Parent-Adolescent Relationships, Sexuality-Related Communication and Sexual Identity Development

by

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ABSTRACT

PARENT-ADOLESCENT RELATIONSHIPS, SEXUALITY-RELATED COMMUNICATION AND SEXUAL IDENTITY DEVELOPMENT

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The purpose of this study was to investigate sexuality-related topics discussed and not discussed with mothers, the perceived importance placed on sexuality-related communication within families, and the influences of parent-adolescent attachment quality and sexuality-related communication on sexual identity development using a sample of female university students. One hundred and eighty six participants completed an online survey consisting of questionnaires assessing their attachment relationship with their mothers, sexuality-related topic communication, perceptions of family sex communication, and sexual identity development. Sexuality-related topics falling within the development and societal concerns and sexual safety domains were more likely to be discussed than topics within the experience of sex or solitary sex domains. Family sexuality-related communication was perceived as important and valuable. Overall, results of this study indicated that attachment quality was negatively associated with sexual identity exploration, frequency of sexuality-related discussion was related to greater identity commitment scores, and orientation toward family sex communication was associated with greater identity synthesis/integration.
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Introduction

Adolescence and Identity Development

The stage of adolescence is a marked and critical time for identity development; between the ages of 12 and 20, youth are faced with issues surrounding who they are, their place in the world, and where they want to go in the future (Erikson, 1968). There are a multitude of directions an adolescent can choose to explore, in all domains of their lives, which eventually will impact the formation of their identity. The experience of exploring different paths in life aids in the resolution of the “who am I” question. Things that make up one’s sense of self – for example, occupations, friendships, family, values, religion and attitudes – are components which comprise an integrated global identity. A sexual identity, or how one see’s oneself as a sexual being, is another important element or facet in the identity of adolescents to be constructed (Erikson, 1968).

According to Erikson’s (1968) theory of psychosocial development, successful identity development during adolescence, or the resolution of the identity crisis, is achieved when there is a clear, coherent, and stable sense of identity. Whether successful or unsuccessful in stable identity achievement, the manner in which the period of adolescence is resolved has significant implications for the subsequent developmental stages. The stage following identity development in adolescence involves the establishment of intimate relationships, and as Erikson (1968) states, “it is only when identity formation is well on its way that true intimacy… is possible.” Sexual intimacy is certainly an important consideration in this later developmental period and develops out of sexual identity formed in adolescence. Indeed, Erikson (1968) claims that the development of true and mutual psychosocial intimacy with others follows sexual intimacies and that adolescents who do not resolve their identity crisis will either avoid interpersonal intimacy or
pursue “promiscuous” intimacy. More generally, one’s capacity for interpersonal intimacy in adult relationships, or the ability to be close with another, will benefit from a stable relational identity.

Adolescents do not develop their identities uniformly as there are significant individual differences in how identity formation can proceed. As Mikulincer and Shaver (2007) discuss, not every adolescent is willing or able to pursue the daunting task of actively searching for their individual identities. Some adolescents may not feel the immediate need to develop a personal identity and some may adopt values and beliefs of their culture and family as their own. Other adolescents can become anxious and confused during their search for their personal identity and may experience an inability to commit to an identity for themselves (Mikulincer & Shaver, 2007). Regardless of the individual differences pertaining to the identity development, the formation of an identity, or lack thereof, is still a central task of adolescents.

Marcia (1966) described identity development across the two dimensions of exploration and commitment, leading to the creation of four potential identity statuses. An identity diffusion status is used to describe one who has not engaged in any exploration and also has not committed to any identity, while identity foreclosure describes one who has committed to an identity with little to no exploration. An individual receives the status of being in moratorium when openly and actively exploring various alternative potential identities while not fully committing to any one identity at the present time. Finally, identity achievement is the status of an individual who has already explored various potential identities and has committed to an identity after exploring the options available to them. In Marcia’s (1966) model, exploration, particularly during adolescence, is a critical component of the development and formation of a stable identity. Marcia’s model of identity development statuses has only recently been applied to sexual
identity research (e.g., Worthington, Savoy, Dillon, & Vernaglia, 2002). Indeed, Marcia (1983) himself recognized and acknowledged the necessity of exploration for the fulfillment of the new sexual needs arising during adolescence.

**Sexual identity.** Sexual identity makes up only a portion of one’s complete global identity which integrates all the various elements in the lives of individuals. In comparison to other elements of identity, sexual identity has been relatively under-investigated (Archer & Grey, 2009). The literature that does exist on sexual identity has traditionally been narrowly focused. Sexual identity theory and research has most readily concentrated on sexual orientation and is most often thought of only in those terms (Archer & Grey, 2009; Worthington et al., 2002). Despite sexual identity often being used synonymously to refer to sexual orientation, there is an important distinction as sexual identity is multifaceted and multidimensional with sexual orientation but one dimension.

In acknowledging sexual identity in broader terms, Worthington et al. (2002) developed a model of sexual identity which incorporated multiple dimensions. According to the model, sexual identity is comprised of: *perceived sexual needs* (“an internal, subjective experience of instinct, desire, appetite, biological necessity, impulses, interest, and/or libido with respect to sex”), *preferred sexual activities* (“any behaviour that a person might engage in relating to or based on sexual attraction, sexual arousal, sexual gratification, or reproduction”), *preferred characteristics of sexual partners* (“any physical, emotional, intellectual, interpersonal, economic, spiritual, or other attributes that might be preferred in a potential or current sexual partner”), *sexual values* (“moral evaluations, judgments, and/or standards about what is appropriate, acceptable, desirable, and innate sexual behaviour”), *recognition and identification of sexual orientation* (“one’s personal self-definition as any number of sexual orientation...
identities”), and preferred modes of sexual expression (“any form of communication [verbal or nonverbal] or direct and indirect signals that a person might use to convey her or his sexuality”). Exploration and attention is required in each dimension of sexual identity for it to develop.

Though it is generally accepted that identity development during adolescence, in all arenas, is a central task, the idea of a multifaceted sexual identity is relatively new in the literature. As such, knowledge regarding how each dimension develops and integrates into a complete sexual identity is scant. Although identity in itself is a complex construct to develop, sexual identity as a component of this global identity is complex as well.

Parents’ Role in Identity Development and as Sexual Socializers

Parents are considered to play a vitally important role in assisting adolescents to develop their independent identities. Parents are the primary socializers of their children with profound influence over a variety of their children’s beliefs and behaviours (Moore & Rosenthal, 2006). Specific to identity development, and following Marcia’s (1966) idea of exploration as critical to healthy identity formation, it can be argued that parents are important models encouraging the exploration of possible identities throughout adolescence.

Attachment and identity. A parent’s role in identity development can be looked at from an attachment perspective. Attachment Theory (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969, 1988; Cassidy & Shaver, 2008) provides a means though which one can look at parental facilitation of exploration, given a secure attachment base, as it has been suggested that secure attachment with parents should specifically promote identity exploration and formation during adolescence (Marcia, 1983; Samuolis, Layburn, & Schiaffino, 2001). Identity researchers have found a wide variety of results using parental attachment as a determinant of identity status. Samuolis et al. (2001) reported that female first year students, ages 17-20, attending an American
university had higher levels of exploration and commitment than males, and that female identity development was related to the parental attachment relationship, particularly attachment to the mother. There were no significant relationships between male identity development and parental attachment in this study. While Samuolis et al (2001) used a more global self-report measure of identity which assessed occupation, religion, politics, values, family, friends, dating and sex roles as domains for a global identity status, Vignoli, Croity-Belz, Chapeland, deFillipis, and Garcia (2005) looked specifically at the role of attachment on one particular identity domain, career exploration. A secure attachment to parents, both mother and father, as reported by the adolescent was positively related to career exploration for French female students in their last year of high school, but not for males (Vignoli et al., 2005). The results of these two studies, both obtained using hierarchical regression analyses of adolescent self-reported data, suggest that female adolescents are more likely to be influenced by their parental attachment during identity exploration in various domains, both on a global and domain specific scale. However, Lapsley, Rice, and FitzGerald (1990) found that attachment to parents significantly predicted personal identity and social identity in first year college students, average age 18, and upper year college students, average age 20, for both males and females. The sample used in this study consisted solely of students attending a private, mostly upper middle class, Catholic university in the Midwestern United States with selective admission; arguably, this sample may not be as representative of students, and their relationships with their parents, attending more public institutions. Similarly, Benson, Harris, and Rogers (1992) found that identity achievement was related to attachment to mother, but not attachment to father, and attachment was related to lower moratorium and lower diffusion for both males and females in late adolescence.

Adolescents who are securely attached are more confident in their exploration of
alternative identities, and feel respected and accepted even if they may explore outside of their familial or cultural beliefs and values (Mikulincer & Shaver, 2007). A secure attachment is thought to make commitment to an identity easier (Bowlby, 1969; Marcia, 1983) as the adolescent is not made to feel shame or guilt for exploring and accepting an identity which may not necessarily parallel what their parents or others have expected of them (Mikulincer & Shaver, 2007).

**Parenting and identity.** Other parental and familial characteristics, aside from attachment, have an influence over exploration and commitment during the process of identity formation in adolescence. A neglectful parenting style endorsed by parents was found to be negatively related to career exploration in girls (Vignoli et al., 2005). As well, over-involvement of mothers with their daughters, a means of boundary dissolution in the relationship, resulted in less identity exploration in the dating domain and a tendency for the adolescent daughters to commit without exploration, or foreclose, in the career and dating domains (Fullinwider-Bush & Jacobvitz, 1993). However, in families with high degrees of closeness, but not over-involvement, and in families where autonomy was encouraged, young women showed high levels of exploration in the dating and friendship identity domains (Fullinwider-Bush & Jacobvitz, 1993).

**Parents and sexual socialization.** Much of the research conducted in the area of identity development and parent-adolescent relationships has focused on the occupation, religion, politics, values, family, friends, dating and sex role domains (e.g. Fullinwider-Bush & Jacobvitz, 1993; Samuolis et al., 2001; Vignoli et al., 2005); very little is known regarding parent-adolescent relational factors in the formation of sexual identity specifically. A positive sexual identity is part of the multifaceted identity adolescents can be struggling to establish, and as with all domains of identity, parents play a role in encouraging exploration and development. Parents
are one of the earliest socializing agents for positive sexual development (Lefkowitz & Stoppa, 2006), and are often regarded as the most important and powerful agents in sexual socialization, the primary sexuality educators, and the shapers of attitudes in the lives of adolescents (DiLorio, Pluhar, & Belcher, 2003). Through socialization, parents prepare adolescents for the responsibilities and issues of adulthood. Encouraging identity development must be considered as part of the process of socialization. Jaccard, Dodge, and Dittus (2002) argue that the role of parents as sexuality educators allows for them to discuss sexuality in ways which are consistent with their own values. Parental belief systems influence an adolescent’s belief system, and in order to understand the process of sexual socialization one must understand parental beliefs regarding sexuality. Further, the level of comfort parents have regarding sexuality will likely influence their ability to socialize their adolescents in the realm of sexuality (Lefkowitz & Stoppa, 2006). Communication between parents and adolescents is one method through which socialization can occur. As pointed out in Jerman and Constantine (2010), communication is the process through which parents can convey ideas, values, beliefs, expectations, information, and knowledge.

Direct discussions between parents and adolescence related to sex and sexuality may be only one means through which adolescents are socialized by parents in the sexual realm; indirect influences are important considerations as well (Lefkowitz & Stoppa, 2006; Moore & Rosenthal, 2006). Modeling of sexuality by parents is likely to play a role in sexual socialization – parental displays of affection in their committed relationships may indirectly model appropriate behaviors and teach adolescents about some aspects of sexuality without any direct communication (Lefkowitz & Stoppa, 2006; Nolin & Peterson, 1992). The potential for parents to encourage identity development and exploration in sexuality is abundant as direct (for example,
communicative) and indirect (for example, the use of modeling or implicit messages in communication) approaches are available.

While the role of parents in sexual identity development and sexual socialization is evident, Chapman and Werner-Wilson (2008) have recently reported that when adolescents rated higher parental influence in their lives, their attitudes toward sex became more negative (positive attitudes were defined as “higher degrees of comfort with thinking and talking about sex, and disagreement with statements such as ‘sex is dirty and shouldn’t be talked about’ and ‘sex only brings trouble to people’”). This report suggests that something is occurring in the dynamic of the parent-adolescent relationship specifically during the sexual socialization process that is having a negative effect on adolescent attitudes, and arguably their sexual identities as attitudes about sex are a component of sexual identity (Worthington et al., 2002). Sexual attitudes are not only influenced by the degree of parental influence. Somers and Paulson (2000) reported that less maternal communication about sexuality was related to less sexual knowledge and more conservative attitudes, however, DiLorio, Kelly, and Hockenberry (1999) found that as frequency of sexuality-related communication increased, conservative attitudes were more likely to develop.

**Parent-Adolescent Relationships and Communication**

Adolescence is a stage in the life cycle which is a unique period for the parent-child relationship. The relationship between parents and adolescents can change quite significantly as adolescents shift and transform into more peer-oriented, independent, and autonomous decision-makers, leaving parents to relinquish control over their adolescents’ lives. Larson, Richards, Moneta, Holmbeck and Duckett (1996) found that the amount of time spent with the family decreased drastically from early through to late adolescence, from fifth through twelfth grade. In
early adolescence, this decline in overall time spent together was related to the increasing amount of time spent alone at home, and in later adolescence was related to spending more time away from home with peers. However, despite spending increasing amounts of time away from home, Larson et al. (1996) found that the amount of time spent communicating with the family members, especially with mothers, did not decrease across early through late adolescence. There is, though, a new issue related to the increased time spent apart and communication patterns – parents are not able to directly supervise or monitor their adolescent’s activities and thus must rely on their adolescents to communicate information and disclose what they are doing, where they are, and with whom (Kerr & Stattin, 2000; Stattin & Kerr, 2000). Further, parents must depend on the strength and conditions of the relationship with their adolescents as factors determining if, when, and what adolescents will choose to disclose and communicate. Voluntary disclosure becomes an increasingly important communicative endeavor in the parent-adolescent relationship. Disclosure to parents on the part of adolescents is often recognized as telling or being willing to tell mothers or fathers something, without them asking or probing for the information (Smetana, Metzger, Gettman, Campione-Barr, 2006). Communication, on the other hand, is more of a process through which ideas and thoughts are conveyed from one individual to another, with disclosure being a distinct practice in communication.

**Social domain theory.** There are some areas in the adolescent’s life where parental input and guidance has been regarded as legitimate and other areas where parental input and guidance is seen as unacceptable from the adolescent’s perspective; this is described through the Social Domain Theory (Smetana & Asquith, 1994). The Social Domain Theory includes five domains: conventional, moral, personal, prudential, and multifaceted. As defined in Smetana and Metzger (2008), the *conventional* domain is described as the area of social norms and expectations of
appropriate behaviour; issues related to chores and manners, for example, fall into this domain. The moral domain surrounds issues involving others’ welfare, trust, and fairness, and which generally deal with harmful consequences for other individuals (for example, stealing, lying, and breaking promises). The personal domain encompasses the more private aspects of life including personal preferences or choices of friends and activities, and privacy; the personal domain also involves issues which do not have any negative consequences for oneself (Smetana & Metzger, 2008), for example, watching television, choice of music, and spending money. Issues which do include safety, health, and harm to oneself (for example, smoking cigarettes and drinking alcohol) are defined as encompassing the prudential domain. The final domain of Social Domain Theory deals with multifaceted issues which overlap between domains – usually an overlap between personal and conventional or prudential issues – including if and who adolescents are dating, cleaning one’s room, and physical appearance (Smetana & Metzger, 2008).

Adolescents and their parents have frequently been asked to report on the legitimacy of parental authority across the various domains. American adolescents in ninth and twelfth grades generally agreed that parents should maintain authority or jurisdiction over moral, conventional, and prudential domains; adolescents rejected parental authority over multifaceted and personal issues as they claimed jurisdiction over these domains (Smetana et al., 2006). This result of the legitimacy of parental authority over domains is generally consistent with previous research done with sixth, eighth and tenth graders (Smetana & Asquith, 1994). Smetana et al. (2006) report no significant age differences between the ninth and twelfth graders in their ratings of legitimate parental authority for any domain, however, parents of the ninth graders claimed parental authority as more legitimate for multifaceted, moral, conventional and personal issues than the parents of twelfth graders. Smetana and Asquith (1994), also found a developmental trajectory
regarding legitimacy of parental authority – families with younger adolescents, in grades six and eight, viewed personal issues as more subject to parental jurisdiction than families with an older adolescent in tenth grade. It seems as though as adolescents get older, particularly after ninth grade, parents relinquish their ideas of parental jurisdiction of personal issues, allowing adolescents to take over the personal domain.

Legitimacy of parental authority in prudential and personal domains could predict obligations to disclose prudential and personal activities to parents. Parents and adolescents both viewed adolescents as having more of an obligation to disclose prudential issues to parents and having the least obligation to disclose personal issues (Smetana et al., 2006). However, parents consistently viewed themselves as maintaining more authority or jurisdiction over the domains, and adolescents as having significantly more of an obligation to disclose, than did adolescent reports (Smetana et al., 2006).

