

PERCEIVED CONGRUENT AND INCONGRUENT ATTACHMENT TO
PARENTS AND ADOLESCENT SEX MOTIVES

by

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Abstract

Sexual motivations are one of the underlying psychosocial factors which influence sexual expression. Individuals are sexually motivated for a variety of reasons. For example, some may engage in sexual activity for intimacy needs, while others may behave sexually to increase self-confidence. Understanding sexual motivations becomes particularly important during adolescence, as motivations are likely to guide socio-sexual development during subsequent years of adulthood. Attachment theory explains that diverse motivations are cultivated as a result of attachment styles. Existing research uses the adult-adult attachment model to assess sex motives. This thesis extends previous research (e.g. Schachner, D.A. & Shaver, P.R., 2004) by analyzing the link between parent-adolescent attachments and sex motives. More specifically, this research addresses the question of whether adolescents' perceived congruent and incongruent attachment styles to parents are related to five sex motives: intimacy, enhancement, self-affirmation, peer and partner approval sex motives. The "incomplete buffering hypothesis" (Verschuere & Marcoen, 1999, p.185) guides hypotheses concerning incongruent attachment styles. The incomplete buffering hypothesis refers to the partial averaging of incongruent attachments. The combination of one secure attachment to one parent buffers the effects of an insecure attachment to the other parent.

Two hundred and forty-four adolescents from a Vancouver secondary school were administered the Sex Motives Scale (SMS; Cooper, Powers, & Shaprio, 1998), five additional sex motive items (Schachner & Shaver, 2004) and the Adolescent Attachment Questionnaire (AAQ; West, Rose, Spreng, Sheldon-Keller, & Adam, 1998).

Cluster analyses did not produce theoretically justifiable preoccupied

classifications. Given that the preoccupied group could not be included in ANOVA models; post hoc analyses enabled further exploration between the relationship of adolescents' perceived maternal and paternal attachment security and sex motives by means of Ordinary Least Square (OLS) hierarchical regressions.

Findings from ANOVA tests indicate that adolescents' perceived attachments to parents were significantly related to their intimacy and self-affirmation sex motives, where the latter generally supports the buffering hypothesis. Results from post hoc analyses indicate interaction effects between maternal and paternal attachment security on intimacy and enhancement sex motives, and a main effect between paternal attachment and self-affirmation sex motives. T-tests found adolescent males score significantly higher than adolescent females on enhancement and peer approval sex motives. Both ANOVA and regression analysis found unexpected findings where males score higher on self-affirmation sex motives than females. The results are discussed in regards to the theoretical implications of multiple attachment organizations as well as the practical implications for adolescent sexual health.

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The general literature on sex motives illustrates that biosocial dynamics (Smith, Udry, & Morris, 1985), gender (Vohs, Catanese, & Baumeister, 2004), and socio-psychological factors (Cooper, Shapiro, & Powers, 1998; Hill & Preston, 1996; Levinson, Jaccard, & Beamer, 1994) guide sexual behaviors. Of the socio-psychological elements, intimacy (Hill, 2002; O'Sullivan & Allgeier, 1998; Schultheiss, Dargel, & Rhode, 2003), power (Schultheiss et al., 2003), sexual pleasure (Regan & Dreyer, 1999), satisfying partners (Impett & Peplau, 2003; O'Sullivan & Allgeier, 1998), conforming to friends' behaviors (Maxwell, 2001; Prinstein, Meade, & Cohen, 2003), and personality traits (Cooper, Agocha, & Sheldon, 2000) have been documented as factors influencing sex motives. More recently, studies addressing sex motives have emerged from the framework of attachment theory, indicating attachments to romantic partners are predictive of healthy and risky sex motives during adolescence and adulthood (Davis, Shaver, & Vernon, 2004; Gentzler & Kerns, 2004; Impett & Peplau, 2002; Schachner & Shaver, 2004; Tracy, Shaver, Albino, & Cooper, 2003). The present study expands the abovementioned literature and examines the link between parent-adolescent attachments and sex motives. This is an important undertaking, which may inform not only socio-psychological factors underlying adolescent intentions to behave sexually but also offer insight into the developmental origins of adult sex motives.

