second goal was to identify factors that differentiate mothers in the intender group from mothers in the nonintender and the active groups. Specifically, we examined skills, attitudes, perceived social norms, and self-efficacy, variables identified in the integrative model of behavior prediction (IMBP). According to the IMBP, these constructs are proximal factors that shape both individuals' intentions and, in turn, their behavior (Fishbein, 2000; Fishbein et al., 2001). Given this distinction between intentions and behavior, it is likely that the variables that comprise the IMBP would separate the three groups of parents. Indeed, in keeping with predictions based on the IMBP, these variables have been shown to be related to both intentions and behavior across a wide range of behaviors, accounting for up to 40% of the variance in intentions and 27% of the variance in behaviors

(Armitage & Conner, 2001; Conner & Sparks, 1996; Godin & Kok, 1996). It should be noted that we did not test the IMBP directly; instead, we used it as a framework to identify constructs likely to separate parents who differed in their sexual communication intentions and behavior.

Skills, attitudes, perceived social norms, and self-efficacy have all been related to parent-adolescent sexual communication behavior. Skills are the abilities an individual needs to carry out the behavior. We assessed two skills: parent knowledge and parent comfort. Multiple studies indicate that parents' perceptions of being more knowledgeable about sexual health and more comfortable talking to their children about sexuality are associated with more frequent and more extensive parent-child sexual communication (Byers et al., 2008; Guilamo-Ramos, Jaccard, Dittus, & Collins, 2008; Jaccard, Dittus, & Gordon, 2000; Jerman & Constantine, 2010). Attitudes consist of positive and negative evaluations of the likely outcomes of performing the behavior. Parents identify a number of outcomes that serve as barriers to communicating with their children about sexuality, including feeling embarrassed, believing that their child is too young for such discussions, and fearing that talking about sex will encourage their child to engage in sexual activity (Wilson et al., 2010). Parents who expect fewer negative and more positive outcomes from sexual communication tend to talk more to their children about sexuality (DiIorio et al., 2000; Guilamo-Ramos et al., 2008; Jaccard et al., 2000). Perceived social norms refer to perceptions that important others think one should or should not perform the behavior. Guilamo-Ramos et al. found that mothers who saw important others as approving of them talking about sexual intercourse engaged in more frequent discussions of the topic with their young adolescents. Self-efficacy is the confidence one has to perform the behavior. Mothers with higher self-efficacy for parent-child sexual communication engage in more frequent and more extensive sexual communication with their children (DiIorio et al., 2000; Guilamo-Ramos et al., 2008).

The IMBP also proposes that exogenous variables (i.e., demographic characteristics, individual difference factors) contribute to intentions and behavior (Fishbein, 2000; Fishbein et al., 2001), but only indirectly; thus, exogenous variables are seen as more distal influences on intentions and behavior. We investigated

whether four exogenous variables that have been associated with parent-adolescent sexual communication—one parent characteristic (parents' own sexual communication with their parents) and three adolescent characteristics (gender, grade, and dating history)—would differentiate the three groups of mothers. For example, parents who report more extensive or more satisfactory sexual communication with their own parents report more extensive sexual communication with their children (Byers et al., 2008). Research also suggests that mothers of daughters (Kapungu et al., 2010; Swain, Ackerman, & Ackerman, 2006) and of children who are older or in a higher grade and who perceive that their child is dating (DiIorio et al., 2000; Jerman & Constantine, 2010; Swain et al., 2006) are more likely to talk to their children about sexuality.

We could find only one study that examined the association between these factors and sexual communication intentions. Askelson et al. (2010) reported that, for mothers who planned to have their daughter receive the HPV vaccine, attitudes and perceptions of social norms were related to higher intentions of using this event to talk to their daughter about sexuality. They did not, however, assess the mothers' skills, self-efficacy, or past sexual health discussions with their daughter.