Social Domain Theory has also been used in research exploring communication between parents and adolescents and disclosure. Smetana, Villalobos, Tasopoulos-Chan, Gettman, and Campion-Barr (2009) investigated the relationships between voluntary disclosure, disclosure strategies, and justifications for non-disclosure for prudential, peer-multifaceted, multifaceted, and personal activities in early, 7th grade, and middle, 10th grade, adolescents. Voluntary disclosure to parents was greater for prudential and personal activities than it was for peer-multifaceted or multifaceted activities. It can be noted that spending time alone with one’s boyfriend or girlfriend and if or who the adolescent was dating were considered peer-multifaceted issues in the investigation – issues of interest to the current study. Reasons for non-disclosure of peer-multifaceted activities mostly related to parental disapproval or that the activities were private, and adolescents seemed to treat multifaceted issues as personal and cited
personal reasons for non-disclosure (Smetana et. al., 2009). Although this study, and others using Social Domain Theory, include issues related to adolescent sexuality, mainly the identity of a partner and the time spent alone with a partner, questions still remain regarding disclosure, obligations, and legitimacy of parental authority over other facets of adolescent sexuality which may be more challenging, such as engaging in sexual activities.

Recently, however, Daddis and Randolph (2010) began to answer some of the outstanding questions concerning adolescent disclosure of a wider array of sex and sexuality issues using a Social Domain framework. Daddis and Randolph (2010) posit that dating and romantic relationships during adolescence, a facet in sexual development, are areas in which both parents and adolescents claim jurisdiction; adolescents consider dating a personal issue in which their actions and behaviours regarding their romantic involvements are private matters, and thus under their jurisdiction, and parents consider dating to be under parental jurisdiction because they are concerned with the prudential aspects of romantic involvement (those which could potentially cause harm to the child). Dating and relationships are considered multifaceted issues since different aspects can be seen as personal or as prudential issues, falling under adolescent or parental authority respectively, making voluntary disclosure regarding dating and relationships a complex phenomenon. Issues concerning the identity or choice of partner (for example, kind of person he or she is, information about partners’ family) were voluntarily disclosed by adolescents to parents more so than either everyday expressions of the relationship (for example, holding hands, kissing, or activities the couple does together) or sex and supervision issues (being at partner’s house or in their bedroom unsupervised, or having sex; Daddis & Randolph, 2010). Daddis and Randolph (2010) found no significant difference between middle and late, ninth and twelfth grade in the sample respectively, adolescent
disclosure regarding the identity or choice of partner and everyday expressions, but did find that late adolescents disclose sex and supervision issues significantly less than middle adolescents. Further, when adolescents rated particular identity or choice issues and everyday expression issues as having the potential to inflict consequences to others (moving into the moral domain often regarded as legitimately falling under parental authority; Smetana et al., 2006), disclosure regarding these issues rose, but only for middle and not late adolescents. For sex and supervision issues, when there was a potential for harm to oneself (moving into the prudential domain, where adolescents often feel more obligated to disclose; Smetana et al., 2006), disclosure ratings increased (Daddis & Randolph, 2010). Daddis and Randolph (2010) also reported that trust in the parent-adolescent relationship was associated with adolescent voluntary disclosure to parents regarding the three dating and relationship factors (identity or choice of partner, everyday expressions of the relationship, and sex and supervision).

**Quality of the parent-adolescent relationship.** Parent-adolescent relational factors can certainly contribute to the continued communication and disclosure between parents and adolescents. It has been established that closeness in the parent-adolescent relationship is associated with communication which is more open (Joshi & Gutierrez, 2006), and that warm, trusting and supportive parent-adolescent relationships encourage voluntary disclosure of personal issues (Smetana & Metzger, 2008). Trust in the parent-adolescent relationship is consistently found to be important for voluntary disclosure (Daddis & Randolph, 2010; Kerr, Stattin, & Trost, 1999; Smetana et al., 2006), and it is strongly correlated with communication (Meeus, Oosterwegel, & Vollebergh, 2002). Parents’ positive or negative reactions to previous disclosures from children have been found to predict future disclosure or secrecy regarding their daily activities (Tilton-Weaver, Kerr, Pakalinskeine, Tokic, Salihovic, & Stattin, 2010). If a
parent reacts negatively to their adolescents’ self-disclosure regarding a particular issue, the adolescent may come to expect negative reactions to similar disclosures in the future which reduces the likelihood of future disclosure and leads to secret keeping. Further, the degree of attachment between a dyad can influence communication. A secure attachment fosters engagement in comfortable and open communication, while insecurity in the relationship can destabilize or come in the way of effective communication between a parent and adolescent (Mikulincer & Shaver, 2007).

Having a positive relationship and high quality communication for everyday issues is likely to be a prerequisite for genuine and comprehensive sexuality-related communications (Lefkowitz & Stoppa, 2006). Indeed, Jaccard, Dittus, and Gordon (2000) found that both adolescent and maternal reports of their overall relationship satisfaction predicted sexuality-related communication behaviours. Further, Rosenthal, Senserrick, and Feldman (2001) found that parents’ general communication styles were similar to parents’ communication style in discussing sexuality-related topics, and that sexuality-related discussions were more frequent when parents demonstrated positive and effective styles of communication in general and in sexuality communication. Having open communication patterns in general is related to more frequent and open communication regarding sexuality-related topics (Fisher, 1990; Rosenthal et al., 2001). How the quality of the parent-adolescent relationship and the communication taking place in the context of this relationship influences sexual identity development has yet to be seen.

**Topic avoidance.** Not surprisingly, parents and adolescents engage in communicative topic avoidance across several areas. Relationship issues, negative life experiences, dating, friendship, sexuality, school and dangerous behaviours are topics often avoided in discussion (Guerrero & Affifi, 1995; Mazur & Ebesu Hubbard, 2004). Adolescents discuss the topics of
dating and sex with their parents less frequently than they do other topics (Youniss & Smollar, 1985). However, it is here argued that although particular topics are avoided by adolescents in conversations with parents, this does not necessarily mean the topics are not important to be discussed or that they are avoided because of a lack of importance. Topic avoidance is likely to occur for a variety of reasons.

As contended in Mazur and Ebesu Hubbard (2004), concealment of personal information can be accomplished through topic avoidance. Concealing, hiding, or avoiding certain topics of discussion may be necessary to evade conflict and disagreements between parents and adolescents regarding the experimentation or exploration of new identities. When adolescents are approached by parents with particular topics they would rather avoid discussing, adolescents respond in a variety of ways. Of the 12 recognized response strategies used by adolescents faced with topics they would rather avoid, deception was the most frequent strategy used (Mazur & Ebesu Hubbard, 2004). Deception allows the adolescent to maintain an appearance of being open to discussing private information, yet they do not have to disclose to parents what they do not want their parents to know. The remaining eleven response categories used by adolescents when they were discussing topics with their parents they would have rather avoided included: aggression, terminating the conversation, discussing the topic, indirect rejection, assertiveness, reassurance, direct rejection, listening to parent, disinterest, discomfort, and crying.

**Parent-Adolescent Sexuality-Related Communication**

Parent-adolescent communication regarding sex and sexuality is one essential component in the socialization of adolescents in the sexual realm and may encourage sexual identity exploration. Although mothers believe parents have an important role in providing sexuality-related information to their adolescents (Rosenthal, Feldman, & Edwards, 1998), there seem to
be many barriers and challenges in doing so. In a large statewide telephone interview survey of sexuality-related communication consisting of three closed ended questions and one open ended question conducted in the United States, 70 percent of parents reported experiencing some sexuality-related communication difficulties with their adolescents (Jerman & Constantine, 2010). Further, the occurrence of parent-adolescent sexuality-related communication averages between never and once for most topics (Rosenthal & Feldman, 1999).

In the research literature, mothers are frequently reported to communicate about sex and sexuality more often than fathers, thus occupying the role of the sexuality communicator in families, and adolescent girls receive more sexuality-related communication than boys (Heisler, 2005; Nolin & Peterson, 1992; Rosenthal & Feldman, 1999). This pattern, that mothers and daughters communicate more frequently, is quite consistently found in the literature as a general pattern of communication between adolescents and their parents (Daddis & Randolph, 2010; Ogle, Glasier, & Riley, 2008; Youniss & Smollar, 1985). Thus, mothers and their daughters likely have more to contribute to the literature regarding sexuality-related communication. Indeed, the majority of sexuality-related communication research includes mothers and daughters in samples, either simultaneously with fathers and sons in the sample, or as the sole participants; fathers are rarely included in samples without mothers, and sons have never been included without daughters (DiIorio et al., 2003).

Challenges. Despite mothers being the primary sexuality communicators in families, mothers of adolescents have reported specific communicative challenges. Using an African American sample of inner city adolescents, between the ages of 14 and 17, and their mothers, Jaccard et al. (2000) quantitatively investigated the reservations both mothers and their adolescents reported when describing their sexuality-related communication. The two most
prevalent communication-related reservations, as reported by mothers, were embarrassing the adolescent and being afraid that their adolescent might ask them something about which they do not know the answer. The adolescents’ top four reservations included being embarrassed about the topic, anxiety regarding their mothers asking too many personal questions, thinking their mothers may become suspicious, and the belief that they, the adolescent, already had enough knowledge regarding sex and sexuality (Jaccard et al., 2000). Similarly, Guilamo-Ramos, Jaccard, Dittus, and Collins (2008) found that less frequent communication between mothers and their adolescents about sex and sexuality was related to expectancies about lacking knowledge and explanatory skills, and embarrassment. Mothers also talked more to their adolescents about not having sex when they thought that talking about sex would not be difficult. The anticipation of these negative or undesirable outcomes is a barrier to communication, much like the description from Tilton-Weaver et al. (2010) where, more generally, parental negative reactions to adolescent disclosure (disclosure as the willingness to tell parents about activities away from home) encourage later secrecy.

Using open coding of responses from parents, the majority of which were mothers, to an open ended question regarding difficulties in communicating about sex and relationships, Jerman and Constantine (2010) identified nine categories of difficulties. The nine categories of difficulties included: difficulties related to embarrassment or discomfort, difficulties related to knowledge and self-efficacy, cultural and societal influences or issues, family and intergenerational influences or issues, general communication issues, difficulties related to parental influence or control issues, difficulties related to accepting one’s adolescent’s sexuality, issues related to age or development, and difficulties in talking about specific topics (Jerman & Constantine, 2010). This recent study, however, did not include the adolescent’s perspectives of
sexuality-related communication difficulties; the perspective of the individual to whom sexuality-related communication is meant to benefit in terms of development. Nonetheless, this research does highlight the barriers and challenges to communication of parents expected to effectively socialize their adolescents in the sexual realm.

In investigating challenges and difficulties, embarrassment is the most frequently cited reason for not engaging in sexuality-related discussions throughout the literature (DiLorio, et al., 2003; Elliott, 2010a; Jerman & Constantine, 2010; Ogle et al., 2008). Some specific sexuality-related topics are related to more discomfort than others (Nolin & Peterson, 1992). Some embarrassed or unprepared mothers report avoiding talking about sex and sexuality with their adolescents because of the belief the school education system would cover sexual education (Rosenthal et al., 1998), or, more generally, that their adolescents would receive the information someplace else (Jaccard et al., 2000).

**Patterns in sexuality-related communication.** Communication patterns between parents and adolescents can vary greatly, especially when discussing sexuality-related topics. Certain communicative styles and processes in sexuality communication have been identified, some of which are regarded as more effective than others. Thirty mothers were classified in the Rosenthal et al (1998) study by their perceptions of communication patterns and styles with their 16 year old adolescents. Using a qualitative approach with information gathered from the mothers during semi-structured interviews, five types of communicators emerged – avoidant, reactive, opportunistic, child-initiated, and mutually interactive – each of which varied in terms of who initiated and maintained communication, comfort level, frequency, context, and topics discussed and avoided. Avoidant communicators were identified when both mothers and adolescents avoided sexuality-related discussions, when mothers were uncomfortable, and when mothers
were waiting for their adolescent to initiate discussions. Further, avoidant communicators perceived adolescents to be unreceptive in engaging in the conversations, and had discussions very infrequently with a limited range of topics discussed. Reactive mothers typically initiated only one or two conversations covering few topics – and only when they perceived a pressing issue arising with their adolescent. Reactive mothers dominated conversations with their own opinions, were uncertain of their ability to communicate openly about sexuality-related issues, and were apprehensive about their adolescents’ typical unresponsiveness to communication. Mothers were classified as opportunistic when they were willing to discuss sexuality-related issues (although they did so infrequently) in settings where sexuality-related communication was not the focus of interaction and in the presence of other activities. In this case, mothers utilized certain occasions and events, such as watching television programs, to initiate sexuality-related discussions covering a broader array of topics, although still avoiding the most personal topics. The child-initiated communication style was assigned to mothers who were waiting for their adolescents to initiate discussions believing that when their adolescent was ready to engage in sexuality-related discussions, the conversations would be more rewarding. The child-initiated communication style assured mothers that adolescents would be receptive to information, but the mother had little control over the frequency and depth of conversations and risked having to deal with issues they were inadequately prepared for. A diversity of topics discussed between mother and adolescent was characteristic of this communication style. Finally, characteristics signifying a mutually interactive style of communication involved both mother and adolescent initiating sexuality-related discussions in a variety of contexts, and conversations which were comfortable, open, bidirectional, and which covered diverse topics (Rosenthal et al., 1998). Although these categorizations of communication styles of mothers are convenient, the sample in Rosenthal et al
(1998) consisted of Australian mothers and qualitative methods were used, both of which limit generalizability especially to a North American population.

Sexuality communication is likely not static and evolves across the duration of adolescence and into emerging adulthood. When investigating the nature of sexuality communication between mothers and their late adolescent daughters, all 19 years old, Coffelt (2010) indicated that all nine dyads interviewed reported sexuality communication as not currently challenging. However, some of the dyads in this sample reported that when the daughters were younger, in earlier phases of adolescence, sexuality-related communication was difficult. As adolescents get older and approach adulthood, there appears to be a shift from challenging communication to more open communication. The interpretation of results from Coffelt (2010) warrants caution as it has been acknowledged that recruitment for the study was difficult, therefore a sample effect could possibly explain results. Mother-daughter dyads willing to participate in the study may have had more experiences with sexuality-related communication with greater comfort. Considering sexuality-related communication is often deemed challenging, being jointly interviewed by a researcher regarding these experiences could be more invasive and less anonymous, thus unlikely to draw participants with challenging sexuality-related communication who are uncomfortable being interviewed regarding a sensitive topic. Nevertheless, a trajectory moving from difficult to open communication was reported. While Coffelt (2010) utilized a one-time joint interview asking parents and adolescents to retrospectively report sexuality-related communication from the past and current communication, Morgan, Thorne, and Zurbriggen (2010) used a longitudinal approach to track the changes in conversations between parents and late adolescence regarding sex and dating from the first to the fourth year of college. Adolescents completed questionnaires and were interviewed twice, in
their first and fourth year, to obtain their perceptions of the nature of their communication with parents. A movement from unilateral and restrictive communications regarding sex and dating to reciprocal and relationship focused conversations which were more open and comfortable was revealed using qualitative analysis from the interviews (Morgan et al., 2010). This further supports the idea of an evolution of parent-adolescent sexuality-related communication as the adolescent gets older, yet more quantitative methods investigating these changes are necessary to generalize the findings to broader populations.

A specific sexuality-related communication pattern reveals a sexual double standard among adolescent males and adolescent females. Restrictive sexual messages are more often communicated to adolescent daughters than sons, and positive sexual messages are more often communicated to adolescent sons than daughters (Morgan et. al., 2010). In recent years, this persistent pattern of a sexual double standard has been discussed in the sexuality development literature (DiIorio et al., 2003; Elliott, 2010b; Lefkowitz & Stoppa, 2006; Welles, 2005), even argued to be linked specifically with sexual identity development (Worthington et al., 2002).

Certain beliefs and attitudes parents and adolescents take into conversations can influence the nature of the communication. Religiosity, which can involve religious affiliation, frequency of religious attendance, spirituality, or following a set of prescribed beliefs (Worthington et al., 2002), has often been mentioned as a variable directing sexuality-related communication, frequency, and topics discussed (DiIorio et al., 2003; Jaccard et al., 2000; Schouten, van den Putte, Pasmans, & Meeuwesen, 2007). Religiosity is also discussed as having implications specifically for sexual identity development as certain sexual values and beliefs are transmitted, often through communication, according to religious traditions (Worthington et al., 2002). Beliefs and attitudes can also aid in overcoming challenges and difficulties when discussing sex
and sexuality. In a sample of high school students from the Netherlands, having more positive beliefs about talking with parents about sexuality-related topics (i.e. “it is important to me that I can talk about sexuality with my parents”) was related to more frequent sexuality-related communication for most sexual topics and more ease in communication with parents, especially for females (Schouten et al., 2007). Furthermore, students who identified as religious had lower belief scores about talking with parents about sexuality-related topics than non-religious students (Schouten et al., 2007). Mother-daughter dyads reported that when sex was treated as a natural topic it was easier to be open and comfortable to talk about it (Coffelt, 2010). Rosenthal et al (1998) also reported that some mothers regarded the naturalness of the topic as an important consideration when discussing sexuality with their adolescents. Directly and indirectly, parents can convey the message of sexuality as something natural by appearing to be more comfortable with their own sexuality (Lefkowitz & Stoppa, 2006).