Shifting from research using an adult-adult to a parent-child attachment model alters the paradigm of attachment relationships. Research demonstrates that early and middle adolescents have not yet developed attachment relationships with romantic partners (Hazan & Zeifman, 1994), justifying an examination of parent-adolescent attachments and sex motives. Parents provide the groundwork for personality development (Bowlby, 1969; 1998), effect how individuals feel, behave, and are motivated in future interactions (Feeney & Noller, 1996) and remain central during adolescence (Allen & Land, 1999; Feeney & Noller, 1996). Exploring

parent-adolescent attachments and sex motives is important because parent-adolescent attachment relationships may impact socio-sexual development. Socio-sexual development, in turn, has implications for adolescent sexual health.

Attachment Theory Overview

Attachment theory stems from Bowlby's critique of Freudian and Kleinian psychopathology (Bretherton, 1992) coupled with an ethological-evolutionary framework (Ainsworth, 1982) which is applied to the study of personality development. Bowlby's attachment theory depicts a normative model of human growth with concepts illustrating ontogenetic development. Bowlby (1969; 1998) conceptualized attachment behaviors as innate phenomena identified to safeguard infants from environmental hazards via seeking proximity with an attachment figure. The main concepts of attachment theory in infancy are secure base (availability), proximity seeking (goal-corrected partnership), safe haven and separation protest (anger).

Ideally, attachment figures act as secure bases by providing security to children who are then confident to explore the environment (Bowlby, 1998; Hazan & Zeifman, 1994). Seeking proximity to an attachment figure relieves distress experienced in insecure situations, an experience termed safe haven (Bowlby, 1969; Hazan & Zeifman, 1994). The availability of an attachment figure during a time of duress is paramount for a child to feel comforted. Availability refers to the degree of physical and emotional access of the attachment figure as perceived by children (Bowlby, 1998; West et al., 1998). Non-availability of attachment figures elicits reactions of anger or separation protest.

Separation protest, or anger at the unavailability of an attachment figure, may generate feelings of abandonment in infants who are in need of their attachment figure. In times of separation, attachment figures are seen by infants as not tending to their needs. Anger is seen as a

response of frustration towards attachment figures as they are wanted but inaccessible (Bowlby, 1998; West et al., 1998). Although prolonged parental absence is seen as a diversion from optimal development in early infancy and childhood (Bowlby, 1998), with age children learn goal-corrected partnership.

Between the ages of three to five a child begins to realize his or her goals of seeking proximity do not always coincide with his or her parents (Bowlby, 1969; Hazan & Zeifman, 1994). Goal-corrected partnership refers to two events. First, infants possess inherent goals to be in proximity to an attachment figure. Behavioral instincts coupled with feedback from the environment are exercised to attain these goals. Second, increases in cognitive abilities allow children to view attachment figures as having their own objectives. Thus, the balance of seeking proximity coupled with understanding attachment figures as individuals is termed goal-corrected partnership (Bowlby, 1969; West et al., 1998).

While the aforementioned concepts articulate ontogenetic development, attachment theory simultaneously is a representation of individual differences. The concepts of secure base, proximity seeking, safe haven and separation protest are incidences that occur universally but are experienced differently based on the environment. These concepts are the roots of individual differences and act as conceptual tools for researchers when determining attachment styles.

Ainsworth's reputation is upheld for her pioneering the strange situation experiment, which further evolved attachment theory (Bretherton, 1992). The strange situation leads to a classification of infants as secure, avoidant, or anxious-resistant. A secure attachment is characterized by seeking proximity to an attachment figure, one's mother, upon returning from separation. Since she has established a pattern of availability in the past, infants with secure attachments are easily soothed and reassured by their mother following her absence. Parental patterns of non-availability lead to avoidant attachments, which are characterized by infants who

seek their mothers during separation but avoid closeness with her upon her return following separation. Infants neither seeking proximity nor completely avoiding mother upon her return are described as having anxious-resistant attachments. Infants in this category cannot be comforted by their mothers upon her return in the strange situation because inconsistent parental responses have been established (Ainsworth, Blehar, Waters, & Wall, 1978, as cited in Bartholomew & Horowitz, 1991). The individual experiences of the central concepts of attachment illustrate general patterns of attachment styles which carry through to adolescence. A brief description of the developmental period of adolescence is necessary to contextualize and further comprehend parent-adolescent attachments.