Because knowledge, comfort, attitudes, perceived social norms, and self-efficacy have been linked to parent-adolescent sexual communication behavior, we expected that the active group would score highest on these variables. Similarly, we expected mothers in this group to report the best sexual communication with their own parents and be most likely to have daughters in Grade 7 and who had experienced more serious romantic involvement. Although there is little research on parents' intentions regarding communicating with their adolescent about sexuality, on the basis of research with the IMBP examining intentions for other behaviors, we expected that parents in the inactive group—that is, those who had not formed intentions—would score lowest on these variables. We expected that parents in the intender group would fall between these two groups.

Communication Intentions for Specific Sexual Health Topics

Our third goal was to examine whether mothers' placement in the intender group compared

to the nonintender group and the active group would vary depending on the sexual health topic. Research has shown that parents are more likely to talk about, and to talk more extensively about, some topics than others with their children (Byers et al., 2008; DiIorio et al., 1999; Rosenthal & Feldman, 1999; Weaver et al., 2002). That is, parents tend to focus on biological topics (e.g., puberty, reproduction) rather than personal topics (e.g., sexual decision making, masturbation), and to emphasize the negative outcomes of sexual behavior (e.g., sexually transmitted infections, unwanted pregnancy; DiIorio et al., 1999; O'Sullivan, Meyer-Bahlburg, & Watkins, 2001). Yet, positive sexual socialization by parents requires discussion of a range of sexual health topics, including reproduction and safer sex as well as sexual decision making, masturbation, and sex in the media and on the Internet (Lefkowitz & Stoppa, 2006). Further, most parents believe that by the end of middle school their children should have received sexual health education about a wide range of topics (Macbeth, Weerakoon, & Sitharthan, 2009; McKay, Pietrusiak, & Holowaty, 1998; Weaver et al., 2002). The proportion of inactive parents who form intentions to talk to their young adolescent about specific sexual health topics is not known. Therefore, we examined the relative percentages of inactive mothers who fell into the intender group versus the nonintender group and active group for each of 12 sexual health topics.

The Canadian Context

Because this study was conducted in Canada, it is important to understand the Canadian context for sexual health education. All Canadian provinces and territories mandate that sexual health education be taught in schools (Public Health Agency of Canada, 2008). There is, however, considerable variation in how fully these curricula are implemented in individual schools and communities despite general support for sexual health education among parents, students, and teachers. For example, surveys in multiple Canadian provinces have shown that more than 90% of parents support sexual health education in school (McKay et al., 1998; Weaver et al., 2002). These studies also showed that a great majority of Canadian parents favor teaching a wide range of topics, including sexual decision making, birth control, HIV/AIDS and other STIs, sexual assault, abortion, and homosexuality,

with coverage of some topics starting in elementary school. This may be, in part, because parents are aware that many Canadian youth engage in sexual activity, such as unprotected sexual intercourse, that puts them at risk for negative health outcomes (Boyce et al., 2006). Further, Canadian parents, teachers, and students feel that parents also have an important role to play in providing adolescents with sexual health education (Byers et al., 2003a, 2003b; Cohen, Byers, Sears, & Weaver, 2004; McKay & Holowaty, 1997; McKay et al., 1998; Weaver et al., 2002). Only between 24% (according to middle school students) and 38% (according to parents) of parents, however, are doing an excellent or very good job of providing sexual health education at home (Byers et al., 2003b; Weaver et al., 2002). Thus, Canadian parents struggle with communicating about sexual topics with their young adolescents.

The Current Study

The purpose of the current study was to enhance our understanding of Canadian mothers' intentions to communicate with their young adolescent about sexual health topics in light of their past sexual communication behavior. We posed three research questions:

1. What percentage of mothers falls into the proposed active, intender, and inactive groups of communicators?
2. Do factors consistent with the IMBP distinguish mothers in the intender group from mothers in the nonintender and active groups? We predicted that mothers in the active group would score highest on knowledge, comfort, attitudes, perceived social norms, and self-efficacy for parent-adolescent sexual communication, would report the best sexual communication with their own parents, and would be most likely to have daughters in Grade 7 and who had experienced more serious romantic involvement, followed by mothers in the intender group and mothers in the nonintender group, in that order.
3. What percentage of mothers falls into the active, intender, and inactive groups of communicators for specific sexual health topics?