**Sexuality-related topics.** If, or when, parents and adolescents engage in discussions related to sex and sexuality, some topics are more likely than others to be addressed (Heisler, 2005; Rosenthal et al., 1998; Rosenthal & Feldman, 1999). Using data obtained by surveying Australian 16 year olds, Rosenthal and Feldman (1999) were able to separate sexuality-related topics in four domains: *development and societal concerns* (menstruation, physical development, abortion, pregnancy, homosexuality, and sex before marriage), *sexual safety* (safe sex, sexually transmitted infections, HIV/AIDS, and contraception), *sexual experience* (dating or romantic relationships, dealing with unwanted sexual pressure, sexual desire, sexual satisfaction, types of sexual practices, talking with partners regarding sexual needs, choice of partner, and the role of peers in sexual decision-making), and *solitary sexual activity* (masturbation and wet dreams). When parents and adolescents did engage in discussions about sex and sexuality, sexual safety
was discussed more often than any other domain; developmental and societal concerns were also commonly discussed. The experience of sex and solitary sexual activity were very rarely discussed (Rosenthal & Feldman, 1999). Similarly, Rosenthal et al (1998) also found, using qualitative interview data, that most parents discussed at least some topics with their adolescents regarding physical development, reproduction, and the dangers of sexuality, that fewer parents covered psychological issues (including dating, sexual desire, sexual needs, sexual satisfaction, sexual morals, sexual pressure, choice of partners, among others), and even fewer discussed non-penetrative sexual practices. Whether these results can be replicated using specifically a Canadian sample has yet to be investigated. Parents may feel responsible for their adolescents’ health and safety, or the prudential domain of Social Domain Theory (Smetana & Asquith, 1994), and thus focus on concerns of physical development and sexual safety in communicating about sex and sexuality. Parents may focus on sexual safety topics as they feel obligated to protect their adolescents from harm. Male and female adolescents, in Rosenthal and Feldman’s (1999) Australian sample, have rated parental discussions as unimportant to take place across most sexuality-related topics, with the exception of some issues pertaining to sexual safety, and to a lesser extent, societal and developmental concerns. This contrasts with the findings of Nolin and Peterson (1992) where adolescents expressed a desire for more sexuality-related communication to take place with their parents, especially concerning interpersonal issues and values.

Although parents directly communicate regarding issues of sexual safety, the dangers of sexuality, and physical development, what parents are not saying to the adolescent can indirectly influence the attitudes and values adolescents begin to develop toward sexuality. Parents who are uncomfortable or unable to discuss certain sexuality-related topics may be sending an implicit
message to adolescents that sex and sexuality are difficult domains to discuss, that they should remain secret, or that these certain aspects of sex and sexuality are ‘dirty’ (Lefkowitz & Stoppa, 2006). This avoidance and uncomfortable nature of the communication regarding sexuality-related topics could have influence over adolescent sexual identity development.

The difficulties in parent-adolescent communication regarding sexuality-related topics could be related to the views and beliefs parents hold regarding their adolescents’ sexuality. Parents often depict their adolescents as asexual, or not as sexual agents or individuals who desire sex, and portray adolescent involvement in sexual activity in a negative way (Elliott, 2010a) which reflects a danger discourse in talking about sexuality (Elliott, 2010b). The idea of a prominent danger discourse between parents and adolescents where sexuality is portrayed as dangerous and in a negative manner has been a focus of some adolescent sexuality literature in recent years (e.g. Elliott, 2010a; Elliott, 2010b), although mostly explored using qualitative interview data. The previously cited literature regarding the topics being discussed and avoided is not surprising given the impression of the existence of a danger discourse; most of the communication between parents and adolescents centers on sexual safety (Rosenthal and Feldman, 1999), or things that can go wrong in the expression of adolescent sexuality. In contrast, very little discussion revolves around the more positive aspects of sex and sexuality like sexual satisfaction and pleasure – the topics which many may consider as more uncomfortable to address. Sexual desire, needs, satisfaction, and pleasure, and one’s awareness and recognition of them – aspects of the sexual identity model proposed by Worthington et al. (2002) – are important to a healthy sexual identity (Welles, 2005) and research has suggested these issues are not being addressed in parent-adolescent communication of sex and sexuality. Questions regarding whether or not the topics discussed and avoided in parent-adolescent sexuality-related
communication influence the development of sexual identity remain.

Concerning identity, parents would ideally be able to encourage the exploration of all the dimensions of sexual identity detailed by Worthington et al. (2002), through positive and open communication, in order to help adolescents develop a cohesive and stable sexual identity. However, this does not seem to be occurring as the discussion regarding sexuality-related topics is limited and therefore not addressing, and arguably not encouraging exploration of, most of the dimensions of sexual identity. Young women, or female adolescents, in particular are struggling and having a difficult time establishing healthy and positive sexual identities, especially in the area of embracing their own sexual desire and sexual pleasure (Welles, 2005). Young women often feel shame, confusion, and guilt when it comes to their own sexual pleasure (Welles, 2005). The topics in sexuality-related communication focusing on restrictive sexual messages and the danger discourse, directed at female adolescents, could be contributing to the difficulties these young women face in developing a positive and cohesive sexual identity. Substantive research investigating this potential relationship between communicative topics and sexual identity has not been explored.

**Objectives and Research Questions**

Although it is known that parents can influence and facilitate the crucial exploration process for identity development more generally, especially through the nature and quality of a positive and secure parent-adolescent relationship (Lapsley et al., 1990; Mikulincer & Shaver, 2007; Samuolis et al., 2001; Vignoli et al., 2005), and that parents are the primary sexual socializers and educators of adolescents (Lefkowitz & Stoppa, 2006; DiIorio et al., 2003), there is no research exploring whether the parent-adolescent relationship influences sexual identity development specifically. Further, there is substantial research documenting the patterns and
styles (Coffelt, 2010; Morgan et al., 2010; Rosenthal et al., 1998), challenges (Jaccard et al., 2000; Jerman & Constantine, 2010), and topics discussed (e.g. Elliott, 2010b; Rosenthal & Feldman, 1999; Rosenthal et al., 1998) in parent-adolescent sexuality-related communication important for sexual socialization; however, whether these characteristics of parent-adolescent sexuality-related communication, namely the topics discussed and avoided and comfort or openness with communication, contribute to an adolescent’s sexual identity explicitly has yet to be explored. Comfort and freedom to discuss sexuality-related topics may permit adolescents the comfort and freedom to explore sexual identity. Further, with the quality of parent-adolescent relationships often associated with the degree and nature of communication in general (e.g. Joshi & Gutierrez, 2006; Mikulincer & Shaver, 2007; Smetana & Metzger, 2008) and in sexuality-related communication (Jaccard et al., 2000; Lefkowitz & Stoppa, 2006), studies have not looked at how the dynamics of the parent-adolescent relationship and sexuality-related communication together impact sexual identity development. This gap in the literature is further pronounced by the lack of consideration of sexual identity as multifaceted (Worthington et al., 2002).

As previously discussed, adolescents do not necessarily legitimatize or privilege input from their parents pertaining to certain facets of their lives – this influences communication between parents and adolescents and disclosure in varying degrees across the domains (Smetana & Asquith, 1994; Smetana & Metzger, 2008; Smetana et al., 2006). Whereas some general issues of sex and sexuality have been included in this literature utilizing Social Domain Theory on communication and disclosure, for example spending time alone with one’s partner (Daddis & Randolph, 2010; Smetana et al., 2009), whether adolescents accept and view discussions specifically about sex and sexuality as important to take place in families has not been incorporated in the context of a study exploring both the quality of the parent-adolescent
relationship and sexuality-related communication variables with respect to sexual identity development. Perceived importance of sexuality-related communication by adolescents can be controlled for in studies of sexual identity development, as although adolescents may report sexuality-related communication as unimportant (Rosenthal & Feldman, 1999), they are likely to be directly and indirectly influenced by the sexuality-related communication occurring, or not occurring, with their parents (Lefkowitz & Stoppa, 2006; Moore & Rosenthal, 2006).

Adolescent religiosity and age are also likely related to constructs in the current study. As religiosity can evoke discussions of sex and sexuality in the transmission of particular traditional beliefs (DiLorio et al., 2003; Jaccard et al., 2000; Schouten et al., 2007), adolescents’ and parents’ religiosity (whether the adolescent considers themselves as a religious individual and whether the adolescent reports parents as religious) needed to be controlled for to explore the influence of the quality of the parent-adolescent relationship and sexuality-related communication variables on sexual identity. Age is also a significant variable to control for since variations in age reflect more or less of an opportunity to develop the attachment quality of the parent-adolescent relationship, engage in sexuality-related communication, and explore various sexual identities.

Given the unexplored areas of research identified above, and that the research to date has demonstrated female adolescents as more likely affected by the quality of the parent-adolescent relationship, or attachment, in their development of identity more generally (Samuolis et al., 2001; Vignoli et al., 2005), and that mothers and daughters engage in more frequent sexuality-related communication (Rosenthal & Feldman, 1999), a logical first step was to investigate the parent-adolescent relationship and sexuality-related communication between the dyadic relationship most likely to have the influence in adolescent sexual identity – the mother-daughter dyad. Research concerning adolescent disclosure (e.g. Kerr & Stattin, 2000; Stattin & Kerr,
legitimacy of parental input and authority using Social Domain Theory (e.g. Smetana & Asquith, 1994; Smetana et al., 2006), and parent-adolescent sexuality-related communication (e.g. Rosenthal et al., 2001) has typically involved ratings from both the parent and the adolescent. While this approach is appropriate to demonstrate the important differing perspectives in the parent-adolescent dyads, when investigating adolescent outcomes, such as an adolescent’s identity status, only the adolescent’s perceptions may be necessary as it is the adolescent’s perceptions of their surroundings and point of view which guide and shape their individual and personal development.

Since identity status, including sexual identity, is fluid and flexible (Worthington et al., 2002), with great individual differences in the procession of development (Mikulincer & Shaver, 2007), measuring sexual identity at any single moment in time, along with the contributing factors, would be most beneficial to capture the present identity status. The use of interviews to gather information regarding sexuality-related communication between parents and adolescents (e.g. Coffelt, 2010; Morgan et al., 2010; Rosenthal et al., 1998) is criticized for potentially excluding participants already uncomfortable discussing sex and sexuality; self-report survey methods may be more effective for capturing accurate data on such sensitive issues while allowing participants to remain anonymous. An Internet based self-report survey may be particularly useful as a means of data collection for sensitive subjects, including issues related to sexuality. Research has demonstrated that, in comparison to ‘paper and pen’ surveys and interviews, online self-report survey methods often further ensure participants of anonymity, encourage more truthful, or less socially desirable, responding and sharing of personal information, are completed by participants at a fast rate, and demonstrate higher rates of sensitive item responding (Mustanski, 2001; Pealer, Weiler, Pigg, Miller, & Dorman, 2001). Internet
based surveys can have an advantage over traditional survey methods especially when dealing with sensitive issues.

Most of the research concerning either parent-adolescent relationships or sexuality-related communication between parents and adolescents has been conducted using American (e.g. Samuolis et al., 2001; Cofflet, 2010) or other international samples (e.g. Rosenthal & Feldman, 1999; Vignoli et al., 2005). The quality of the parent-adolescent relationship, sexuality-related communication, and the effects both have on sexual identity, among Canadian adolescents is still unclear. Using a Canadian sample would greatly add to the literature in understanding the development of adolescent sexuality in Canada.

The primary purpose of this study was to investigate the influence of the quality of the mother-daughter relationship and sexuality-related communication variables – the frequency of sexuality-related communication across a range of topics discussed and avoided, the experience of comfort in such discussions, and whether sexuality-related information is openly and freely shared between parents and adolescents – on sexual identity. Further, this study investigated whether Canadian female adolescents acknowledge discussions of sex and sexuality as important to occur in families and the sexuality-related topics discussed and not discussed. In order to fulfill these purposes, the following research questions have guided the research study:

1. What sexuality-related topics do participants report having discussed with mothers? What topics do participants report not discussing?

2. Do female adolescents report sex and sexuality as domains in which communication is important to take place between parents and adolescents?

3. Can attachment security in the parent-adolescent relationship and sexuality-related communication variables (the frequency of sexuality-related communication for topics
discussed, comfort, and degree of freedom of sharing sexuality-related information) together predict sexual identity status in female adolescents, after controlling for age, religiosity, and perceived importance of sexuality-related communication?

Methods

Participants

The participants in this study included undergraduate university students, aged 22 or under, at the University of Guelph during the Fall 2011 and Winter 2012 semesters. The focus on undergraduate university students was acceptable by the fact that participants would have likely had ample experience facing issues of parent-adolescent sexuality-related conversations, and they would have been well into their sexual identity development. No restrictions regarding the participant’s sexual orientation were in place; however, only female university students were included as participants in the analysis of data. Although studies of parent-adolescent communication can benefit from both adolescents and parents participating, because perceptions of the communication can differ drastically, the inclusion of one member of the parent-adolescent dyad, the adolescent, was justifiable. The main objective of this study was to determine how adolescents’ current sexual identity statuses were affected by their perception of the relationships they have had with their mothers, and, their perceptions of the communication they have engaged in with their mothers regarding sexuality-related topics. Adolescents are likely to react and develop according to their own perceptions of the environment they are surrounded by, thus avoiding the need to include their mothers in this study; the mothers’ perceptions of the nature of the parent-adolescent relationship and communication would likely not add to the understanding of the status of the adolescent’s sexual identity.
Procedure

The research study received approval from the Research Ethics Board at the University of Guelph to conduct the study (see Appendix A). Female undergraduate university students were recruited at the University of Guelph through the Department of Family Relations and Applied Nutrition. The research participation opportunity was presented to large undergraduate classes early in the Fall 2011 semester, and again in the beginning of the Winter 2012 semester. In the Fall of 2011, four undergraduate classes were targeted for their large projected enrollment: FRHD *1100 Life: Health and Wellbeing (enrollment of 385 students in total), FRHD*2100: Development of Human Sexuality (enrollment of 295 students in total), FRHD*1010 DE: Human Development (enrollment of 335 students in total; distance education online format), and FRHD*2270: Development in Early and Middle Childhood (enrollment of 185 students in total). Four undergraduate classes were targeted in the Winter 2012 semester: FRHD*1020: Couple and Family Relationships (enrollment of 450 students), FRHD*1020 DE: Couple and Family Relationships (enrollment of 430 students; distance education online format), FRHD*2100 DE: Development of Human Sexuality (enrollment of 475 students; distance education online format), and FRHD*3400: Communication and Counseling Skills (enrollment of 150 students). Statistics on the ratio of female enrollment in each class were not available. Enrollment numbers were based on the total number of students registered for the course. Students were recruited through classroom visits by the researcher. During the classroom visits, a poster with information regarding the research project – the title, researcher’s name and contact information, and how to participate – was presented on the projection screen (see Appendix B) and was accompanied by a verbal description (see Appendix C). Following the classroom visit, the poster was featured electronically on the course websites for potential participants to have continued access to the
information regarding participation in the study. For Distance Education classes with an online format, the poster was only featured electronically on the course website with an accompanying note to supplement the poster which was a similar copy of the script that was verbally presented to students in the classroom visits.

Students who were interested in the research participation opportunity were directed to a website for completion of the surveys. When the website link was followed, participants were first given information regarding the nature and purpose of the study and were required to provide consent to participate, electronically, prior to having access to the online survey measures for completion (see Appendix D). After consent was given, participants continued through with the completion of the measures in an online format. Participants were instructed to answer all the items as truthfully and accurately as possible. Participants’ confidentiality was ensured and participation was completely voluntary. There were no incentives provided for participation in this study. No further participation was required beyond the online survey component. Once the data was sufficiently collected over the two semesters, analysis began.

Little harm or risk was foreseen for the participation in this research study. Although the study dealt with an issue which may be sensitive for some individuals, participants were made aware of the nature of the study prior to commencing. Beyond ensuring confidentiality and the voluntary nature of the study, participants were instructed and encouraged to complete the survey in a private setting where they would feel the most comfortable, when they would unlikely to be interrupted or disturbed, and to clear their online browser history upon completion in order to protect the personal information they provide.

Measures

**Participant Demographics.** A number of general demographic questions (see Appendix
were included in order to collect information on the participants. Participants were asked to state their date of birth, age, gender, race or ethnicity (White/Caucasian, Black/African American, Asian, Spanish/Hispanic/Latino, Aboriginal/Native American, or Other), and any religious affiliation they have. Participants were also asked to indicate whether or not religiosity was an important element in their lives and also in the lives of their mother. Religiosity was defined as including religious affiliation, frequency of religious attendance, spirituality, or following a set of prescribed beliefs.

**Parent-Adolescent Attachment.** The Mother version of the Inventory of Parent and Peer Attachment measure (IPPA - Mother; Armsden & Greenberg, 1987) was used to assess the quality of the attachment in the parent-adolescent relationship, specifically, the mother-daughter relationship. The IPPA broadly measures the adolescent’s perception of the degree of mutual trust, the quality of the communication, and the degree of anger or alienation for mothers, fathers, and peers separately in the newer version. In this study, only data on the relationship with the mother was gathered with the Mother version of the IPPA. The IPPA – Mother consists of 25 items which are rated on a 5-point Likert-type scale; respondents indicated whether each statement was *almost never or never true* (a score of 1), *not very often true, sometimes true, often true*, or *almost always or always true* (a score of 5). After reverse scoring the negatively worded items, a summed total score from the response values is obtained. Although the original version of the IPPA (where mothers and fathers were assessed together) would calculate separate scores on the three dimensions of trust, communication, and alienation, the newer version has been recommended to be used as a total summed score of all the items to provide a security or insecurity index for the individual respondent. Sample items include: “My mother respects my feelings”, “I like to get my mothers’ point of view on things I’m concerned about”, and “My
mother expects too much of me”. See Appendix F for the IPPA – Mother items. Test-retest reliability was found to be at .93, with three weeks between measurements for parent attachment. The revised version of the IPPA demonstrates high internal reliability for the Mother version ($\alpha = .87$), Father version ($\alpha = .89$) and the peer version ($\alpha = .92$). The original version of the IPPA subscales of trust, communication, and alienation have reported alpha values of $\alpha = .91$, .91, and .86 respectively; factor loadings ranged from .45 to .74. Armsden and Greenberg (1987) also demonstrated convergent validity as the IPPA correlated with five of six examined subscales from the Family Environment Scale (FES; Moos, 1974), as expected: cohesion, expressiveness, conflict, organization, and control; independence was not correlated with the IPPA. Also strongly correlated with the IPPA was a subscale from the Tennessee Self-Concept Scale (TSCS; Fitts, 1965) measuring family self-concept ($r = .78$). The IPPA – Mother demonstrated adequate internal consistency for this sample. The reliability coefficient for the IPPA-Mother was high ($\alpha = .95$).