From a developmental perspective, gaining autonomy and independence from parents is characteristic during adolescence. Adolescence has been described as a transitional period where increasing exploration of the environment occurs independently from parents (Allen & Land, 1999). Although parents continue to be primary attachment figures, adolescents' increasing cognitive abilities enable perspective-taking and abstract thinking about parental availability. The capability for abstract thinking alters parent-child relationships in adolescence (Allen & Land, 1999).

Thus, as progression through the years of immaturity (Bowlby, 1998) occurs, attachment in adolescence builds on experiences in infancy and adapts to advances in cognitive development (Allen & Land, 1999). Similar to infancy and childhood, adolescent-parent attachments are dependent on availability, goal-corrected partnership (Allen & Land, 1999; West et al., 1998) and anger (West et al., 1998) with an understanding that adolescents have modified the expression of these concepts with increasing cognitive development (Allen & Land, 1999). Overall, attachment styles in infancy and adolescence illustrate the scope of individual differences, which emerge from normative concepts. An examination of internal working models

further explains individual characteristics.

Internal working models are mental representations of self (organismic) and others (environmental) which develop at approximately six months of age (Bowlby, 1969). The environmental model concerns perceptions of others while the organismic model represents awareness of self. These models emerge as a consequence of the interaction between infants' temperament and the environment, which consists of attachment figures' response to the needs of infants (Holmes, 1993). Internal working models develop continuously throughout the years of immaturity, which include infancy, childhood, and adolescence (Bowlby, 1998). Internal working models provide a framework for how individuals learn to understand themselves and explore the environment.

Internal working models dictate feelings and behaviors with regard to self and others. They comprise four aspects: "(1) memories of attachment-related experiences (2) beliefs attitudes and expectations of self and others in relation to attachment (3) attachment related goals and needs, and (4) strategies and plans for achieving those goals" (Feeney & Noller, 1996, p. 96-97). In adulthood, relational goals of secure, avoidant, and anxious-resistant individuals remain distinct because internal working models of attachment categories imply different perceptions of self and others (Feeney & Noller, 1996). Therefore, secure individuals, with positive organismic and environmental models, seek balanced relationships where intimacy and autonomy are equally present. This is in contrast to avoidant persons, with positive organismic and negative environmental models, who strive to avoid intimacy with others and focus mainly on autonomy (Feeney & Noller, 1996). Preoccupied individuals, with negative organismic and positive environmental models, pursue excessive intimacy in relationships because of concerns of rejection (Feeney & Noller, 1996).

Congruent and Incongruent Attachments

In his first works, Bowlby (1969) considered mother's the primary attachment figure, given her role as the "natural" caregiver. Attachment figures were thought to be monotropic, "the exclusive attachment of a child to its principal care-giver, usually the mother" (Holmes, 1993, p. 222). However, a hierarchy of secondary attachment figures exists, including the father, siblings, and grandparents (Bowlby, 1969). Studies have also shown that multiple attachments co-exist (Ainsworth, 1982).

Main and Weston (1981) conducted one of the first studies looking at attachment relationships between infant-mother and infant-father. They concluded that infants do not have a secure attachment per se. Infants may instead be classified, for example, as having a secure attachment with mother and an anxious-ambivalent attachment with father (Main & Weston, 1981), illustrating multiple attachments that are not similar in style. Ten years later, Fox et al. (1991) conducted a meta-analysis consisting of 11 studies examining infant attachment to mothers and fathers. They found support that attachment to one parent is dependent on attachments infants have developed with the other parent. Findings of congruent attachments have been attributed to the fact that infants may develop similar expectations of attachments of fathers as they have formed with mothers (Fox et al., 1991). An alternative explanation for concordant attachments is that parents may possess similar approaches of responsiveness and value systems (Fox et al., 1991). On the other hand, incongruent attachments have been conceptualized from two main premises, the "dominant" (Main, Kaplan, & Cassidy, 1985, as cited in Verschueren & Marcoen, 1999, p. 185) and the "averaging hypothesis" (Bretherton, 1991, p. 14).