METHOD

Participants and Procedure

The participants were 573 mothers of young adolescents. To recruit the sample, survey packages for parents were sent to 11 schools in rural and urban communities in a small Canadian province. Teachers distributed the sealed packages to students in Grades 6 and 7 with the request that students take them home to their parents. Each package contained a letter that described the study (including that parents would receive \$25 as compensation for their time), the survey, a contact information sheet, and a stamped addressed envelope. Parents mailed their completed survey, along with the contact information sheet if they wished to receive compensation, a summary of the results, or both directly to the researchers in the enclosed envelope. On the basis of reports from schools, 2,104 students were enrolled in the two grades in the selected schools. Adjusting for an absentee rate of 5%, we estimated that 1,999 surveys were distributed to students. In total, 655 surveys were returned, for a response rate of 33% (range per school was 25% to 41%). Of these, 82 surveys were excluded: 57 completed by fathers, 5 completed for youths not living with their mother, 12 completed about a sibling of a youth who was included in the study, 1 returned significantly later than the other surveys, 6 missing data on the variables used to create the groups, and 1 missing data on three of the discriminating variables.

The mothers who participated were, on average, 39.6 years old ($SD = 5.2$) and had 2.5 children ($SD = 1.0$). A majority of them were living with a partner (82%), had either completed high school (27%) or postsecondary trade or technical school (41%), and were employed (76%). Half were reporting on a daughter (50%) and half on a son (50%). About half of these adolescents were in Grade 6 (54%) or in Grade 7 (46%), and about a third of them were the oldest child (38%) and another third the youngest child (37%). More than two thirds of the adolescents (69%) were living with their biological parents.

Measures

Participants completed a survey booklet that contained measures arranged in one of four random orders. Only the measures included in the current study are described below.

Parent-adolescent sexual communication. We used a 12-item scale adapted from Byers et al. (2008) to assess parents' perceptions of the extent of sexual communication with their adolescents. Eight of the original 10 sexuality topics were retained and 4 topics were added to increase its relevance for parents of young adolescents. We retained the same response format, in which participants indicated the extent to which they had discussed each topic with their adolescent using a scale from 1 (*not at all*) to 4 (*in a lot of detail*). A mean score was computed for the 12 topics, with higher scores indicating more extensive communication. Byers et al. (2008) reported an internal consistency of .91 for their 10-item scale and evidence for its construct validity. The internal consistency was .92 in this study.

Parents' sexual communication intentions. On the basis of recommendations by Fishbein et al. (2001), we developed a scale to assess parents' intentions to communicate with their young adolescents about sexual health. Participants rated the likelihood that they would discuss with their adolescent in the following 6 months each of the 12 topics used to assess parent-adolescent sexual communication. Responses were made using a 5-point scale (1 = *very unlikely* to 5 = *very likely*). A mean score was computed, with higher scores indicating stronger intentions to communicate. Similarly worded items have been shown to reliably predict a variety of behaviors (Armitage & Conner, 2001). The internal consistency in the current study was .95.

Skills. We assessed parents' knowledge and comfort discussing each of the 12 sexual health topics using 5-point scales (1 = *not at all knowledgeable* to 5 = *extremely knowledgeable*; 1 = *not at all comfortable* to 5 = *extremely comfortable*). These scales were adapted from Cohen, Byers, and Sears (2011), who assessed the knowledge and comfort of teachers rather than parents and used a more extensive list of topics. Total scores were computed by summing the ratings for the 12 topics such that scores ranged from 12 to 60, with higher scores indicating more knowledge or more comfort. Cohen et al. (2011) demonstrated high internal consistency and construct validity for the scales in their sample of teachers. In this study, $\alpha = .93$ and $\alpha = .95$ for knowledge and comfort, respectively.