**Frequency of Sex-Related Communication.** To determine the frequency of sexuality-related communication and the topics discussed between the adolescents and their mothers, the Frequency of Sex-Related Communications instrument was used (Feldman & Rosenthal, 2000). Twenty items representing different sexuality-related topics are rated as to how often mothers have engaged in discussions about each (see Appendix G); items are rated 1 (never), 2 (once), 3 (a few times), and 4 (often). Four factors, or broad topics of discussion, underlie the instrument: development and societal concerns (6 items), safe sex (4 items), the experience of sex (8 items), and solitary sex (2 items). These four factors represent the four domains categorizing sexuality-related topics by Rosenthal and Feldman (1999). A score for each of the four domains is obtained by taking the mean of the individual item scores in each domain. Rosenthal and
Feldman (1999) reported the internal consistency of the domain scores as follows: for development and societal concerns, Cronbach’s alpha ranged from $\alpha = .80$ to $\alpha = .84$, for sexual safety, $\alpha = .88$ to .90, for the experience of sex, $\alpha = .82$ to .88, and for solitary sexual activity, $\alpha = .68$ to .85. In the current sample, the reliability coefficients for the four domains were: $\alpha = .80$ for development and societal concerns, $\alpha = .89$ for sexual safety, $\alpha = .88$ for experience of sex, and $\alpha = .66$ for solitary sex. As intercorrelations between the four domains were moderate to high (ranging from $r = .427$ to .748), a total score of frequency of sexuality-related communication was calculated by summing the frequency scores of all 20 items in order to address the third research question in this study. Cronbach’s alpha for the total frequency of sexuality-related communication in the current sample was $\alpha = .93$.

**Orientation to Family Sex Communication.** To determine general orientations toward sexuality-related discussions in families, the Family Sex Communication Quotient (FSCQ; Warren & Neer, 1986) was used. The FSCQ consists of 18 items, each rated on a 5 point Likert-type scale. Participants were to answer FSCQ items on the following response categories: strongly agree (a score of 5), agree (score of 4), neutral (score of 3), disagree (score of 2), and strongly disagree (score of 1). See Appendix H for the FSCQ items. Orientation toward family discussions regarding sexuality-related topics is accomplished across three dimensions, each with six items: **comfort** (measuring perceived degree of openness in engaging in sexuality-related discussions with family members), **information** (measuring perception of amount of information learned and shared during sexuality-related discussion), and **value** (measuring perceived overall importance of the role of the family in learning about sex). Sample items include: “I feel free to ask my parents questions about sex” (comfort), “I feel better informed about sex if I talk to my parents” (information), and “Sex is too personal a topic to discuss with my parents” (value).
Total orientation levels with all 18 items correspond to low (18-39), moderate (40-69), and high (70-90) orientations toward family discussions about sexuality; three subscores can be obtained for each dimension as well (Warren, 2011) and each subscale score ranges from 6 to 30. The FSCQ has shown to be a reliable measure ($\alpha = .92$; Warren & Neer, 1986), and item analysis of the 18 items revealed that each item yielded significant correlations with the total FSCQ score: two-thirds of items correlated above .60, one-sixth above .40, and the rest above .30. Internal consistency was shown using dimension-to-dimension correlations which indicated that all dimensions correlated above .60; the comfort and information dimensions correlated above .80. Dimension-to-total correlations provide further support for internal consistency as all dimensions correlated to the total above .80. The internal consistency of each of the three dimensions of the FSCQ as well as the total FSCQ was calculated for the current sample. Reliability coefficients were high for the value ($\alpha = .84$), comfort, ($\alpha = .95$), and information ($\alpha = .86$) subscales, and for the total FSCQ ($\alpha = .95$). As intercorrelations between the three dimensions were high for the current study’s sample (ranging from $r = .712$ to .832), the total FSCQ score was used to address the third research question.

**Sexual Identity Measure.** The Measure of Sexual Identity Exploration and Commitment (MoSIEC; Worthington, Navarro, Savoy, & Hampton, 2008) was used to assess the process of sexual identity development in this study. The MoSIEC is a 22-item measure for sexual identity, based on the Worthington et al. (2002) multidimensional model of sexual identity (sexual identity as made of up six components: perceived sexual needs, preferred sexual activities, preferred characteristics of sexual partners, sexual values, recognition and identification of sexual orientation, and preferred modes of sexual expression), utilizing Marcia’s (1966) model of identity formation. See Appendix I for the MoSIEC items. Four underlying dimensions of the
construct of sexual identity comprise the MoSIEC: *commitment* (6 items; “degree of commitment to a sexual identity” where there is an adoption of certain identity characteristics to represent oneself as a sexual being), *exploration* (8 items; “a general orientation toward or away from sexual exploration” which involves a level of conscious deliberation and active pursuit of a refined identity through the assessment of alternative identity characteristics), *sexual orientation identity uncertainty* (3 items; “commitment or a lack of commitment to a sexual orientation identity”), and *synthesis/integration* (5 items; “the degree of commitment to a unified, cohesive, sexual identity”); these are the four subscales of the MoSIEC (Navarro, Savoy, & Worthington, 2011). A 6-point Likert-type scale, ranging from 1 (very uncharacteristic of me) to 6 (very characteristic of me) is used to rate each item. Sample items include: “I am actively trying to learn more about my own sexual needs” (exploration), “I know what my preferences are for expressing myself sexually” (commitment), “My sexual values are consistent with all of the other aspects of my sexuality” (synthesis/integration), and “My sexual orientation is not clear to me” (sexual orientation identity uncertainty). MoSIEC subscale scores are calculated by averaging the ratings within each subscale. A higher score received on each of the subscales is indicative of higher levels of the measured construct present in the individual. Worthington et al. (2008) reported high internal consistency for the commitment (α = .83 and .80), exploration (α = .87 and .85), sexual orientation identity uncertainty (α = .78 and .73), and synthesis/integration (α = .79 and .72) subscales across two samples. For the current sample, reliability coefficients demonstrated high internal consistency for the exploration (α = .87), commitment (α = .86), synthesis/integration (α = .83), and sexual orientation identity uncertainty (α = .91) subscales. Test-retest reliability estimates, across a two week interval, suggest measure stability (Worthington et al., 2008): commitment (r = .80), exploration (r = .85), sexual orientation
identity uncertainty ($r = .90$), and synthesis/integration ($r = .71$). Confirmatory factor analysis established the MoSIEC construct validity and factor reliability on the four underlying factors of the measure. Convergent validity and criterion-related validity have also been established (Worthington et al., 2008).

**Analysis**

In order to fulfill the objectives and address the research questions, quantitative analysis of the data was undertaken. First, using the data collected from the Frequency of Sex Communication items, the topics participants report discussing and not discussing with their mothers were extracted. Descriptive statistics were used to determine which topics were discussed and not discussed – mean scores for each of the four sexuality-related topic domains, and percentage of participants indicating frequency of discussion (never, once, a few times, or often) for each individual topic. To determine whether the participants regarded discussion concerning sex and sexuality as important to take place in families, the mean score from the value subscale of the Family Sex Communication Quotient (FSCQ) was utilized.

In order to fulfill the primary purpose of this study, to determine whether and how sexual identity status can be predicted by the attachment quality of the mother-daughter relationship and sexuality-related communication, a series of hierarchical multiple regression analyses were conducted. Hierarchical multiple regression analysis was conducted using scores on the exploration, commitment, synthesis/integration, and sexual orientation identity uncertainty subscales from the Measure of Sexual Identity Exploration and Commitment (MoSIEC) as outcomes with attachment quality and sexuality-related communication variables as predictors. Control variables were entered first into each regression model. In the second block of the hierarchical regression model, the attachment quality of the mother-daughter relationship and
sexuality-related communication variables were entered.

Results

Participant Characteristics

One hundred and eighty nine female participants submitted complete online surveys during the Fall of 2011 and Winter of 2012. Considering that a total of 2705 students were enrolled in the courses from which students were recruited over the two semesters, the response rate was 7 percent; however, the actual response rate is higher than this as males were not eligible to participate. Three cases were removed prior to any analyses of the data due to a large portion of the items missing from these respondents; each of these three participants did not complete at least one of the measures in the series of measures on the survey which deemed the cases invalid for analysis. The number of participants used in the analyses was 186. The participants ranged in age from 17 to 22 years old ($M = 19.43; SD = 1.17$). One hundred and seventy one participants (91.9%) identified their race or ethnicity as White/Caucasian, four (2.2%) identified as Black/African American, two (1.1%) identified as Asian, one participant (.5%) identified as Spanish/Hispanic/Latino, two participants (1.1%) identified as Aboriginal/Native American, and 6 participants (3.2%) identified as Other. Fifty-five of the participants (29.6%) indicated that religiosity was an important element in their own lives, and 78 participants (41.9%) indicated that religiosity was an important element in their mother’s life. Approximately an equal number of participants completed the survey in both the Fall 2011 and Winter 2012 semesters – 94 participants (50.5%) completed in the fall, and 92 participants (49.5%) completed in the winter. See Table 1 for descriptive statistics of participants’ scores for all measures and subscales used.
Table 1

Participants’ Scores on Measures and Subscales

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean</th>
<th>Range</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Attachment Measure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment Quality</td>
<td>103.34</td>
<td>55.00 – 125.00</td>
<td>16.07</td>
</tr>
<tr>
<td>Frequency of Sexuality-Related Communication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development and Societal Concerns</td>
<td>2.83</td>
<td>1.33 – 4.00</td>
<td>.66</td>
</tr>
<tr>
<td>Sexual Safety</td>
<td>2.45</td>
<td>1.00 – 4.00</td>
<td>.93</td>
</tr>
<tr>
<td>Experience of Sex</td>
<td>1.98</td>
<td>1.00 – 4.00</td>
<td>.69</td>
</tr>
<tr>
<td>Solitary Sex</td>
<td>1.22</td>
<td>1.00 – 4.00</td>
<td>.50</td>
</tr>
<tr>
<td>Total Frequency of Sexuality-Related Communication</td>
<td>45.15</td>
<td>22.00 – 80.00</td>
<td>12.39</td>
</tr>
<tr>
<td>Orientation to Family Sex Communication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comfort</td>
<td>16.64</td>
<td>6.00 – 30.00</td>
<td>6.58</td>
</tr>
<tr>
<td>Information</td>
<td>16.14</td>
<td>6.00 – 29.00</td>
<td>5.05</td>
</tr>
<tr>
<td>Value</td>
<td>20.05</td>
<td>9.00 – 30.00</td>
<td>4.66</td>
</tr>
<tr>
<td>Orientation to Family Sex Communication</td>
<td>52.84</td>
<td>25.00 – 86.00</td>
<td>14.96</td>
</tr>
<tr>
<td>Sexual Identity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual Identity Exploration</td>
<td>3.71</td>
<td>1.25 – 6.00</td>
<td>1.14</td>
</tr>
<tr>
<td>Sexual Identity Commitment</td>
<td>4.61</td>
<td>1.67 – 6.00</td>
<td>1.06</td>
</tr>
<tr>
<td>Sexual Identity Synthesis/Integration</td>
<td>4.72</td>
<td>1.60 – 6.00</td>
<td>.93</td>
</tr>
<tr>
<td>Sexual Orientation Identity Uncertainty</td>
<td>1.49</td>
<td>1.00 – 5.67</td>
<td>.91</td>
</tr>
</tbody>
</table>

Initial Screening of Data

There were some missing data for the 186 participants. The number of missing data points for any one participant ranged from zero to four missing items across the entire series of questionnaires (i.e. including all items for any measure or subscale). The missing data appeared to be missing at random. The authors of the MoSIEC inventory provided instructions for dealing with missing items (Navarro et al., 2011). In the calculation of each of the four subscale scores,
the average score was obtained for all the completed items on each subscale. For example, if one item on a subscale for an individual participant was missing, the average of the remaining completed items was calculated and used as the individual’s score. No participant was missing more than two items on any subscale. For the IPPA – Mother (Armsden & Greenberg, 1987), the FSCQ (Warren & Neer, 1986), and the measure of the frequency of sex-related communication (Feldman & Rosenthal, 2000), individual mean substitution was used to deal with missing data. Each missing data value was imputed by calculating the mean of the individual’s responses to the other completed items on the particular subscale from which the missing value was associated; this mean was then substituted for the missing value. Individual mean substitution has been shown to produce valid imputed values, with high correlation coefficient statistics and is a substitution method which performs similarly to multiple imputation, a more complex method for handling missing data (Roth, Switzer, & Switzer, 1999; Shrive, Stuart, Quan, & Ghali, 2006).

Study Findings

**Sexuality-Related Topics Discussed and Not Discussed.** The first research question addressed by this study was: What sexuality-related topics do participants report having discussed with mothers? What topics do participants report not discussing? The frequency of discussion for various sexuality-related topics was used to determine which topics were discussed and which were not. Topics within two of the four sexuality-related topic domains, development and societal concerns, $M = 2.84$, $SD = .66$, and sexual safety, $M = 2.45$, $SD = .93$, were discussed, on average, between once and a few times. Topics within the experience of sex and solitary sex domains were discussed, on average, between never and once, $M = 1.98$ ($SD = .69$) and $M = 1.22$ ($SD = .50$), respectively.
The individual items in each sexuality-related topic domain and participants’ reports of the frequency of discussion for each item were examined. See Table 2 for the number of participants reporting frequency of discussion for each sexuality-related topic by domain. First, in the development and societal concerns domain, five of the six individual items were indicated by the largest percentage of participants to have been discussed at least ‘a few times’ with their mothers – physical development (48.9%), homosexuality (45.7%), abortion (36.6%), pregnancy (39.8%), and sex before marriage (33.9%). The most frequent response chosen for all items in this domain was ‘a few times’ (when looking across the four offered choices, ‘a few times’ was selected by the greatest proportion of participants), except for the menstruation item; 64.0% of participants indicated that their mothers ‘often’ talked about menstruation, and another 30.1% indicated discussions occurring ‘a few times’. Overall, physical development, menstruation, and pregnancy were discussed more frequently than homosexuality, abortion, and sex before marriage. Although all six individual topic items were indicated to have been discussed at least ‘a few times’ by the largest proportion of participants, physical development, menstruation, and pregnancy had more frequent discussions (more participants indicated ‘often’; 38.2%, 64%, and 31.2% respectively) while homosexuality, abortion, and sex before marriage had more infrequent discussion (more participants indicated ‘never’; 23.1%, 31.7%, and 28.0%, respectively).