The "dominance" assumption claims infants develop more governing attachments with the primary caregiver, which is more often the mother (Main, Kaplan, & Cassidy, 1985 as cited

in Verschueren & Marcoen, 1999). Verschueren and Marcoen (1999) found “dominance” models for both child-mother and child-father outcomes, but differences are found based on “the domain of functioning that is assessed” (p. 196). This demonstrates that child-mother and child-father attachments serve separate functions. Use of the “dominance” hypothesis requires comparisons of the separate effects mothers and fathers have on child outcomes (Easterbrooks & Goldberg, 1990, as cited in Verschueren & Marcoen, 1999). An alternative representation of discordant attachments, is the “incomplete buffering hypothesis” (p.185), which examines combined mother and father attachments and evaluates the effects of concordant and discordant attachment styles on outcome variables (Verschueren & Marcoen, 1999, p. 185).

Verschueren and Marcoen (1999) sampled 80 kindergarten aged children living in families with married parents and rated 59% as concordant and 41% as discordant attachment configurations. Findings reveal that children with two secure attachments to parents have better outcome scores on socio-emotional aspects than children with two insecure attachments to parents. Furthermore, children with discordant attachments to parents (regardless of which parent is rated as secure or insecure) have outcome scores that lay in between the congruent secure and congruent insecure attachments to parents. This reveals that secure attachments can somewhat buffer insecure attachments. Building on Bretherton’s (1991) “averaging hypothesis” (p. 14), Verschueren and Marcoen (1999) have termed this phenomenon the “incomplete buffering hypothesis” (p.185). This hypothesis assumes that internal working models acquired from differing mother and father attachments, regardless of which parent is perceived as secure or insecure, are averaged in their representations.

An analysis of the “incomplete buffering hypothesis” will be the main focus of the present study with several hypotheses developed with reference to this concept. Allan and Land (1999) explain that the onset of operational thinking gives adolescents cognitive abilities to sense

general attachment styles. An amalgamation of child-mother and child-father attachments is echoed in research on internal working models. Although adolescents are able to compartmentalize attachment relationships with each parent, Main (1999) has proposed that sometime during adolescence through early adulthood, child-mother and child-father attachments merge into one state of mind, or one general working model (as cited in Furman & Simon, 2004). As the present research focuses on adolescent attachment, the notion of mother-child and father-child attachments merging in their representations complements the “incomplete buffering hypothesis”.

Parent-Child and Adult-Adult Attachment Models

Within attachment theory two branches exist, with one school focusing on parent-child attachments and the other concentrating on adult-adult attachments. Researchers utilize different attachment variables to discuss these models. Scholars working with adult-adult attachment models have begun to examine the anxious and avoidant dimensions of attachments (e.g. Schachner & Shaver, 2004) as they elicit a wider range of individual differences (Bartholomew & Horowitz, 1991; Feeney & Noller, 2004). Research using attachment styles is found more in the parent-child literature and assumes homogeneity within, and heterogeneity between each style or group. Whether using discrete or continuous variables, the parent-child and adult-adult attachment models remain separate due to differing conceptualizations (Simpson & Rholes, 1998).

Adult-adult attachment is studied in the realm of romantic love (e.g. Hazan & Shaver, 1987), concentrating on the continuity of attachments shaped in childhood and exploring relationships with romantic partners as attachments (Simpson & Rholes, 1998). This perspective views those involved as having equal power with the ability to provide reciprocal attachment objectives to one another (Hazan & Zeifman, 1994; Shaver, Hazan, & Bradshaw, 1988). Also,

studies of adult-adult attachment find sexual attraction to be an important relational factor within the attachment relationship (Shaver et al., 1988).

Contrarily, parent-child models look at concepts that are attributed to the beginning of attachment formation and personality development (Simpson & Rholes, 1998). The notion of parent-child attachment is seen as unilateral with infants seeking attachment figures as secure bases as opposed to parents also seeking secure bases from their children (Hazan & Zeifman, 1994). Rather than seeking proximity, parents are maintained as secure bases for adolescents (Allen & Land, 1999; Paterson, Pryor, & Field, 1995). Since the parent-adolescent attachment remains to be the primary attachment relationship in adolescence (Allen & Land, 1999; Bowlby, 1969; Paterson et al., 1995), it will be used in the present study.