Attitudes. We developed the Expected Outcomes of Parent-Child Sexual Communication Scale to assess parents' expectations regarding possible outcomes of talking to their adolescent about sexual health topics. The 13 items reflected possible positive and negative outcomes for both the adolescent (e.g., "My child would be less likely to have sexual intercourse as a young teen" and "My child would think I do not trust him or her.") and the parent (e.g., "I would feel that I did the right thing" and "I would feel embarrassed"; see the Appendix). Five items were selected from DiIorio et al. (2001), five items were selected from Jaccard et al. (2000), and three new items were developed. Responses were on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Scores were summed such that they ranged from 13 to 65, with higher scores reflecting more positive attitudes toward parent-adolescent sexual communication. The internal consistency of our measure was .81.

Perceived social norms. Five items adapted from Yzer and van den Putte (2006) were used to assess parents' perceptions of views about parent-adolescent sexual communication held by others who are important to them. First, participants indicated on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*) the extent to which they agreed that most people who are important to them think they should talk to their adolescent about sexual health topics. Next, using a 5-point scale (1 = *strongly not approve* to 5 = *strongly approve*), separate items assessed their perceptions of the extent to which their partner or spouse, siblings, parents and in-laws, and most of their friends would approve of them talking to their adolescent about sexual health topics. Because not all respondents would have a partner or spouse, siblings, or living parents or in-laws, they were given the option of indicating that the item did not apply. This resulted in missing data for these items. Therefore, in keeping with the procedure used by Yzer and van den Putte, scores from the five items were averaged when responses were available for at least three of the five items. Yzer and van den Putte reported a good internal consistency for their scale; in this study, the internal consistency was .81.

Self-efficacy. To assess self-efficacy, participants indicated their level of confidence that they

could talk to their adolescent about each of the 12 topics in the following 6 months if they really wanted to. They rated each topic on a 5-point scale ranging from 1 (*not at all confident*) to 5 (*very confident*). Ratings were summed (range = 12 to 60), with higher scores indicating greater self-efficacy. DiIorio et al. (2001) demonstrated good reliability and validity for a similar self-efficacy scale. The internal consistency of our measure was .96.

Exogenous variables. Participants reported their adolescent's gender and grade in the background information section of the survey. They indicated their adolescent's dating history in a later section by reporting their adolescent's most serious level of romantic involvement on a 4-point scale (0 = *never had a boyfriend/girlfriend*, 1 = *has gone out with or saw someone casually*, 2 = *has had an exclusive relationship with someone*, and 3 = *has had a serious relationship with one person*; Kuttler & LaGreca, 2004). Because responses were skewed (61% of mothers endorsed 0), this variable was dichotomized to 0 (*never dated*) versus 1 (*dated*). Mothers also completed two items about discussing sexual health with their own parents that were adapted from Byers et al.'s (2008) questions on the quality of parents' sexual communication with their children (instead of reporting on their behavior with their children, parents reported on their parents' behavior with them). First, they rated the quality of the sexual health education provided to them by their parents on a 5-point scale (1 = *poor* to 5 = *excellent*). Next, they indicated how often their parents encouraged them to ask questions about sexual health topics on a 5-point scale (1 = *not at all* to 5 = *very often*). For both items, participants who indicated that their parents had not talked to them about sexual health were assigned a score of 0. The two items were summed such that scores ranged from 0 to 10, with higher scores indicating higher quality communication with their own parents. The internal consistency of the scale was .90.

RESULTS

Identifying Mothers as Active, Intender, and Nonintender Communicators

Mothers were assigned to one of three groups based on their scores on the measure of parent-adolescent sexual communication and

the measure of parents' sexual communication intentions. Mothers who indicated that, on average, they had talked to their adolescent *in some detail* or *in a lot of detail* (mean score of 3.0 or higher on parent-adolescent sexual communication) were placed in the *active group*. Of the remaining mothers (i.e., those who had a mean score of less than 3.0 on parent-adolescent sexual communication), mothers who reported that, on average, they were *likely* or *very likely* to discuss sexual health topics with their adolescent in the next 6 months (mean score of 4.0 or higher on parents' sexual communication intentions) were placed in the *intender group*; mothers who were *less than likely* to do so (mean score of less than 4.0 on parents' sexual communication intentions) were placed in the *nonintender group*. Overall, 29% of mothers were in the active group, 22% were in the intender group, and 49% were in the nonintender group.