The domain of sexual safety similarly had a pattern of ‘often’ and ‘never’ responses. For two of the four topics in this domain, the response endorsed by the largest proportion of participants was ‘often’ discussed. These two topics were safe sex and contraception (36.6% and 35.5% of participants chose ‘often’, respectively). The response chosen by the largest proportion of participants for the remaining two topics in this domain, HIV and STI’s, was ‘never’, 46.8% and 36.7% respectively.
Table 2

Number of Participants Reporting Frequency of Discussion for Each Sexuality-Related Topic by Domain (Percent of Participants in Parentheses)

<table>
<thead>
<tr>
<th>Domain and Concerns</th>
<th>Never</th>
<th>Once</th>
<th>A Few Times</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Development</td>
<td>5 (2.7%)</td>
<td>19 (10.2%)</td>
<td>91 (48.9%)</td>
<td>71 (38.2%)</td>
</tr>
<tr>
<td>Homosexuality</td>
<td>43 (23.1%)</td>
<td>33 (17.7%)</td>
<td>85 (45.7%)</td>
<td>25 (13.4%)</td>
</tr>
<tr>
<td>Menstruation</td>
<td>1 (.5%)</td>
<td>10 (5.4%)</td>
<td>56 (30.1%)</td>
<td>119 (64.0%)</td>
</tr>
<tr>
<td>Abortion</td>
<td>59 (31.7%)</td>
<td>35 (18.8%)</td>
<td>68 (36.6%)</td>
<td>24 (12.9%)</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>22 (11.8%)</td>
<td>32 (17.2%)</td>
<td>74 (39.8%)</td>
<td>58 (31.2%)</td>
</tr>
<tr>
<td>Sex before marriage</td>
<td>52 (28.0%)</td>
<td>27 (14.5%)</td>
<td>63 (33.9%)</td>
<td>43 (23.1%)</td>
</tr>
<tr>
<td>Development and Societal Concerns</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV</td>
<td>87 (46.8%)</td>
<td>42 (22.6%)</td>
<td>40 (21.5%)</td>
<td>16 (8.6%)</td>
</tr>
<tr>
<td>Safe Sex</td>
<td>31 (16.7%)</td>
<td>30 (16.1%)</td>
<td>57 (30.6%)</td>
<td>68 (36.6%)</td>
</tr>
<tr>
<td>STI’s</td>
<td>70 (37.6%)</td>
<td>43 (23.1%)</td>
<td>41 (22.0%)</td>
<td>32 (17.2%)</td>
</tr>
<tr>
<td>Contraception</td>
<td>31 (16.7%)</td>
<td>34 (18.3%)</td>
<td>55 (29.6%)</td>
<td>66 (35.5%)</td>
</tr>
<tr>
<td>Sexual Safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dating/romantic relationships</td>
<td>7 (3.8%)</td>
<td>10 (5.4%)</td>
<td>63 (33.9%)</td>
<td>106 (57.0%)</td>
</tr>
<tr>
<td>Sexual Desire</td>
<td>113 (60.8%)</td>
<td>33 (17.7%)</td>
<td>28 (15.1%)</td>
<td>12 (6.5%)</td>
</tr>
<tr>
<td>Sexual Pressure</td>
<td>88 (47.3%)</td>
<td>32 (17.2%)</td>
<td>44 (23.7%)</td>
<td>21 (11.3%)</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>130 (69.9%)</td>
<td>24 (12.9%)</td>
<td>23 (12.4%)</td>
<td>8 (4.3%)</td>
</tr>
<tr>
<td>Different types of sexual practices</td>
<td>139 (74.7%)</td>
<td>20 (10.8%)</td>
<td>20 (10.8%)</td>
<td>6 (3.2%)</td>
</tr>
<tr>
<td>Talking about sexual needs with partner</td>
<td>142 (76.3%)</td>
<td>20 (10.8%)</td>
<td>16 (8.6%)</td>
<td>7 (3.8%)</td>
</tr>
<tr>
<td>Choice of partner</td>
<td>43 (23.1%)</td>
<td>26 (14.0%)</td>
<td>64 (34.4%)</td>
<td>53 (28.5%)</td>
</tr>
<tr>
<td>Role of peer group in sexual decision making</td>
<td>106 (57.0%)</td>
<td>36 (19.4%)</td>
<td>29 (15.6%)</td>
<td>14 (7.5%)</td>
</tr>
<tr>
<td>Experience of Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wet dreams</td>
<td>169 (90.9%)</td>
<td>11 (5.9%)</td>
<td>5 (2.7%)</td>
<td>1 (.5%)</td>
</tr>
<tr>
<td>Masturbation</td>
<td>149 (80.1%)</td>
<td>19 (10.2%)</td>
<td>15 (8.1%)</td>
<td>3 (1.6%)</td>
</tr>
<tr>
<td>Solitary Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Two of the eight items in the experience of sex domain were either ‘often’ discussed (dating and romantic relationships; 57.0%), or discussed ‘a few times’ (choice of partner; 34.4%) as indicated by the largest proportion of participants selecting these response categories. The remaining six items in this domain were endorsed by the largest proportion of participants as ‘never’ discussed – sexual desire (60.8%), sexual pressure (47.3%), satisfaction (69.9%), different types of sexual practices (74.7%), talking about sexual needs with partner (76.3%), and
the role of a peer group in sexual decision making (57.0%). The two topics in the solitary sex
domain, wet dreams and masturbation, were both ‘never’ discussed by the large majority of the
participants, 90.9% and 80.1% respectively.

Overall, across all four of the sexuality-related topic domains, participants talked with
their mothers about physical development, homosexuality, menstruation, abortion, pregnancy,
sex before marriage, safe sex, contraception, dating and romantic relationships, and choice of
partner at least ‘a few times’. Participants most likely ‘never’ discussed HIV, STI’s, sexual
desire, sexual pressure, satisfaction, different types of sexual practices, talking about sexual
needs with a partner, the role of a peer group in sexual decision making, wet dreams, and
masturbation.

**The Importance of Sexuality-Related Communication.** The second research question
guiding this study was: Do female adolescents report sex and sexuality as domains in which
communication is important to take place between parents and adolescents? As assessed by the
value subscale of the FSCQ, participants generally responded favourably with their evaluation of
the overall importance for the role of the family in learning about sex, $M = 20.05$, $SD = 4.66$; the
range of possible scores is between 6 and 30. The information ($M = 16.14$, $SD = 5.05$) and
comfort ($M = 16.64$, $SD = 6.58$) scores were not quite as high on average. The total FSCQ score
(with a total possible score of 90), which describes an individual’s orientation toward family sex
communication, falls within the moderate range for this sample as indicated by Warren and Neer
(1986), $M = 52.84$, $SD = 14.96$.

**Sexual Identity Statuses - Multiple Regression Analyses.** The final research question
for the current research study was: Can attachment security in the parent-adolescent relationship
and sexuality-related communication variables (the frequency of sexuality-related
communication for topics discussed, comfort, and degree of freedom of sharing sexuality-related information) together predict sexual identity status in female adolescents, after controlling for age, religiosity, and perceived importance of sexuality-related communication? However, because of high correlations among the three FSCQ subscales (comfort with sexuality-related communication, degree of freedom of sharing sexuality-related information, and importance of sexuality-related communication in families) it was decided the total FSCQ score would be a more appropriate measure to include. Similarly, the scale assessing the frequency of sexuality-related communication on four different topic domains also correlated at a moderate level ($r = .427$ to $.748$) across the four domains and thus a total frequency score was calculated and used for the analyses. The use of the total FSCQ score and the total discussion frequency score removes potential issues of multicollinearity among the three dimensions of the FSCQ and among the four topic domain discussion frequency scores while still allowing for the investigation of the influence of sexuality-related communication on sexual identity status. With these alterations, the importance of sexuality-related communication in families could no longer be controlled for in the first block of the regression analyses as it became a component in the total FSCQ score used as a predictor in the second block of the regression analysis.

Given these necessary changes to the regression analyses, the third research question as stated needed to be re-conceptualized. The research question was re-conceived to state: Can attachment security in the parent-adolescent relationship and sexuality-related communication (the frequency of sexuality-related communication and orientation toward family sex communication) together predict sexual identity status in female adolescents, after controlling for age, adolescent religiosity, and mother religiosity?

Table 3 presents all the correlations among predictor and outcome variables used in the
analyses. The two sexuality-related communication variables, frequency of sexuality-related communication and perception of sex communication in the family (FSCQ), were positively correlated with the sexual identity exploration, commitment, and synthesis/integration, and negatively associated with sexual orientation identity uncertainty; these two variables were also significantly correlated with each other ($r = .76$). Quality of the attachment relationship was negatively associated with exploration and sexual orientation identity uncertainty and positively related to commitment and synthesis/integration. Attachment quality and the two sexuality-related communication variables were also moderately correlated.

Table 3

| Correlations Among the Predictor Variables and Sexual Identity Status Outcomes |
|---------------------------------|---|---|---|---|---|---|---|---|---|---|
| 1. Exploration                  | ---- |
| 2. Commitment                   | .230** | ---- |
| 3. Synthesis/Integration        | .266** | .614** | ---- |
| 4. Sexual Orientation Uncertainty | .158* | -.343** | -.374** | ---- |
| 5. Age                          | .205** | .125 | .134 | -.056 | ---- |
| 6. Adolescent Religiosity       | -.179* | -.105 | -.125 | .000 | -.138 | ---- |
| 7. Mother Religiosity           | -.166* | -.167* | -.139 | .062 | -.067 | .570** | ---- |
| 8. Attachment                   | -.064 | .059 | .112 | -.173* | -.059 | -.065 | -.059 | ---- |
| 9. Family Sex Communication     | .182* | .154* | .312** | -.090 | -.014 | -.039 | -.106 | .421** | ---- |
| 10. Frequency of Sexually-Related Communication | .167* | .224** | .245** | -.101 | .019 | -.030 | -.116 | .405** | .761** | ---- |

Note: * Significant at $p < .05$ level, ** Significant at $p < 0.01$ level, *** Significant at $p < .001$ level
Four hierarchical multiple regression analyses were conducted in order to determine the predictive relationship between the quality of the parent-adolescent attachment quality and sexuality-related communication for sexual identity. A regression was conducted for each of the four sexual identity status outcomes of the MoSIEC. Age, adolescent religiosity importance, and mother religiosity importance were controlled for in each analysis by placing these variables in the first block of the model. In the second block of the hierarchical regression model, the attachment quality of the mother-daughter relationship and the two sexuality-related communication variables – the total frequency of sexuality-related communication across the range of topics and the total FSCQ score measuring the adolescent’s perception of sexuality-related communication in the family – were entered.

**Predicting the Exploration Identity Status.** This subscale measures a general orientation toward or away from sexual exploration which involves a level of conscious deliberation and active pursuit of a refined identity through the assessment of alternative identity characteristics (Morgan, 2012; Worthington et al., 2002). Higher scores indicate a greater propensity toward sexual exploration.

**Assumptions and Diagnostics.** There are numerous assumptions which are typically assessed when conducting regression analyses (Field, 2009). A histogram and the normal probability plot (P-P plot) of the residuals were examined to assess the assumption of a normal distribution of error (normality of residuals); both the histogram and P-P plot of residuals for the regression analysis of the sexual identity status of exploration indicated that the assumption was met. A scatterplot of the standardized residuals against the standardized predicted values was examined to assess assumptions of homoscedasticity and linearity; both of these assumptions were adequately fulfilled. Partial regression plots of the outcome variable, sexual identity
exploration, against each predictor variable also attested that the assumptions of homoscedasticity and linearity were not violated (i.e. each predictor has a linear relationship with the outcome variable). The Durbin-Watson statistic was close to the value of 2, it is within the acceptable range of 1.5 to 2.5 (Vogt & Johnson, 2011), indicating the fulfillment of the assumption of independent errors. In order to determine whether multicollinearity was occurring among the predictor variables, as some predictor variables were significantly correlated (see Table 3), variance inflation factors (VIF) and the related tolerance values were examined. The VIFs ranged from 1.028 to 2.465; given that a VIF greater than 10 is a concern (Myers, 1990), the calculated VIFs are within normal range. Similarly, none of the tolerance values fell below 0.1, nor below 0.2 (which would indicate a potential problem; Menard, 1995), and no tolerance value was above 1.0. These VIFs and tolerance values apply to all four of the regression analyses.

Regression Analysis. The mean exploration score reported by participants was $M = 3.71$, $SD = 1.14$. In order to control for the effects of age, adolescent religiosity, and mother’s religiosity, these three variables were entered first into the regression on their own to account for as much variance in the model as possible. This first stage in the hierarchical regression model was significant, $F(3, 182) = 4.67, p < .01$, and accounted for seven percent of the variance in sexual identity exploration scores; age was the significant predictor at this stage. When attachment, family sex communication orientation, and frequency of communication regarding various sexuality-related topics were introduced to the model in the second stage, the amount of variance accounted for increased to 12.7 percent, which was a significant change, $F(3, 179) = 3.79, p = .01$. This second model was a significant fit of the data overall, $F(6, 179) = 4.34, p < .001$. Age and attachment were found to be the significant predictors in the model. Age was
positively related to exploration scores whereas attachment was found to be negatively related.

That is, as age increased, so too did the propensity to engage in exploration, but as attachment to mother increased, the propensity to engage in exploration decreased. See Table 4 for the regression analysis results. In order to determine how much unique variance each significant predictor accounted for, part square values were examined. Age accounted for 3 percent of the unique variance and attachment accounted for 2.5 percent of the unique variance.

Table 4

*Multiple Regression Analysis for Sexual Identity Exploration*

<table>
<thead>
<tr>
<th>Predictors</th>
<th>R Squared</th>
<th>B</th>
<th>SE</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.071**</td>
<td>.180</td>
<td>.070</td>
<td>.184**</td>
</tr>
<tr>
<td>Adolescent Religiosity</td>
<td></td>
<td>-.243</td>
<td>.218</td>
<td>-.098</td>
</tr>
<tr>
<td>Mother Religiosity</td>
<td></td>
<td>-.225</td>
<td>.200</td>
<td>-.098</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>.127***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>.170</td>
<td>.069</td>
<td>.174*</td>
</tr>
<tr>
<td>Adolescent Religiosity</td>
<td></td>
<td>-.292</td>
<td>.214</td>
<td>-.117</td>
</tr>
<tr>
<td>Mother Religiosity</td>
<td></td>
<td>-.159</td>
<td>.197</td>
<td>-.069</td>
</tr>
<tr>
<td>Attachment</td>
<td></td>
<td>-.013</td>
<td>.006</td>
<td>-.177*</td>
</tr>
<tr>
<td>Orientation to Family</td>
<td></td>
<td>.014</td>
<td>.008</td>
<td>.181</td>
</tr>
<tr>
<td>Sex Communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Sex-Related Discussions</td>
<td>.008</td>
<td>.010</td>
<td>.086</td>
<td></td>
</tr>
</tbody>
</table>

Note: * Significant at p < .05 level, ** Significant at p < 0.01 level, *** Significant at p < .001 level

**Predicting the Commitment Identity Status.** This subscale measures the degree of commitment to a sexual identity where there is an adoption of certain identity characteristics to represent oneself as a sexual being (Morgan, 2012; Worthington et al., 2002). Higher scores indicate clarity and investment into a sexual identity.

**Assumptions and diagnostics.** The histogram and the normal probability plot of the residuals for the regression analysis of the sexual identity status of commitment indicated that the assumption of a normal distribution of error (normality of residuals) had been met. The two
assumptions of homoscedasticity and linearity were examined with a scatterplot of the
standardized residuals against the standardized predicted values as well as partial regression plots
of the outcome variable, sexual identity commitment, against each predictor variable. The
scatterplots attest that the assumptions of homoscedasticity and linearity have not been violated.
The Durbin-Watson statistic was within the acceptable range of 1.5 to 2.5 indicating the
fulfillment of the assumption of independent errors.

Regression Analysis. Participants reported a mean score of $M = 4.61$, $SD = 1.06$, for
commitment to sexual identity. The first stage in the hierarchical regression model, with age,
adolescent religiosity and mother religiosity as the entered variables, was not significant
accounting for approximately four percent of the variance in sexual identity commitment scores,
$F(3, 182) = 2.57, ns$. In the second stage of the model, when attachment, family sex
communication orientation, and frequency of communication regarding various sexuality-related
topics were introduced as predictor variables, the amount of variance accounted for increased to
8.4 percent which was a significant change, $F(3, 179) = 3.83, p < .05$. This second model was a
significant fit of the data overall, $F(6, 179) = 2.74, p < .05$. The total frequency of
communication regarding various sexuality-related topics was the only significant predictor and
it was positively related to commitment scores. As total frequency of sexuality-related
communication increases, commitment to sexual identity scores also increase. See Table 5 for
the regression analysis results. The part square value for total frequency of sexuality-related
communication was examined to determine how much unique variance this significant predictor
accounted for. Total frequency of sexuality-related communication accounted for 2.4 percent of
the unique variance.
Table 5

Multiple Regression Analysis for Sexual Identity Commitment

<table>
<thead>
<tr>
<th>Predictors</th>
<th>R Squared</th>
<th>B</th>
<th>SE</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>0.041</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.103</td>
<td>0.066</td>
<td>0.114</td>
<td></td>
</tr>
<tr>
<td>Adolescent Religiosity</td>
<td>0.006</td>
<td>0.205</td>
<td>0.002</td>
<td></td>
</tr>
<tr>
<td>Mother Religiosity</td>
<td>-0.343</td>
<td>0.189</td>
<td>-0.160</td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>0.084*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.097</td>
<td>0.066</td>
<td>0.108</td>
<td></td>
</tr>
<tr>
<td>Adolescent Religiosity</td>
<td>-0.026</td>
<td>0.203</td>
<td>-0.011</td>
<td></td>
</tr>
<tr>
<td>Mother Religiosity</td>
<td>-0.278</td>
<td>0.188</td>
<td>-0.130</td>
<td></td>
</tr>
<tr>
<td>Attachment</td>
<td>-0.002</td>
<td>0.005</td>
<td>-0.028</td>
<td></td>
</tr>
<tr>
<td>Orientation to Family</td>
<td>-0.002</td>
<td>0.008</td>
<td>-0.031</td>
<td></td>
</tr>
<tr>
<td>Sex Communication Frequency of Sex-Related Discussions</td>
<td>0.021</td>
<td>0.010</td>
<td>0.242*</td>
<td></td>
</tr>
</tbody>
</table>

Note: * Significant at p < 0.05 level, ** Significant at p < 0.01 level, *** Significant at p < .001 level

Predicting the Synthesis/Integration Identity Status. This subscale measures the degree of commitment to a unified, cohesive, sexual identity (Morgan, 2012; Worthington et al., 2002). Higher scores indicate that the various components of an individual’s sexual identity are congruent.

Assumptions and Diagnostics. The assumption of a normal distribution of error (normality of residuals) had generally been met as assessed through the examination of the histogram and the normal probability plot of the residuals for the regression analysis of synthesis/integration of sexual identity. The scatterplot of the standardized residuals against the standardized predicted values, as well as partial regression plots of the outcome variable, sexual identity synthesis/integration, against each predictor variable, indicated that the assumptions of homoscedasticity and linearity have been adequately fulfilled. The Durbin-Watson statistic was close to the value of 2 indicating the fulfillment of the assumption of independent errors.

Regression Analysis. Participants reported a mean score of $M = 4.72$, $SD = .93$ for
synthesis/integration of sexual identity. The first stage in the hierarchical regression model was not significant accounting for 3.7 percent of the variance in sexual identity synthesis/integration scores, $F(3, 182) = 2.30$, $n.s$; however, with the introduction of attachment, family sex communication orientation, and frequency of communication regarding various sexuality-related topics as predictors in the second stage of the model, the amount of variance accounted for increased to 12.8 percent which was a significant change, $F(3, 179) = 6.29$, $p < .001$. This second model was a significant fit of the data overall, $F(6, 179) = 4.40$, $p < .001$. Family sex communication orientation was the only significant predictor and it was positively related to synthesis/integration scores; as orientation toward family sex communication became stronger, scores for synthesis/integration in sexual identity increased. See Table 6 for the regression analysis results. In order to determine how much unique variance family sex communication orientation accounted for in the model, the part square value was calculated. This sole significant predictor accounted for 3.8 percent of the unique variance in the model.