Sex Motives

Sexual motivations are the underlying psychological needs individuals have and may attain by engaging in sexual behaviors (Cooper et al., 1998). Sexual behaviors are the expressions and means of satisfying psychological goals (Cooper et al., 1998). Human motivations for engaging in sexual activity are diverse. Socio-psychological (e.g. Cooper et al., 1998; Hill & Preston, 1996; Impett & Peplau, 2003; Levinson et al., 1995) and biological (e.g. Bancroft, 2002) frameworks have been used to explain sexual motives. For the purposes of this study, socio-psychological motives will be explored as they exist in individuals of all ages. Although the stages of adolescence and adulthood differ, similar socio-psychological sex motives are found (e.g. Cooper et al., 1998; Gebhardt, Kuyper, & Greunsven, 2003).

Intimacy Motives

Intimacy sex motives are defined as engaging in sex to increase intimacy with another (Cooper et al., 1998) and are common aims for engaging in sexual activity in committed relationships. The probability of sexual behavior occurring in relationships is related to higher

levels of perceived emotional investment (Hill, 2002). This means that perceived intimacy in relationships increase the chance sexual activity will occur, while further promoting closeness. Further, O'Sullivan and Allgeier (1999) report that 67% of undergraduate students, mean age was 19 years, disclosed consenting to unwanted sexual behavior because they wanted to progress intimacy in relationships.

Enhancement Motives

Enhancement sex motives refer to boosting emotional or physical pleasure via experiencing sexual relations (Cooper et al., 1998). Regan and Dreyer's (1999) study on motives for engaging in casual sex (one-night stand or casual sexual encounters) found that 88.6% of participants rated personal or internal motives, such as pleasure or desire. Similarly, pleasure was the main predictor for adolescents who engaged in casual sex (Levinson et al., 1995). Although a variety of motives are endorsed by participants in Regan and Dreyer's (1999) study, personal motivations are cited most frequently. In addition, Gebhardt et al. (2003) found participants' number of casual sex partners is slightly related to pleasure motives.

Self-Affirmation Sex Motives

Engaging in sexual activity can act to increase feelings of self-worth. Self-affirmation sex motives are those which influence having sex in order to "feel confident and desirable" (Schachner & Shaver, 2004, p. 185). Cooper et al. (1998) report that individuals who rate higher on self-affirmation sex motives have "less frequent intercourse, though not fewer partners... [and are]...more likely to experience an unplanned pregnancy" (p.1541). Cooper et al. (1998) see power being somewhat parallel to the affirmation motive. Schultheiss et al.'s. (2002) longitudinal study assessing inherent motives and sexual activity finds participants who score high on the power motive report more sex than those with lower scores. These findings demonstrate that individuals who are motivated to self-affirm engage in riskier sexual behaviors.

Peer Approval Sex Motives

Peer approval sex motives entail having sex “to avoid social censure or to gain another’s approval” (Cooper et al., 1998, p. 1530). Prinstein, Meade, and Cohen’s (2003) study on peer influences of oral sex behaviors found a significant relationship between adolescent’s judgment of best friends’ oral sex behaviors and personal oral sex behaviors. In other words, if adolescents are aware of their friends giving or receiving oral sex then they themselves are more likely to report receiving or giving oral sex, and vice versa. A belief of little or no oral sex leads to mirroring behaviors. Interestingly, perceptions of oral sex behaviors are more of an influence than sexual intercourse. Adolescent’s reporting engagement in oral sex and sexual intercourse are rated with a higher social reputation than those who have not engaged in these behaviors, although having multiple oral sex partners is associated with less status (Prinstein et al., 2003). Peers also influence engagements in casual sex (Gerbhardt et al., 2003) as well as the commencement of sexual activity (Beal, Ausiello, Perrin, 2001). Peers influence sex motives because the perceived need to conform to friends acts as a strong force during adolescence.

Partner Approval Motives

Partner approval motives illustrate engaging in sex to secure approval from a partner (Cooper et al., 1998) and are prevalent themes in the sex motives literature. Leigh (1989) reveals both sexes have sex “because your partner wants to” (p. 203). Both men and women report having sex with a partner when they have no sexual desire (Impett & Peplau, 2003), although women are much more likely to engage in unwanted sex for partner approval. These findings show that individuals behave sexually for relational development with a partner.

In summary, a variety of motives influence sexual actions. The ways in which individuals are motivated is partly rooted in socio-psychological needs for sex. Attachment theory is utilized to explain the variations in sex motives.