Characteristics Distinguishing Active, Intender, and Nonintender Communicators

We used discriminant function analysis (DFA) to assess whether mothers' reports of specific parent and adolescent characteristics (i.e., mother's own sexual communication with her parents, adolescent gender, adolescent grade, and adolescent dating history) and their skills (i.e., knowledge about and comfort discussing sexual health topics), attitudes (i.e., outcome expectancies), perceptions of social norms, and self-efficacy differed for the three groups. Because of the large sample size, we adopted a more conservative α ($p < .01$) to interpret the results.

The DFA yielded two significant discriminant functions: Function 1: $Rc = .57$, $\chi^2(18, 573) = 246.60$, $p < .001$, and Function 2: $Rc = .20$, $\chi^2(8, 573) = 23.06$, $p = .003$. Overall, 61% of the grouped cases were correctly classified. This included 65% in the nonintender group, 45% in the intender group, and 64% in the active group. The group centroids indicated that Function 1 separated the nonintender group (group centroid = $-.674$) from the active group (group centroid = $.914$), with the intender group falling between these two groups (group centroid = $.295$). As predicted, higher scores on knowledge, comfort, attitudes, perceptions of social norms, and self-efficacy for sexual health discussions were correlated with this function. The parent and adolescent characteristics were not

associated with this function (see Table 1). Analyses of variance (ANOVAs) comparing the three groups were significant for all five of the correlates. Comparisons using Tukey's Honestly Significant Difference (HSD) test showed that, as predicted, for knowledge, comfort, attitudes, and self-efficacy, the active group scored significantly higher than the intender group, which scored significantly higher than the nonintender group. For perceptions of social norms, the nonintender group scored significantly lower than the other two groups; the difference between the intender group and the active group did not reach significance, although the means were in the expected order.

Function 2 separated the intender group (group centroid = $-.369$) from the nonintender group (group centroid = $.066$) and the active group (group centroid = $.175$). After controlling for Function 1, mothers' perceptions that important others were less approving of them communicating about sexuality with their adolescent, and having an adolescent daughter, an adolescent in Grade 7 (vs. Grade 6), and an adolescent who had started dating differentiated the intender group from the other two groups (see Table 1). Follow-up ANOVAs were significant for adolescent grade and dating history. Mothers in the intender group were more likely than mothers in the active group to have an adolescent in Grade 6, and mothers in the nonintender group and the intender group were less likely than mothers in the active group to report that their adolescent had started dating.

Variation in Mothers' Sexual Communication Intentions by Sexual Health Topic

Next we examined whether mothers moved in and out of the three groups, and particularly the intender and nonintender groups, depending on the sexual health topic. The percentage of mothers in each group for each of 12 sexual health topics is presented in Table 2, which indicates considerable variability in the percentage of mothers in each group as a function of the sexual health topic. A majority of mothers were in the active group for six topics: correct names for genitals; puberty; reproduction and birth; abstinence; sexual coercion; and sex in the media and on the Internet. Between one third and one half of mothers fell in the active group for the remaining topics except masturbation, for which only 22% of mothers

Table 1. Summary of the Discriminant Function Analysis Comparing Mothers in the Active, Intender, and Nonintender Groups