Table 6

*Multiple Regression Analysis for Sexual Identity Synthesis/Integration*

<table>
<thead>
<tr>
<th>Step</th>
<th>R Squared</th>
<th>B</th>
<th>SE</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.037</td>
<td>.096</td>
<td>.058</td>
<td>.121</td>
</tr>
<tr>
<td>Adolescent Religiosity</td>
<td>-.101</td>
<td>.180</td>
<td>-.050</td>
<td></td>
</tr>
<tr>
<td>Mother Religiosity</td>
<td>-.191</td>
<td>.166</td>
<td>-.102</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>.128***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.099</td>
<td>.056</td>
<td>.125</td>
<td></td>
</tr>
<tr>
<td>Adolescent Religiosity</td>
<td>-.121</td>
<td>.174</td>
<td>-.060</td>
<td></td>
</tr>
<tr>
<td>Mother Religiosity</td>
<td>-.120</td>
<td>.160</td>
<td>-.064</td>
<td></td>
</tr>
<tr>
<td>Attachment</td>
<td>-.001</td>
<td>.004</td>
<td>-.020</td>
<td></td>
</tr>
<tr>
<td>Orientation to Family Sex Communication</td>
<td>.019</td>
<td>.007</td>
<td>.306**</td>
<td></td>
</tr>
<tr>
<td>Frequency of Sex-Related Discussions</td>
<td>.001</td>
<td>.008</td>
<td>.009</td>
<td></td>
</tr>
</tbody>
</table>

Note: * Significant at $p < .05$ level, ** Significant at $p < 0.01$ level, *** Significant at $p < .001$ level
Predicting the Sexual Orientation Identity Uncertainty Status. This subscale measures whether there is a commitment or a lack of commitment to a sexual orientation identity (Worthington et al., 2008). Higher scores indicate that an individual is unclear or uncertain of their sexual orientation.

Assumptions and Diagnostics. The histogram and the normal probability plot (P-P plot) of the residuals for the regression analysis of the sexual identity status of sexual orientation identity uncertainty indicated that the assumption of a normal distribution of error (normality of residuals) had been violated. There was a positive skew in the histogram and deviations from the line in the P-P plot were apparent. The standardized residuals were not randomly scattered around zero in the scatterplot of the standardized residuals against the standardized predicted values. This indicated that the assumptions of homoscedasticity and linearity had not been adequately fulfilled. Further, there was not a random scatter around zero for each of the partial regression plots of the outcome variable, sexual orientation identity uncertainty, against each predictor variable which also attests that the assumptions of homoscedasticity and linearity have been violated and cannot be assumed. The Durbin-Watson statistic was within the acceptable range of 1.5 to 2.5 indicating the fulfillment of the assumption of independent errors. Given the violation of multiple assumptions for this regression analysis, results for the prediction of sexual orientation identity uncertainty should be interpreted with caution.

Regression Analysis. The mean sexual orientation identity uncertainty score was $M = 1.49$, $SD = .91$. The first stage in the hierarchical regression model was not significant accounting for approximately one percent of the variance in sexual orientation identity uncertainty scores, $F(3, 182) = .56, ns$. With the introduction of attachment, family sex communication orientation, and frequency of communication regarding various sexuality-related
topics as predictors in the second stage of the model, the amount of variance accounted for increased to four percent which was not a significant change, \( F(3, 179) = 1.95, \ ns. \) This second model was not a significant fit of the data overall, \( F(6, 179) = 1.26, \ ns. \) See Table 7 for the regression analysis results.

Table 7

**Multiple Regression Analysis for Sexual Orientation Identity Uncertainty**

<table>
<thead>
<tr>
<th>Predictors</th>
<th>R Squared</th>
<th>B</th>
<th>SE</th>
<th>( \beta )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.009</td>
<td>-.045</td>
<td>.058</td>
<td>-.058</td>
</tr>
<tr>
<td>Adolescent Religiosity</td>
<td></td>
<td>-.121</td>
<td>.179</td>
<td>-.061</td>
</tr>
<tr>
<td>Mother Religiosity</td>
<td></td>
<td>.171</td>
<td>.165</td>
<td>.093</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>.040</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>-.054</td>
<td>.058</td>
<td>-.069</td>
</tr>
<tr>
<td>Adolescent Religiosity</td>
<td></td>
<td>-.137</td>
<td>.179</td>
<td>-.069</td>
</tr>
<tr>
<td>Mother Religiosity</td>
<td></td>
<td>.155</td>
<td>.165</td>
<td>.084</td>
</tr>
<tr>
<td>Attachment</td>
<td></td>
<td>-.009</td>
<td>.005</td>
<td>-.167*</td>
</tr>
<tr>
<td>Orientation to Family Sex Communication</td>
<td></td>
<td>0.001</td>
<td>.007</td>
<td>.011</td>
</tr>
<tr>
<td>Frequency of Sex-Related Discussions</td>
<td></td>
<td>-0.002</td>
<td>.008</td>
<td>-0.033</td>
</tr>
</tbody>
</table>

Note: * Significant at \( p < .05 \) level, ** Significant at \( p < 0.01 \) level, *** Significant at \( p < .001 \) level

**Discussion**

The purpose of this study was to investigate sexuality-related topics discussed and not discussed, the perceived importance placed on sexuality-related communication within families, and the influences of parent-adolescent attachment quality and sexuality-related communication on sexual identity development among a Canadian sample of female university students.

Participants completed an online survey consisting of questionnaires assessing their attachment relationship with their mothers, sexuality-related topic communication, perceptions of family sex communication, and sexual identity development.
Sexuality-Related Topics Discussed and Not Discussed

Previous research has suggested that sexuality-related communication between parents and adolescents is limited, often occurs infrequently, and that some topics are more likely to be discussed than others (e.g. Rosenthal et al., 1998; Rosenthal & Feldman, 1999). This present research study has yielded similar results. Topics falling under the two broader sexuality-related topic domains of development and societal concerns and sexual safety were discussed, on average, between once and a few times. Topics within the domains of the experience of sex and solitary sex were discussed between never and once on average. These results mimic that of Rosenthal and Feldman’s (1999) results where development and societal concerns and sexual safety were discussed more frequently than the experience of sex or solitary sex.

In the development and societal concerns domain, the response endorsed by the largest proportion of participants for the frequency of discussion for each sexually-related topic was ‘a few times’, with the exception of the topic of menstruation which was indicated most frequently as ‘often’ discussed. This means that physical development, homosexuality, menstruation, abortion, pregnancy, and sex before marriage were discussed at least to some extent for a sizable portion of the sample in this study. The second most frequent chosen response was either ‘often’ or ‘never’ for each individual topic; a significant minority of the sample either often discussed some topics while another significant minority never discussed other topics. It seems as though there could be a pattern in frequency of discussions within this domain when looking at the first and second most frequent chosen responses. The items which were discussed either ‘a few times’ or ‘often’ by a large proportion of participants (menstruation, physical development, and pregnancy) seem to be issues of sexual development which could be discussed with a more biological or factual approach and are likely universally accepted as a part of development. The
remaining three items that were either ‘never’ or ‘a few times’ discussed by a large proportion of participants (homosexuality, abortion, and sex before marriage) seem to be related to issues of morality and could be considered more as taboo topics of discussion, thus the split in discussion frequency. It may be easier for mothers to discuss the more biological aspects of sexuality while the more moral topics have a more divided variation in discussion frequency because they reflect more sensitive personal values. Moral issues may be more difficult, perhaps more uncomfortable, to discuss for some since individuals can hold positive or negative, or liberal or conservative, views on these topics. This interpretation supports the findings of Nolin and Peterson (1992) where parents were much more at ease and were able to discuss factual sexuality-related topics (i.e. pregnancy and menstruation) but felt more uncomfortable and challenged when more interpersonal, erotic, or moral aspects of sexuality needed to be discussed. Nevertheless, all topics in this domain were discussed to some extent at least ‘a few times’ more so than not being discussed at all.

The frequency of discussions for topics within the sexual safety domain indicated that HIV and STI’s were ‘never’ discussed while safe sex and contraception were ‘often’ discussed as indicated by the largest proportion of participants choosing these responses. It has been demonstrated that a common reservation of mothers in discussing sexuality-related topics is being asked a question to which they do not know the answer to (Jaccard et al., 2000) and that expectancies about lacking knowledge and explanatory skills are related to less frequent sexuality-related communication (Guilamo-Ramos et al., 2008). Perhaps mothers are not knowledgeable, or do not feel as though they are knowledgeable, regarding details of HIV and STI’s so they are less likely to discuss these topics. Engaging in broad discussions about safe sex and methods of contraception – ways to keep an individual safe and protected – may be deemed
easier and less threatening than a discussion of the details of things that can go wrong. Indeed, there has been some research suggesting that when parents try to discuss some sexuality-related topics with their adolescents, their messages are general, broad, and indirect in nature. For example, some parents may use general phrases such as “be careful,” or remind their adolescents to “protect themselves” without going into the details about what they are referring to (Villaruel, 1998).

The two topics in the solitary sex domain, wet dreams and masturbation, were ‘never’ discussed by a large majority of participants. In the experience of sex domain, the majority of items were ‘never’ discussed; only two items, dating and romantic relationships and choice of partner, were discussed ‘often’ or ‘a few times’, respectively, by the largest proportion of participants. With these two domains together, the items that were ‘never’ discussed could be thought of as to relate to more personal aspects of sex (i.e. different types of sexual practices or talking about sexual needs with a partner) while the topics discussed more frequently relate to the more general topics of dating and partners. This distribution of the frequency of discussion for the individual items in these domains parallels the finding of Daddis and Randolph (2010) where issues concerning the identity or choice of partner were voluntarily disclosed by adolescents to their parents more so than the more personal and private sex and supervision issues. Similarly, Coffelt (2010) found that details of one’s sexual activity were considered taboo for the majority of the mother-daughter dyads interviewed. Indeed the results in this study reflect that the topics that were never discussed related more to the details of sexual activity.

Overall, the results concerning which topics were discussed (physical development, homosexuality, menstruation, abortion, pregnancy, sex before marriage, safe sex, contraception, dating and romantic relationships, and choice of partner) and not discussed (HIV, STI’s, sexual
desire, sexual pressure, satisfaction, different types of sexual practices, talking about sexual needs with a partner, the role of a peer group in sexual decision making, wet dreams, and masturbation) generally mirror that which has been found in past research (e.g. Heisler, 2005; Nolin & Peterson, 1992; Rosenthal et al., 1998; Rosenthal & Feldman, 1999).

The findings of the topics discussed and not discussed can also be explained using Social Domain Theory (Smetana & Asquith, 1994). Both the experience of sex and solitary sex topic domains largely encompass areas that would be considered as falling under the personal domain of Social Domain Theory. Issues falling under the personal domain are generally regarded, by both adolescents and their parents, as under the jurisdiction of the adolescent (Smetana et al., 2006; Smetana & Asquith, 1994). It is therefore not surprising that mothers would not discuss, or limit their discussion of, topics pertaining to the experience of sex and solitary sex as these are more personal topics. In contrast, sexuality-related topics within the sexual safety or development and societal concerns domains, which could be considered as prudential, moral, or conventional issues depending on the individual topics, are in domains which parents typically hold jurisdiction and authority over (Smetana et al., 2006). Since parents are given authority in these domains it is not surprising that topics within the realms of sexual safety or development and societal concerns were discussed more frequently. Parents also feel responsible for their adolescents’ health and safety, or the prudential domain of Social Domain Theory (Smetana & Asquith, 1994), so a concern for physical development and sexual safety likely takes precedence in discussion.

**The Importance of Sexuality-Related Communication**

The results from this study highlight that there is some importance attributed to sexuality-related communication between family members and the role of the family in learning about sex.
In this study, although family sexuality-related communication was perceived as important and valuable, it seems as though the level of comfort and freedom to share sexuality-related information was comparatively low. While individuals may see the importance and value in sexuality-related communication between family members, discomfort may be getting in the way of communication actually taking place; hence the overall low frequency of discussion. These findings support previous research in which both parents and adolescents have affirmed the value of sexuality-related communication within families (Kirkman, Rosenthal, & Feldman, 2002). Adolescents have reported that their parents are their preferred source of sex education (Somers & Surmann, 2004), and parents believe that they have an important role in providing sexuality-related information to adolescents (e.g. Rosenthal et al., 1998). With the adolescent reports of parents as a preferred source of sex education (Somers & Surmann, 2004), it is unsurprising that adolescents in this study placed importance and value on family sexuality-related communication despite indicating the discomfort surrounding family sexuality-related communication. Discomfort in sexuality-related communication is often noted in the literature (e.g. Guilamo-Ramos et al., 2008; Jaccard et al., 2000; Jerman & Constantine, 2010), however, parents and adolescents do wish that there was more sexuality-related communication taking place on a greater variety of topics and “more openness” in those conversations (Heisler, 2005; Nolin & Peterson, 1992).

**Sexual Identity**

A major objective of this research study was to investigate the influences of the attachment quality of the mother-daughter relationship and sexuality-related communication between mothers and daughters on sexual identity development status. Overall, results of this study indicated that attachment quality was negatively associated with sexual identity
exploration, frequency of sexuality-related discussion was related to greater identity commitment scores, and orientation toward family sex communication was associated with identity synthesis or integration.

The literature on the influences of the parent-adolescent attachment relationship on identity development has often suggested that a positive and secure attachment base between parents and adolescents can promote identity exploration during adolescence (Marcia, 1983; Mikulincer & Shaver, 2007; Samuolis et al., 2001; Vignoli et al., 2005). The results from this study are contrary to what would be expected given the previous literature on the positive relationship between attachment quality and identity exploration. Higher scores for parent-adolescent, specifically mother-daughter, attachment quality were predictive of lower scores for sexual identity exploration in this study.

It is possible to consider a variety of explanations for the negative relationship between attachment quality and exploration found in the current study. It could be that the nature of the dynamic of the parent-adolescent relationship during the sexual socialization process itself is having a negative effect on sexual identity exploration. Chapman and Werner-Wilson (2008) found that when adolescents reported higher parental influence in their lives, their attitudes toward sex became more negative. Perhaps individuals who have greater attachment quality with their mothers are more likely to be influenced by this relationship because of a closer bond shared. If adolescent attitudes toward sex become more negative when greater parental influence is reported, likely because of their interpretation of their parents’ attitudes towards sex or their own sexual development as negative, as Chapman and Werner-Wilson (2008) noted, it could be that adolescents would be turned off to the idea of sexual identity exploration. Similarly, it has been documented that adolescents with more conservative attitudes toward sex would be less
likely to engage in sexual identity exploration (Worthington et al., 2008). Unfortunately, individual sexual attitudes were not measured as part of this study. However, it can be speculated that, given the literature suggesting adolescent attitudes toward sex become more negative with greater parental influence, the parent-adolescent attachment relationship may be associated with more conservative attitudes of adolescents, and thus lower exploration scores were noted.

Another conceptualization of the negative relationship between attachment quality and exploration concerns risk-taking. Muise (2008), also using a sample of students from the University of Guelph, has reported that sexual identity exploration, as measured by the MoSIEC, was related to more risk-taking sexual behaviours. Throughout attachment literature, it is noted that individuals with secure attachment styles engage in less sexual risk-taking behaviours (Cassidy & Shaver, 2008; Mikulincer & Shaver, 2007). The results of this study could be indicating that lower sexual identity exploration predicted by greater parent-adolescent relationship attachment quality is occurring because of a decreased likelihood of engaging in sexual risk-taking. Miller and Fox (1987) also described adolescent sexuality as being influenced by the quality of the parent-adolescent relationship in which the bond constrains adolescents into conforming to parental expectations. Miller and Fox (1987) point to research insisting that adolescent daughters reporting more positive relationships with their mothers are more sexually inexperienced. The nature of the items on the sexual identity exploration subscale suggest that some form of sexual experience is required for exploration (i.e. “I am actively experimenting with sexual activities that are new to me” or “I went through a period in my life when I was trying different forms of sexual expression”). This would conform to the insights of Miller and Fox (1987) where close parent-adolescent relationships are associated with less sexual experience and thus lower exploration scores. Although specific questions relating to risk-taking
were absent, the manner in which one is experimenting with new sexual activities, for example, may be deemed as risky.

It should be noted that the sexual identity exploration subscale includes past, present, and future exploration statements. Low exploration scores can be obtained when one admits to exploring some facets of their sexual identity in the past but that they are not currently exploring and are not open to exploration in the future. The finding that high attachment quality predicted lower exploration scores may be associated with the manner in which sexual identity exploration was measured. Given that exploration is measured with past, present, and future statements, that low exploration scores are possible despite exploration having taken place, and that the results were contrary to what would have been expected, it could still be that greater attachment quality is positively associated sexual identity exploration, but with exploration occurring in the past. A strong and high quality attachment relationship could provide the foundation for sexual identity exploration occurring earlier, and over time, with a developing commitment to a sexual identity, the need for exploration diminishes – this would not be captured in the current study and would be considered as a low exploration score. Low exploration scores are also possible on this subscale if one is actively exploring their sexual identity, but has not explored in the past and does not expect to explore in the future. Similarly, individuals who may have explored, are actively exploring, or are open to future exploration of, one aspect of their sexual identity, for example their sexual needs, but not others, would also receive a low exploration score. It may not be beneficial to be exploring the various aspects of sexual identity simultaneously, thus, high exploration scores may not be desirable – for example, actively trying to determine sexual values while also actively experimenting with new sexual activities may lead an individual to engage in behaviours which may ultimately not be consistent with their values. It should also be noted that
individuals who may not be actively exploring their sexual identity, nor explored their sexual identity in the past, may still engage in sexual identity exploration in the future even if they are not currently open to future exploration at the present time. Indeed, results from this study indicated that the propensity to engage in exploration increased as the age of the participants also increased. Overall, the findings concerning sexual identity exploration in this study may not be entirely reliable because of the manner in which it was measured.