Attachment Theory and Sex Motives

Attachment theory has accumulated a body of literature devoted to explaining sex motives. To date, the research conducted in attachment theory and sex motives uses adult-adult relational models of attachment (e.g. Schachner & Shaver, 2004). Although the present study focuses on adolescent attachments and sex motives, an analysis of the adult literature is beneficial from a developmental perspective, as motives in adulthood may be indicative of motives in adolescence.

Attachment Theory and Intimacy Sex Motives

Existing research shows that individuals in long-term relationships who have secure attachments have sex to create intimacy (Tracy et al., 2003). Feeney and Noller (1996) see intimacy as fulfilling attachment needs of closeness in secure individuals. Also, Tracy et al. (2003) find adolescents who report anxious attachments are sexually motivated by intimacy. Likewise, in an attempt to gain love, individuals with higher scores on the anxiety dimension pursue intimacy (Davis et al., 2004; Feeney & Noller, 2004). This finding fits with the attachment related goals of individuals with preoccupied attachments and their need to feel “extreme intimacy” (Feeney & Noller, 1996, p. 98).

On the other hand, individuals with dismissing attachments interact with sexual partners in a fashion that reduces the occurrence of intimate relationships (Feeney & Noller, 1996). It is therefore not surprising that attachment avoidance is inversely related to intimacy (Davis et al., 2004; Schachner & Shaver, 2004). The previous studies guide the first general hypothesis made regarding attachment styles and sex motives. Individuals typified with secure and preoccupied attachments will have higher scores on intimacy sex motives than individuals with dismissing attachments.

Attachment Theory and Enhancement Sex Motives

Studies from Davis et al. (2004) find participants who score higher on attachment anxiety engage in sex for enhancement motives. Feeney and Noller (1996) suggest that individuals with anxious attachments engage in sexual activity to fulfill their needs of emotional enhancement. Enhancement sex motives refer to both physical and emotional augmentation. It is likely that preoccupied individuals may confuse experienced physical pleasure for emotional closeness. The previous findings lead to the second general hypothesis. Individuals with preoccupied attachments will have higher scores on enhancement sex motives than individuals with secure attachments, who are not shown to endorse enhancement sex motives in the literature.

Attachment Theory and Self-Affirmation Sex Motives

The attachment anxiety dimension is linked to individuals with higher scores on the self-affirmation sex motive (Davis et al., 2004; Schachner & Shaver, 2004). Individuals classified as anxious-ambivalent are characterized by low self-worth and are therefore likely to act in a manner that raises their self-assurance (Feeney & Noller, 1996). Having sex to increase confidence is also linked with the dimension of attachment avoidance. Davis et al. (2004) found those with higher scores on attachment avoidance engaged in sex to feel powerful. These outcomes lead to the third general hypothesis. Individuals with preoccupied and dismissing attachments will have higher scores on self-affirmation sex motives than individuals with secure attachments, who are not linked with self-affirmation sex motives in the research.

Attachment Theory and Peer Approval Sex Motives

Peer influences act as a factor in motivating university students with higher scores on the attachment avoidance dimension to have casual sex (Schachner & Shaver, 2004). Engaging in sexual activity to increase social status among one's peers is also apparent in adolescence (Prinstein et al., 2003), specifically for individuals scoring high on attachment avoidance.

Schachner and Shaver (2004) found similar results where subjects reporting “having sex to say you did it”, “to fit in better”, and “to brag about it to others” have higher scores on the attachment avoidance dimension (Schachner & Shaver, 2004, p. 187). Furthermore, adolescents who are classified as having avoidant attachments are found to engage in first sexual intercourse to lose their virginity, a motive thought to be influenced by peers (Tracy et al., 2003). These findings explain and are consistent with considerations of how avoidant individuals perceive their external world (Schachner & Shaver, 2004). A fourth general hypothesis can be drawn from the previous studies. Individuals with dismissing attachments will score higher on peer approval sex motives than those with secure attachments, who do not have strong associations with peer approval sex motives.