Variables			Mothers			F(2, 570)
	Function 1	Function 2	Nonintender Group (n = 280)	Intender Group (n = 128)	Active Group (n = 165)	
	r	r	M (SD)	M (SD)	M (SD)	
Mothers' own sexual communication	.214	.232	2.98 (2.09)	3.23 (2.23)	3.82 (2.63)	N/A
Adolescent gender	-.011	-.362	0.49 (0.50)	0.56 (0.50)	0.46 (0.50)	1.57
Adolescent grade	.104	.567	6.44 (0.50)	6.37 _a (0.48)	6.55 _b (0.50)	5.30**
Adolescent dating history	.193	.361	1.34 _c (0.47)	1.35 _c (0.47)	1.50 _d (0.50)	6.66***
Mothers' knowledge	.506	.034	50.35 _e (8.47)	53.73 _f (6.57)	56.09 _g (4.47)	35.41***
Mothers' comfort	.783	-.099	45.62 _h (10.17)	52.56 _i (7.62)	56.28 _j (6.27)	84.80***
Mothers' attitudes	.720	.228	47.38 _k (5.94)	50.8 _l (5.68)	54.19 _m (5.73)	72.22***
Mothers' perceptions of social norms	.395	-.325	3.86 _n (0.67)	4.19 _o (0.59)	4.24 _o (0.63)	22.78***
Mothers' self-efficacy	.822	-.233	47.15 _p (8.59)	53.57 _q (5.76)	56.29 _r (5.13)	93.94***

Note. Structure coefficients (correlations) greater than .30 were interpreted and are in bold. Means in the same row with different subscripts differ at $p < .01$.

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

Table 2. Percentage of Mothers in the Active, Intender, and Nonintender Groups by Topic

Sexual Health Topic	Nonintender Group (%)	Intender Group (%)	Active Group (%)
Correct names for genitals	17	17	66
Puberty	13	21	66
Reproduction & birth	19	21	60
Birth control & safer sex	35	28	38
STDs/STIs	33	29	38
Abstinence	22	24	54
Sexual coercion	18	27	56
Sexual behavior	21	33	47
Masturbation	53	25	22
Homosexuality	30	23	48
Sex in the media and on the Internet	19	23	58
Sexual decision making	27	31	42

Note. $N = 573$.

were in the active group. Turning to the inactive mothers (i.e., those who had not discussed the topic in any detail), for many topics fairly similar percentages of mothers were in the intender and the nonintender groups. More of the inactive mothers, however, were in the intender group than the nonintender group for puberty, sexual coercion, and sexual behavior. Conversely, more of the inactive mothers were in the nonintender group than the intender group for birth control and safer sex, masturbation, and homosexuality.

DISCUSSION

This study contributes to previous evaluations of parents who have and have not communicated in detail about sexual health topics with their young adolescents by examining not only mothers' past behavior but also their intentions of having these discussions. We distinguished three groups of Canadian mothers: active, intender, and nonintender communicators. Mothers were placed in the active group if they had, on average, discussed sexual health with their adolescent *in some detail*. In keeping with previous research

(Jaccard et al., 1998; Jordan et al., 2000; Weaver et al., 2002), we found that only about a quarter of the mothers had engaged in in-depth sexual communication with their son or daughter. Given that parents typically report more extensive parent-adolescent sexual communication than their adolescents do (Feldman & Rosenthal, 2000; Jaccard et al., 1998), this result is particularly troubling because it likely represents a best-case scenario.

We also extended the literature by showing that less than half of the inactive mothers *intended* to talk to their young adolescent about sexual health in the next 6 months. On the one hand, this finding seems surprising in a Canadian climate in which most parents agree that sexual health education about a range of topics should start by middle school (e.g., Weaver et al., 2002). On the other hand, it may be that the mothers in the nonintender group believed that their adolescent should learn about sexuality in middle school, just not yet, perhaps because their children were less likely to be dating. At least some parents use the occurrence of specific changes in their child's social, emotional, and/or physical development to evoke a shift in their parenting behavior (Spring, Rosen, & Matheson, 2002). Alternatively, it may be that the mothers in the nonintender group were not confident in their ability to have *in-depth* discussions with their adolescent. Our measures assessed knowledge, comfort, and self-efficacy with respect to any communication about the sexual health topics, not in-depth conversations specifically. Indeed, the mothers in the intender group reported, on average, that they had discussed the sexual health topics *in general terms only*. Longitudinal research is needed to assess the extent to which inactive *nonintender* parents form intentions to talk to their adolescent about sexual health during middle school and the extent to which inactive *intender* parents enact their intentions during the middle school or high school years.