It has been noted that a distinction can be made between active exploration of sexual identity and naive behavioural experimentation, or passive exploration (Morgan, 2012; Worthington et al., 2002). The exploration subscale used in the current study seems to be measuring the more active process of exploration where there is conscious and deliberate assessment of the various components of sexual identity (i.e. “I am actively trying to learn more about my own sexual needs”). In identity literature, exploration is an important part of the process toward the development of a stable and coherent sense of self (Cassidy & Shaver, 2008; Marcia 1966, 1983; Mikulincer & Shaver, 2007), and high scores on measures of exploration would typically be perceived as a beneficial to an individual. In the context of this current study, and with the distinction between passive and active exploration, perhaps individuals engage in more passive exploration of their sexual identity, which is excluded from the current measure, rather than active exploration. For the manner in which exploration was measured in this study, high (active) exploration scores may not be desirable, especially with the association between high exploration scores on the MoSIEC and engaging in sexual risk-taking behaviours (Muise, 2008). In this case, the quality of the parent-adolescent relationship predicting lower exploration would be a positive outcome since it is related to less sexual risk-taking. Perhaps a greater quality parent-adolescent relationship would predict greater passive sexual exploration scores
which would adhere to the established idea of the influences of the parent-adolescent relationship in identity development.

While sexual identity exploration was predicted by both age and attachment quality, sexual identity commitment and synthesis/integration were predicted by sexuality-related communication variables; frequency of sexuality-related discussion and orientation toward family sex communication, respectively. Sexual identity commitment and synthesis/integration are closely related in that achieving synthesis/integration can only come about after a deepening of commitment toward a sexual identity (Worthington et al., 2002). It is thus unsurprising that both commitment and synthesis/integration were predicted by sexuality-related communication.

Increased frequency of parent-adolescent sexuality-related discussions across a variety of topics could have been related to greater commitment to various aspects of sexual identity because of more frequent exposure. Sexual socialization can occur through sexuality-related communication (Lefkowitz & Stoppa, 2006) and parents, usually mothers, are able to transmit their own knowledge, views, and values regarding sex and sexuality through communication (Jaccard et al., 2002; Jerman & Constantine, 2010). With the current research study results, it seems that with more exposure to sexuality-related communication, the likelihood increases for one to adopt the sexual messages as inherently their own. Engaging in more frequent sexuality-related discussion may make it easier to adopt similar values, views, and knowledge, and commit to a sexual identity, especially if the same messages are continuously repeated with increased frequency. Jaccard et al (2002) acknowledge that for parental communication to create a meaningful impact on an adolescent, the adolescent must first be exposed to the messages they wish to convey. Further, when one’s evaluation of family sex communication becomes more positive, it may be easier to allow for the sexuality-related messages transmitted to become more
deeply engrained into one’s identity. This could explain the predictive relationship between orientation toward family sex communication and synthesis/integration. For instance, if one highly values family sexuality-related communication and has positive experiences with it, it seems reasonable that they would be less likely to question the details of the communication and allow it to develop into an integrated sexual identity. Indeed Jaccard et al (2002) noted that for parent-adolescent communication to be meaningful, the messages transmitted should be accepted as valid. It is plausible that messages would be accepted as valid if the adolescent perceives the family as a valuable source of information.

High scores in both commitment and synthesis/integration are desirable in that they represent an attainment of an identity and coherence among dimension of sexual identity. Sexuality-related communication being positively related to commitment and synthesis/integration is advantageous in that it suggests sexuality-related communication across a wide range of topics is part of the process toward commitment and a cohesive and unified sexual identity. However, to be most valuable, high commitment and synthesis/integration scores would be accompanied by high exploration scores to demonstrate that an individual engaged in the exploration process to arrive at their identity rather than foreclose on an identity.

Identity development status is most often conceptualized along the two dimensions of commitment and exploration simultaneously (Marcia, 1966). In the context of the interpretation of the results of this study, where sexuality-related communication was associated with sexual identity commitment (potentially because of engrained values and attitudes) through both commitment and synthesis/integration subscales, but not with sexual identity exploration, further discussion is warranted. It could have been expected that with an adoption of similar values and attitudes through greater sexuality-related communication (deepening the commitment to an
identity), sexuality-related communication would have predicted lower sexual identity exploration scores to create a foreclosed sexual identity status (high commitment and low exploration; Marcia, 1966); however, this was not the case. This is a probable expectation given that conservative attitudes toward sex have been shown to be endorsed when there is increased sexuality-related communication between parents and adolescents (DiLorio et al., 1999), perhaps because of a focus on discussing health, safety, and danger rather than sexual satisfaction, sexual desire, and pleasure, and conservative attitudes toward sex are associated with less sexual exploration (Worthington et al., 2008). In a recent study on sexual identity development, Morgan (2012) reported that the majority of individuals were classified as in a passive deepening and commitment status whereby individuals acknowledge a strong commitment to their sexual identity and describe experiences as integral in developing their sexual identity (passive exploration), but no purposeful, or active, exploration. Given the manner in which exploration was measured in this study, with a focus on active or conscious exploration, it could be that individuals have explored more passively to arrive at committed sexual identity and that this would not have been captured in this study. Indeed, Morgan (2012), also using the MoSIEC to measure sexual identity exploration and commitment, found that individuals in the passive deepening and commitment status did express lower exploration scores than individuals who engaged in more active exploration. For the current study, with sexuality-related communication predicting commitment but not exploration (neither high nor low), it could be that sexuality-related communication plays a role in passive rather than active exploration.

With the discussion and interpretation of the results for the predictive relationships between attachment quality and sexual identity exploration, and sexuality-related communication and sexual identity commitment and synthesis/integration, it is important to note the low
variance accounted for in the regression models and the inconsistencies between the significant predictors across the exploration and commitment dimensions. Interpretations of the findings from this study need to be made with caution. Sexual identity development is likely a complex phenomenon; the interpretations made of the findings represent a small portion of the potential developmental process and cannot describe the influences on sexual identity development entirely.

Sexual orientation identity uncertainty was also included as part of this study and warrants discussion. The three items pertaining to this MoSIEC subscale asked whether individuals were unclear or uncertain of their sexual orientation. It was unsurprising that the large majority of participants indicated that sexual orientation identity uncertainty was not very characteristic of them. It is suspected that by late adolescence, the majority of individuals have a grasp of their sexual orientation (Savin-Williams & Diamond, 2000). As a dimension of sexual identity, sexual orientation seems to be comparatively unique to the other dimensions (perceived sexual needs, preferred sexual activities, preferred characteristics of sexual partners, sexual values, and preferred modes of sexual expression) in that it is not a trait that can be learned or shaped by external influences such as within the context of a family; there are many biological explanations offered for sexual orientation (Worthington et al., 2002). In this current research study, sexual orientation identity uncertainty was not predicted by either the quality of the attachment relationship nor sexuality-related communication.

Limitations

This study is not without limitations. The participants used in this study included only female undergraduate students at a single Canadian university which limits the generalizability of the results. Whether similar patterns of sexuality-related topics discussed and not discussed,
importance of sexuality-related communication in families, and the influence of attachment quality and sexuality-related communication on sexual identity development exist among males of a similar age and among individuals not attending a post-secondary institution is unknown. This study is also limited by the age of the participants used. Older, university-aged, adolescents coming into adulthood have had more time to develop their sexual identity and thus results of this study may not be generalizable to a younger population of adolescents who may be only beginning to discover and develop in the sexual realm. The sample used in this study was predominately Caucasian (91.9%) and was not representative. Further, participants who voluntarily chose to participate by completing the online survey may have been inherently different than those not choosing to participate. The actual number of students reached through recruitment efforts could not be calculated. It was not possible to obtain enrollments lists for each class solely for female students and it is possible that individuals could have been enrolled in two or more of the recruitment classes over the course of the two semesters.

The research questions could also not be investigated as stated. The third research question needed to be re-conceptualized over the course of the research study due to necessary changes made to the variables used in the hierarchical regression analyses. Regarding the use of the total FSCQ score, although two (Zamboni & Silver, 2009) and three-factor (Warren & Neer, 1986, Warren, 2011) models have been proposed for the FSCQ, the two-factor model had not been validated and the high inter-subscale correlations made the use of the three-factor approach untenable from a statistical standpoint. The use of the total frequency of sexuality-related discussion rather than the four separate topic domains was also justified. Separately the four topic domains tap into the same notion of sexuality-related discussion frequency, thus, the combination of domains for a total sexuality-related discussion frequency score kept the integrity
of the data obtained. The measures used in this research study unfortunately limited the scope of what could be investigated.

This study is also limited in scope by its investigation into solely the parent-adolescent relationship and the sexuality-related communication that takes place within that relationship. It is known that peers play an increasingly important role in the lives of adolescents (Larson et al., 1996) and it is possible that peer influence extends much further than parental influence. The cross-sectional nature of this study also does not allow for the investigation into the changes in sexuality-related communication and sexual identity development over time.

The amount of variance accounted for in the hierarchical multiple regression analyses for the sexual identity statuses was low. Accounting for only a small amount of variance in the regression models is a noted limitation and indicates that sexual identity development is complex and that it is likely also influenced by other variables not included in this study, such as attitudes toward sex, the influence of peer or romantic relationships, and the nature of sexuality education and messages in schools and through media. The study is further limited by the exclusion of variables such as relationship status and relationship duration of the participants. Being in a relationship may make one more or less likely to explore sexual identity and commit to and develop an integrated sexual identity.

**Suggestions for Future Research**

The limitations of this research present opportunities for future research. Including males, younger adolescents, and an overall more diverse sample in research of a similar nature would further enhance knowledge. The inclusion of the influence of peer relationships in future studies on sexuality-related communication and development of sexual identity is also suggested. The Inventory of Parent and Peer Attachment (Armsden and Greenberg, 1987), used in this current
study (mother version), includes a version for the assessment of the quality of peer relationships. Direct comparisons could be made between parental and peer relationships for sexuality-related communication and influences on sexual identity development.

Research in the area of adolescent sexual identity development should also continue to involve a broader and multidimensional view of sexual identity, rather than focusing narrowly on sexual orientation (one of the dimensions of sexual identity) as has been the case in past research (Archer & Grey, 2009; Worthington et al., 2002). The literature on identity development during adolescence is well-developed (e.g. Erikson, 1968; Marcia, 1966; Mikulincer & Shaver, 2007), however, knowledge regarding the process of sexual identity development, with sexual identity as a multidimensional concept is lacking and warrants investigation. Future research could investigate the unique developmental processes of the other individual dimensions aside from sexual orientation (perceived sexual needs, preferred sexual activities, preferred characteristics of sexual partners, sexual values, and preferred modes of sexual expression) which comprise sexual identity (Worthington et al., 2002). A longitudinal investigation of the development of the individual sexual identity components would offer insights into the changes and fluidity of sexual identity over time, as well as what factors influence the development of each dimension. Although the variability in the subscale measuring sexual orientation identity uncertainty was low, sexual orientation is an element in sexual identity and should continue to be considered in sexual identity research; however, it is suggested if all dimensions of sexual identity are investigated in a single study, the manner in which they are measured should be consistent (i.e. not having a separate subscale solely for sexual orientation while the other dimensions are combined for the other subscales).

There is an abundance of literature concerning the influence of sexuality-related
communication on sexual behaviours (e.g. DiIorio et al., 2003), however, it is speculated here that sexual behaviours may not necessarily reflect how an individual views themselves as a sexual being. Investigating the congruence between how one views oneself as a sexual being (i.e. sexual identity) and sexual behaviour is a unique avenue to pursue for future research.

With the results of the current study indicating infrequent discussion for most topics in the experience of sex and solitary sex domains, as well as infrequent discussion regarding HIV and STI’s, future research to uncover factors that would increase parent-adolescent communication in these areas is suggested. Investigating effective methods to increase comfort in parent-adolescent sexuality-related communication, for example, possible interventions, across all domains and topics is also recommended.

Finally, given that the results of this study indicated a negative relationship between attachment quality and sexual identity exploration, which is contrary to what would be expected given the established literature on the influences of attachment on identity development, it is recommended that more research be conducted. It is unknown whether a strong attachment is leading to a foreclosed sexual identity (commitment to an identity without exploration) because, through a secure and close bond, adolescents adopt their parents’ views on sexuality and thus not engage in exploration, or whether a strong attachment relationship is influential in earlier exploration and further exploration is not needed. The manner in which exploration was measured complicates the interpretations that can be made from the current study’s findings. It is also suggested that research be conducted investigating the influences on both active and passive sexual exploration.

Implications

The current research study adds valuable information to the established literature in the
areas of parent-adolescent relationships, sexuality-related communication, and sexual identity development. Although much research has been done concerning the topics discussed and not discussed during sexuality-related communication between parents and adolescents (e.g. Rosenthal et al 1998; Rosenthal & Feldman, 1999), this study adds a Canadian perspective. For sexual health professionals, knowledge concerning sexuality-topics typically discussed and not discussed within families can highlight the topic areas which could use more attention in sexual health education. This information can be used to create education programs to supplement what is being addressed at home in order to expose adolescents to the complete spectrum of sexuality-related topics which is important for sexual development. Neglecting to discuss positive aspects of sexuality such as sexual desire or sexual satisfaction, and directing focus on sexual safety or development and societal concerns, perpetuates a danger discourse between parents and adolescents where sexuality is portrayed as dangerous and in a negative manner (Elliott, 2010a; Elliott, 2010b). In order to establish a healthy sexual identity and overcome shame, guilt and confusion often felt by adolescent females exploring the pleasures of sexualities, the awareness and recognition of sexual desires, needs, satisfaction and pleasure is imperative (Welles, 2005). Through education, awareness and recognition of the positive aspects of sexuality is possible.

Examining the perceived overall importance for the role of the family in learning about sex is important to understanding the value adolescents place on family sexuality-related communication. The importance given to sexuality-related communication within families was highlighted in this study, as was the overall infrequency of sexuality-related discussions. This suggests that adolescents deem sexuality-related communication in families as valuable, yet these discussions are not taking place frequently. The development and implementation of interventions to increase sexuality-related communication between parents and adolescents may
be helpful in overcoming the discomfort and uneasiness surrounding sexuality-related communication, and may increase parental knowledge on issues and topics of adolescent sexuality. Parents need to be made aware of the potential implicit messages they sending to their adolescents when they are uncomfortable discussing the full range of sexuality-related topics or intentionally avoid certain topics, such as sexual satisfaction.

For adolescents, the results of this current study infer that sexuality-related information may need to be attained or supplemented from sources beyond parents. Adolescents can also initiate sexuality-related discussions with their parents in order to inform their parents they have a desire to engage in such discussions and would value their participation. For parents, results suggest that maintaining honest and open sexuality-related communication with adolescents may be beneficial. Adolescents should be encouraged to consider and explore various elements of their sexual identity.
References


Daddis, C., & Randolph, D. (2010). Dating and disclosure: Adolescent management of


Guerrero, L. K., & Afifi, W. A. (1995). Some things are better left unsaid: Topic avoidance in


Kerr, M., Stattin, H., & Trost, K. (1999). To know you is to trust you: Parents’ trust is rooted in


Counseling Psychologist, 30(4), 496-531.


Appendix A
Research Ethics Board Approval Certificate

RESEARCH ETHICS BOARD
Certification of Ethical Acceptability of Research Involving Human Participants

APPROVAL PERIOD: October 7, 2011 to October 7, 2012

REB NUMBER: 11SE024

TYPE OF REVIEW: Delegated Type 1

RESPONSIBLE FACULTY: SUSAN LOLLISS

DEPARTMENT: Family Relations & Applied Nutrition

SPONSOR: N/A

TITLE OF PROJECT: Parent-adolescent relationships, sexually-related communication and adolescent sexual identity development

The members of the University of Guelph Research Ethics Board have examined the protocol which describes the participation of the human subjects in the above-named research project and considers the procedures, as described by the applicant, to conform to the University’s ethical standards and the Tri-Council Policy Statement.

The REB requires that you adhere to the protocol as last reviewed and approved by the REB. The REB must approve any modifications before they can be implemented. If you wish to modify your research project, please complete the Change Request Form. If there is a change in your source of funding, or a previously unfunded project receives funding, you must report this as a change to the protocol.

Adverse or unexpected events must be reported to the REB as soon as possible with an indication of how these events affect, in the view of the Responsible Faculty, the safety of the participants, and the continuation of the protocol.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and approvals of those facilities or institutions are obtained and filed with the REB prior to the initiation of any research protocols.

The Tri-council Policy Statement requires that ongoing research be monitored by, at a minimum, a final report and, if the approval period is longer than one year, annual reports. Continued approval is contingent on timely submission of reports.

Membership of the Research Ethics Board: B. Beresford, Ext.; F. Caldwell, Physician; K. Cooley, Alt. Health Care; J. Clark, PolSci (alt); J. Devlin, OAC; J. Dwyer, FRAW; M. Dwyer, Legal; D. Dyck, CBS; D. Emslie, Physician (alt); H. Gilmour, Legal (alt); G. Holloway, CBS (alt); B. Ferguson, CMR (alt); S. Henson, OAC (alt); L. Kuczynski, Chair; J. Mimogue, EHS; J. Newby-Clark, Psychology (alt); L. Nielsen, OVC (alt); A. Papadopoulos, OVC; B. Power, Ext.; L. Robinson, CBS; V. Shalla, SOAN (alt); L. Son Hing, Psychology; J. Srbely, CBS (alt); T. Turner, SOAN; E. van Duren, CMR.