We also identified some factors that differentiated the two groups of inactive mothers from each other and from active mothers. As predicted, variables that are proximal influences on intentions in the IMBP model separated the three groups. Consistent with past research with parents, mothers in the active group reported more knowledge about sexuality, more comfort discussing sexual health, more positive attitudes toward parent-adolescent sexual communication, and greater self-efficacy than both groups

of inactive mothers (Byers et al., 2008; DiIorio et al., 2000, 2001; Guilamo-Ramos et al., 2008; Jaccard et al., 2000; Jerman & Constantine, 2010). Active group mothers were also more positive in their perceptions of social norms than were mothers in the nonintender group. Mothers in the intender group, however, were higher than mothers in the nonintender group on all five of these variables. This pattern suggests that these factors are not only important for sexual communication *behavior*, they also are important for sexual communication *intentions*, at least for mothers. In keeping with IMBP principles, research is now needed to directly test the relative contributions of these factors to intentions and behavior. Longitudinal studies are also needed to assess whether changes in these factors are linked to changes in intentions and behavior.

Specific exogenous variables, which are seen as more distal to the development of intentions in the IMBP model, were less effective at differentiating our three groups. Contrary to our predictions, mothers' own history of parent-child sexual communication did not load on either discriminant function. Similarly, we found only limited support for our expectation that adolescent characteristics would be related to mothers' sexual communication intentions. Mean comparisons showed that mothers of adolescents who were in Grade 7 and who had been dating were more likely to be in the active group, but these variables did not differentiate the two groups of inactive mothers. Nonetheless, after controlling for the first canonical function, we identified a group of mothers of daughters in Grade 7 with a history of dating who did not perceive social support for discussing sexual health with their daughter. These mothers tended to have formed intentions to talk to their daughter about sexual health but had not enacted these intentions; that is, they were more likely to be in the intender group than in either the nonintender group or the active group. It is likely that the development of these mothers' intentions was associated with their daughter's emerging romantic involvement. Their perception that important others would not support these discussions may, however, have prevented them from enacting their intentions. Similarly, Beckett et al. (2011) found that many parents do not talk about important sexual health topics prior to their child's sexual involvement. Qualitative research may be useful to develop a

more nuanced understanding of how proximal and distal factors interact to deter some parents from forming intentions to discuss sexual health and other parents from enacting them.

Implications for Interventions

Our results have multiple implications for facilitating mother-adolescent sexual communication—a goal that mothers in Canada and elsewhere identify for themselves (Macbeth et al., 2009; McKay, 1996; Weaver et al., 2002; Wilson et al., 2010). First, the results of the DFA suggest that all inactive mothers, regardless of the characteristics of the parent or the adolescent, would benefit from interventions that enhance knowledge, comfort, self-efficacy, and outcome expectations related to communicating with their adolescent about sexual health. Such interventions likely would facilitate mothers in the non-intender group forming intentions to engage in sexual discussions with their adolescent and thus moving into the intender group; they likely also would facilitate mothers in the intender group enacting their intentions and moving into the active group. Such interventions could include providing parents with written materials that review when and how to discuss sexual health topics with their adolescent; DVDs, access to websites, or both that model how to raise sexual topics and provide examples of what parents might say; and interactive workshops. Indeed, Weaver et al. found that parents of elementary and middle school students expressed a need for support from schools to provide sexual health education at home. The level and relative emphasis of information provided to parents should, however, reflect parents' current intentions and past behavior.

Second, given that most mothers did not intend to talk about sexual health topics with their young adolescent in the next 6 months, interventions need to enhance the motivation of mothers in the nonintender group to have these discussions. Addressing motivation should include providing information about social norms, as mothers in the nonintender group perceived the least social support for parent-adolescent sexual communication. This recommendation is in keeping with the Information-Motivation-Behavioral Skills Model (Fisher & Fisher, 1998). That is, before mothers are likely to form intentions to engage

in in-depth discussions about a range of sexual health topics with their young adolescent, they will need to be convinced that there is an immediate need (and not just a vague future need) to prepare their adolescents for changes and experiences that are coming.

Third, our second discriminant function suggests that, for at least some mothers in the intender group, changing their perceptions of social norms may be particularly important for helping them enact their intentions. We identified a group of mothers with intentions to talk about sexual health to their more socially advanced daughters (Grade 7 rather than Grade 6 with at least some romantic involvement) but who had not done so, perhaps because they perceived that significant others would not approve of these discussions. As with the mothers in the nonintender group, these mothers may be more likely to enact their intentions if they were aware that there is widespread support among parents for providing sexual health information to adolescents (Macbeth et al., 2009; Weaver et al., 2002).

Fourth, our findings suggest that mothers require more help talking about some topics than others. In keeping with previous research (Byers et al., 2008; Rosenthal & Feldman, 1999), mothers were particularly likely to have engaged in discussions on topics relevant to their adolescent's developmental level including puberty, abstinence, sexual coercion, and sexuality in the media and on the Internet. Fewer mothers, however, had discussed topics that would prepare their adolescent for future sexual experiences such as birth control and safer sex, STDs/STIs, and sexual decision making. The topic that appears to give mothers the most difficulty is masturbation. Of all the topics assessed, the smallest percentage of mothers had discussed masturbation with their adolescent, and the largest percentage of inactive mothers did not intend to discuss this topic. Yet, many young adolescents experiment with masturbation (Bancroft, Herbenick, & Reynolds, 2003). Thus, interventions need to provide mothers with information on how to discuss sensitive topics, particularly masturbation. Building skills and self-efficacy related to specific topics is, however, most likely to enhance the sexual communication of mothers who are already discussing other, less difficult, topics, that is, mothers in the active group.

Limitations and Conclusion

These results must be interpreted in light of some limitations of the study. First, as is typical for this type of research, many more mothers than fathers responded to our survey. As a result, we were not able to include the responses from fathers in the analyses. Future research needs to examine the distribution of fathers across the three communicator groups and identify whether the factors relevant to mothers differentiate active, intender, and nonintender fathers. Studies with couples could also examine how parents in two-parent families negotiate this parenting activity. Second, the extent to which our results generalize to mothers with a young adolescent within and outside Canada is not known. Given that sexual attitudes among Anglophone Canadians tend to be similar across provinces (Hyde, Delamater, & Byers, 2009), our sample of English-speaking mothers likely represent the majority culture in Canada. Our results, however, may have been affected by volunteer bias, given that only 33% of eligible parents participated. That is, the mothers who chose not to complete the survey may have more negative attitudes toward sexual health education, be less comfortable with this aspect of parenting, or both (Wiederman, 1999). In addition, given that the mothers in this study were drawn from a small province with limited ethnic diversity and few immigrants, the results may not generalize to mothers from ethnocultural minorities. They also may not generalize to mothers living in countries other than Canada because sexuality education practices and views about parents' role in sexual health education vary from one country to another (Sauerteig & Davidson, 2009).

In conclusion, the results of this study point to the importance of assessing parents' intentions to have sexual health communications with their young adolescents, not just their behavior. Separating inactive parents who intend or do not intend to have these types of discussions provides a better understanding of the complexities of parent-adolescent sexual communication. This understanding is essential for informing future research and the development and delivery of programs to enhance such communication in families.

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APPENDIX

EXPECTED OUTCOMES OF PARENT-CHILD
SEXUAL COMMUNICATION SCALE

Please indicate the extent to which you agree or disagree with each of the following statements.^a

- If I talked with my child about sexual health topics . . .
1. I would feel like a responsible person.
 2. My child would think that I do not trust him or her.*
 3. I would feel that I did the right thing.
 4. My child would be more likely to make good decisions about sex.
 5. My child would not want to hear what I have to say.*
 6. I would be embarrassed.*
 7. My child would do what s/he wants no matter what I say.*
 8. My child would be embarrassed.*
 9. My child would not take me seriously.*
 10. I would find it difficult to explain things.*
 11. My child would be less likely to have sexual intercourse as a young teen.
 12. My child would feel closer to me.
 13. It would encourage my child to experiment with sex.*

^aEach item is rated on a 5-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5).

*Reverse coded items.