Approved: __________________________
Chair, Research Ethics Board

Date: __________________________
Appendix B
Recruitment Poster

Participate in a Study: Parent-adolescent relationships, sexually related communication, and adolescent sexual identity development

- This research focuses on the influences of the quality of the parent-adolescent relationship and sexually-related communication on the development of sexual identity.

- Participants will be asked to:
  - Complete a series of questionnaires online, which will take approximately 30-45 minutes (once questionnaires are submitted, no further participation is required)
  - Participate by completing the online questionnaire at a time convenient for you and in a place you feel most comfortable

- Any undergraduate student, aged 22 or under, is welcome to participate.

If interested in participating in this research study, please visit the following webpage to access and complete the questionnaires:

This research has received clearance from the University of Guelph Research Ethics Board as consistent with the standards of the Tri-Council Policy Statement for Research Involving Humans (TCPS). Contact information for the REB administration: reb@uoguelph.ca

University of Guelph
Department of Family Relations and Applied Nutrition
Ms. Sandra Pericak
Masters Student
Department of Family Relations
519-824-4120 ext. 56987
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Dr. Susan Lollis
Department of Family Relations
519-824-4120 ext. 53003
slollis@uoguelph.ca
Appendix C

Script for Classroom Visits

(The poster will be put up on projection screen in the classroom)

Hello everyone, my name is Sandra Pericak and I am a Master’s student, working with Dr. Susan Lollis, in the Family Relations and Human Development program here at the University of Guelph. I am currently looking for students to participate in my research study, as part of my Master’s thesis, looking at the influences of the quality of the parent-adolescent attachment relationship and sexually-related communication on the development and status of one’s sexual identity. This research has received clearance from the University of Guelph Research Ethics Board as consistent with the standards of the Tri-Council Policy Statement for Research Involving Humans.

Any undergraduate student, under the age of 22, is welcome to participate in this research. Participation involves completing a series of questionnaires online, which should take approximately 30 to 45 minutes to complete. Completing the questionnaires is done whenever and where ever is most convenient and comfortable for the participant. Once the questionnaire is submitted online, no further participation is required.

If interested in participating in this research, you can access, complete, and submit the questionnaires using the link provided. If you have any questions regarding the study, please contact me at spericak@uoguelph.ca. I will leave a few posters, with all this information, at the front if anyone is interested in participating and did not get a chance to write the link to the questionnaires down.

Thank you for your time.
CONSENT TO PARTICIPATE IN RESEARCH

Parent-adolescent relationships, sexually-related communication, and adolescent sexual identity development

You are asked to participate in a research study conducted by Sandra Pericak, as part of a Masters thesis, under the supervision of Dr. Susan Lollis, from the Department of Family Relations and Applied Nutrition at the University of Guelph.

If you have any questions about the research, please feel free to contact: Sandra Pericak, spericak@uoguelph.ca, 519-824-4120 ext. 56987, or Dr. Susan Lollis (advisor), slollis@uoguelph.ca, 519-824-4120 ext. 53003.

PURPOSE OF THE STUDY

The purpose of this study is to investigate the influence of the quality of the parent-adolescent relationship and sexually-related communication variables on the development of sexual identity (the frequency of sexually-related communication across a range of topics discussed and avoided, the experience of comfort in such discussions, and whether sexually-related information is openly and freely shared between parents and adolescents).

PROCEDURES

If you volunteer to participate in this study, you will be asked to complete a series of questions online at a location and time that is most comfortable and convenient to you. The questions will be related to your relationship with your mother, your engagement in sexually-related communication with your mother, and the current status in your development of a sexual identity. The length of time required to fully complete the series of questions will be 30 – 45 minutes.
If you wish to obtain a summary of the results upon the completion of this study, please provide your email address at the end of the questionnaire, where indicated. Results will be made available in Fall 2012.

POTENTIAL RISKS AND DISCOMFORTS

Participating in this study involves answering questions regarding parent-adolescent sexually-related communication and sexual identity. These topics may be of a sensitive nature to some participants and may lead to feelings of discomfort or embarrassment. All data collected, however, will be confidential, and your participation in this research study is completely voluntary. You have the right to withdraw from the research study at any time if you feel uncomfortable in continuing to complete the online questionnaires. You also have a choice to not answer any question that elicits any discomfort.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

There are some benefits to participating in this research study. Participants will benefit by knowing that they have contributed to the advancement of knowledge and understanding of the influences in the development of sexual identity, an area previously underexplored. As well, there are potential benefits to the scientific community and society with participants’ involvement in this research study. The more of an understanding we gain concerning the influences in the development of sexual identity, the more likely we are able to positively assist adolescents in exploring and discovering their individual sexual identities.

PAYMENT FOR PARTICIPATION

Participants will not receive payment for participation. Participation in this research study is strictly voluntary with no remuneration.

CONFIDENTIALITY

Every effort will be made to ensure confidentiality of any identifying information that is obtained in connection with this study. You will not be asked to provide any specific identifying information (name, address, or any other contact information) during your involvement in the research study, unless you wish to receive a summary of the results for this study upon completion, in which case you will be asked to provide your email address. Email addresses will
be collected from a second, separate, survey (to which you will be provided the direct link to) so no connection between your email address and your answers to the online questionnaires can be made. There will be no individual results released in the results or report of the findings. There will be no manner in which to trace your identity to the answers you provide. IP addresses will not be collected.

To ensure confidentiality and security of the data, all data collected will be stored on a password-protected computer. The data will be retained in this manner until full results are available and all analyses are completed. Publications that result from this research will not include any individual identifying information in the report of the findings. Once the study is completed and publications are accepted, data will be destroyed.

You can help to ensure confidentiality by taking the following precautions to clear all private data from the computer you are using to respond to the survey:

1. Clear the browsing history
2. Clear the cache
3. Clear the cookies
4. Clear the authenticated session
5. LOG OFF

If you are using Internet Explorer, the first 4 steps can be accomplished by going to Tools and selecting Delete Browsing History. Your application may have a similar system.

If you would like to pass on the link to the online questionnaires to any undergraduate student, over the age of 18, at the University of Guelph who may be interested in participating in this research study, you are welcome to do so.

PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don’t want to answer and still remain in the study.
RIGHTS OF RESEARCH PARTICIPANTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study.

This study has been reviewed and received ethics clearance through the University of Guelph Research Ethics Board. If you have questions regarding your rights as a research participant, contact:

Research Ethics Coordinator
University of Guelph
437 University Centre
Guelph, ON N1G 2W1

Telephone: (519) 824-4120, ext. 56606
E-mail: sauld@uoguelph.ca
Fax: (519) 821-5236

SIGNATURE OF RESEARCH PARTICIPANT/LEGAL REPRESENTATIVE

I have read the information provided for the study “Parent-adolescent relationships, sexually related communication, and adolescent sexual identity development” as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study.

By entering the survey, I indicate that I have read the information provided and agree to participate. Clicking ‘I Agree’ and later submitting the completed questionnaires indicates consent to participate in this research study.

Do you agree to participate in this research study?

☐ I agree       ☐ I do not agree
Appendix E

Participant Demographic Questions

1. Date of birth (yyyy/mm): _______________

2. Age: _____

3. Gender: Male □ Female □

4. Ethnicity/Race: □ White/Caucasian
   □ Black/African American
   □ Asian
   □ Spanish/Hispanic/Latino
   □ Aboriginal/Native American
   □ Other ________________

5. Religious Affiliation (if any): ____________

6. Is religiosity an important element in your life (religiosity may involve religious affiliation, frequency of religious attendance, spirituality, or following a set of prescribed beliefs)?

   Yes □ No □

7. Would you say religiosity is an important element in your mother's life (religiosity may involve religious affiliation, frequency of religious attendance, spirituality, or following a set of prescribed beliefs)?

   Yes □ No □
Appendix F

Inventory of Parent and Peer Attachment – Mother Version

The following statements ask about your feelings about your mother or the person who has acted as your mother. If you have more than one person acting as your mother (e.g. a natural mother and a step-mother) answer the questions for the one you feel has most influenced you.

Please read each statement and indicate the ONE number that tells how true the statement is for you now using the following scale:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost Never</td>
<td>Not Very</td>
<td>Sometimes</td>
<td>Often</td>
<td>Almost Always or or Never True</td>
</tr>
</tbody>
</table>

1. My mother respects my feelings.

2. I feel my mother does a good job as a mother.

3. I wish I had a different mother.

4. My mother accepts me as I am.

5. I like to get my mother’s point of view on things I am concerned about.

6. I feel it’s no use letting my feelings show around my mother.
7. My mother can tell when I am upset about something.

☐ 1 2 3 4 5

8. Talking over my problems with my mother makes me feel ashamed or foolish.

☐ 1 2 3 4 5

9. My mother expects too much of me.

☐ 1 2 3 4 5

10. I get upset easily around my mother.

☐ 1 2 3 4 5

11. I get upset a lot more than my mother knows about.

☐ 1 2 3 4 5

12. When we discuss things, my mother cares about my point of view.

☐ 1 2 3 4 5

13. My mother trusts my judgment.

☐ 1 2 3 4 5

14. My mother has her own problems, so I don't bother her with mine.

☐ 1 2 3 4 5

15. My mother helps me to understand myself better.

☐ 1 2 3 4 5

16. I tell my mother about my problems and troubles.

☐ 1 2 3 4 5
17. I feel angry with my mother.

☐ ☐ ☐ ☐ ☐

18. I don't get much attention from my mother.

☐ ☐ ☐ ☐ ☐

19. My mother helps me to talk about my difficulties.

☐ ☐ ☐ ☐ ☐

20. My mother understands me.

☐ ☐ ☐ ☐ ☐

21. When I am angry about something, my mother tries to be understanding.

☐ ☐ ☐ ☐ ☐

22. I trust my mother.

☐ ☐ ☐ ☐ ☐

23. My mother doesn't understand what I am going through these days.

☐ ☐ ☐ ☐ ☐

24. I can count on my mother when I need to get something off my chest.

☐ ☐ ☐ ☐ ☐

25. If my mother knows something is bothering me, she asks me about it.

☐ ☐ ☐ ☐ ☐
Appendix G

Frequency of Sex-Related Communication

*Please use the following scale to respond to Items 1-20 regarding how often your mother has discussed each sexually-related topic.*

How often has your mother discussed each of the following sexually related topics?

<table>
<thead>
<tr>
<th>Topic</th>
<th>Never</th>
<th>Once</th>
<th>A Few Times</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Physical development</td>
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<tr>
<td>2. Homosexuality</td>
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<td>3. Menstruation</td>
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<td>4. Abortion</td>
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<td>5. Pregnancy</td>
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<td>6. Sex before marriage</td>
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<td>7. HIV</td>
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<td>8. Safe Sex</td>
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<td>9. STI's</td>
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<tr>
<td>10. Contraception</td>
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<tr>
<td>11. Dating/romantic relationships</td>
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<td>12. Sexual Desire</td>
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<td>13. Sexual Pressure</td>
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<td>14. Satisfaction</td>
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<tr>
<td>15. Different types of sexual practice</td>
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<tr>
<td>16. Talking about sexual needs with partner</td>
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<tr>
<td>17. Choice of partner</td>
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<td></td>
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<tr>
<td></td>
<td>Never</td>
<td>Once</td>
<td>A Few Times</td>
<td>Often</td>
</tr>
<tr>
<td>------------------------------------------------------------------</td>
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<tr>
<td>18. Role of peer group in sexual decision-making</td>
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<td>19. Wet dreams</td>
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<tr>
<td>20. Masturbation</td>
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</table>
Appendix H

Family Sex Communication Quotient

The following statements (Items 1-18) represent personal feelings about family discussions of sex. Please indicate one of the five response categories that best describes your opinions. Also, please answer these questions regardless of whether you have ever talked about sex with your parents.

1. Sex should be one of the most important topics for parents and children to discuss.

☐ Strongly Agree
☐ Agree
☐ Neutral (or Don't Know)
☐ Disagree
☐ Strongly Disagree

2. I can talk to my parents about almost anything related to sex.

☐ Strongly Agree
☐ Agree
☐ Neutral (or Don't Know)
☐ Disagree
☐ Strongly Disagree

3. My parents know what I think about sex.

☐ Strongly Agree
☐ Agree
☐ Neutral (or Don't Know)
☐ Disagree
☐ Strongly Disagree
4. It is not necessary to talk to my parents about sex.

☐ Strongly Agree
☐ Agree
☐ Neutral (or Don't Know)
☐ Disagree
☐ Strongly Disagree

5. I can talk openly and honestly with my parents about sex.

☐ Strongly Agree
☐ Agree
☐ Neutral (or Don't Know)
☐ Disagree
☐ Strongly Disagree

6. I know what my parents think about sex.

☐ Strongly Agree
☐ Agree
☐ Neutral (or Don't Know)
☐ Disagree
☐ Strongly Disagree

7. The home should be a primary place for learning about sex.

☐ Strongly Agree
☐ Agree
☐ Neutral (or Don't Know)
☐ Disagree
☐ Strongly Disagree
8. I feel comfortable discussing sex with my parents.

☐ Strongly Agree
☐ Agree
☐ Neutral (or Don't Know)
☐ Disagree
☐ Strongly Disagree

9. My parents have given me very little information about sex.

☐ Strongly Agree
☐ Agree
☐ Neutral (or Don't Know)
☐ Disagree
☐ Strongly Disagree

10. Sex is too personal a topic to discuss with my parents.

☐ Strongly Agree
☐ Agree
☐ Neutral (or Don't Know)
☐ Disagree
☐ Strongly Disagree

11. My parents feel comfortable discussing sex with me.

☐ Strongly Agree
☐ Agree
☐ Neutral (or Don't Know)
☐ Disagree
☐ Strongly Disagree
12. Much of what I know about sex has come from family discussions.

[ ] Strongly Agree
[ ] Agree
[ ] Neutral (or Don't Know)
[ ] Disagree
[ ] Strongly Disagree

13. Sex should not be discussed in the family unless there is a problem to resolve.

[ ] Strongly Agree
[ ] Agree
[ ] Neutral (or Don't Know)
[ ] Disagree
[ ] Strongly Disagree

14. Sex is too hard a topic to discuss with my parents.

[ ] Strongly Agree
[ ] Agree
[ ] Neutral (or Don't Know)
[ ] Disagree
[ ] Strongly Disagree

15. I feel better informed about sex if I talk to my parents.

[ ] Strongly Agree
[ ] Agree
[ ] Neutral (or Don't Know)
[ ] Disagree
[ ] Strongly Disagree
16. The least important thing to discuss with my parents is sex.

☐ Strongly Agree
☐ Agree
☐ Neutral (or Don't Know)
☐ Disagree
☐ Strongly Disagree

17. I feel free to ask my parents questions about sex.

☐ Strongly Agree
☐ Agree
☐ Neutral (or Don't Know)
☐ Disagree
☐ Strongly Disagree

18. When I want to know something about sex, I generally ask my parents.

☐ Strongly Agree
☐ Agree
☐ Neutral (or Don't Know)
☐ Disagree
☐ Strongly Disagree
Appendix I

Measure of Sexual Identity Exploration and Commitment

Please read the following definitions before completing the following survey items:

**Sexual needs** are defined as an internal, subjective experience of instinct, desire, appetite, biological necessity, impulses, interest and/or libido with respect to sex.

**Sexual values** are defined as moral evaluations, judgments and/or standards about what is appropriate, acceptable, desirable, and innate sexual behaviour.

**Sexual activities** are defined as any behaviour that a person might engage in relating to or based on sexual attraction, sexual arousal, sexual gratification, or reproduction (e.g., fantasy to holding hands to kissing to sexual intercourse).

**Modes of sexual expression** are defined as any form of communication (verbal or nonverbal) or direct and indirect signals that a person might use to convey her or his sexuality (e.g., flirting, eye contact, touching, vocal quality, compliments, suggestive body movements or postures).

**Sexual orientation** is defined as an enduring emotional, romantic, sexual, or affectional attraction to other persons that ranges from exclusive heterosexuality to exclusive homosexuality and includes various forms of bisexuality.

Please use the following scale to respond to Items 1-22.

1
2
3
4
5
6

Very Uncharacteristic
of Me

Very Characteristic
of Me

1. My sexual orientation is clear to me.

2. I went through a period in my life when I was trying to determine my sexual needs.

3. I am actively trying to learn more about my own sexual needs.
4. My sexual values are consistent with all of the other aspects of my sexuality.

5. I am open to experiment with new types of sexual activities in the future.

6. I am actively trying new ways to express myself sexually.

7. My understanding of my sexual needs coincides with my overall sense of sexual self.

8. I went through a period in my life when I was trying different forms of sexual expression.

9. My sexual values will always be open to exploration.

10. I know what my preferences are for expressing myself sexually.

11. I have a clear sense of the types of sexual activities I prefer.

12. I am actively experimenting with sexual activities that are new to me.

13. The ways I express myself sexually are consistent with all of the other aspects of my sexuality.

15. I do not know how to express myself sexually.

16. I have never clearly identified what my sexual values are.

17. The sexual activities I prefer are compatible with all of the other aspects of my sexuality.

18. I have never clearly identified what my sexual needs are.

19. I can see myself trying new ways of expressing myself sexually in the future.

20. I have a firm sense of what my sexual needs are.

21. My sexual orientation is not clear to me.

22. My sexual orientation is compatible with all of the other aspects of my sexuality.