Attachment Theory and Partner Approval Sex Motives

Preoccupied individuals and those scoring higher on the attachment anxiety dimension are recognized as being sexually motivated for their partner’s benefit. Impett and Peplau’s (2002) research glimpses into consensual unwanted sex in a university sample of women in long-term heterosexual relationships. Anxious attachment is identified as a predictor of consenting to unwanted sex with partners “to avoid relational conflicts... [and]...keep partners from losing interest” (p. 366). Similarly, people higher on attachment anxiety are more attracted to the idea of sex when they feel insecure about their relationship (Davis et al., 2004; Tracy et al., 2003). Furthermore, Schachner and Shaver (2004) discovered university students who score higher on attachment anxiety have sex with their partners “to make them love them more... [and]...to feel emotionally valued by their partners” (p. 187). There is an unconscious strategy to “[be] compliant to gain acceptance” (Feeney & Noller, 1996, p. 98). The former studies guide the fifth general hypothesis. Individuals with preoccupied attachments will score higher on partner approval sex motives than individuals with secure attachments, for whom previous research has

not found significant relationships with partner approval sex motives.

Although this section has illustrated diverse motives for engaging in sex to satisfy socio-psychological needs for both sexes, the literature finds support for differences between male and female sex motives. The following section is devoted to this issue.

Sex Differences

A general overview of sex differences illustrates distinctions between men and women. Peplau (2003) deems four differences that are pertinent to sexuality (1) men have a higher libido (2) women see the context of relationships as the venue for sexual expression (3) men are more likely to initiate sex, and (4) women's sexuality is more fluid and influenced by culture and social mores. Expanding from these general differences, the literature on sex motives finds disparities in the following categories: peer approval, enhancement, intimacy, and partner approval motives.

Peer approval is a more salient sex motive for men than women. Men's motivations for engaging in unwanted sex (Impett & Peplau, 2003) and casual sex (Regan & Dreyer, 1999) lie mainly in peer status. Woody, D'Souza, and Russel (2003) found that males were more likely than women to engage in sexual activity to impress friends. Sex is seen as an initiation into manhood or a validation of one's masculinity (Woody et al., 2003; Holland, Ramazanoglu, Sharpe & Thomson, 2000), which may account for peer approval being a stronger motivator for men. The concept of sex for physical pleasure has also been consistently found to be a sex motive in both sexes with men generally reporting higher scores than women (e.g. Hill & Preston, 1996; Leigh, 1989; Woody et al., 2003). Alternatively, while peer approval and enhancement are defining motives for men, partner approval and intimacy are salient factors motivating women.

Generally, women are sexually motivated to please their partners (Hill & Preston, 1996; Leigh, 1989). In specific situations women comply to engage in unwanted sex because of

concerns for their partners, the overall relationship, and to enhance intimacy within the relationship (Impett & Peplau, 2003). Furthermore, women adhere to intimacy motives in general (Browning, Hatfield, Kessler, & Levine, 2000) whether having casual sex or sex in a committed relationship. Regan and Dreyer (1999) find a majority of women in their study use sex as a means to enter into committed relationships. Also, while examining research on first coitus, women state they have sex because they want "to please [a] partner, were persuaded by [a] partner, [or] to get [a] partner to go steady" (Woody et al., 2003, p. 42).

Findings of sex differences are apparent regardless of attachment style. Feeney, Noller and Patty's (1993) exploration of attachment styles, gender, and sex attitudes in a sample of 193 adolescents find no existing moderating effects. Similarly, Simpson and Rholes (1998) have concluded that the relationship between sex and sex motives is direct.

The Present Study

In summary, research assessing the relationship between attachment theory and sex motives employs the adult-adult model of attachment (e.g. Davis et al., 2004; Feeney & Noller, 1996; Gentzler & Kerns, 2003; Schachner & Shaver, 2004; Tracy et al., 2003). The proposed study aims to extend this line of research by analyzing adolescent sex motives using the parent-child attachment model. Since adolescents maintain attachments to parents, who remain prominent in their attachment roles (Allan & Land, 1999; Paterson et al., 1995), it is likely that adolescents' perception of parental attachments will have an effect on their sex motives. Simpson and Rholes (1998) argue that parent-child and adult-adult attachment models provide "unique information about an individual's attachment history in different kinds of relationships experienced at different points of development" (p. 6). Extrapolating findings from the adult-adult model to the parent-child model while examining adolescent sex motives is justified, as information about adult attachments and sex motives provides a comprehensive pool of

knowledge which may offer important parallels to the parent-child paradigm. Furthermore, while examining adolescent motives, Tracey et al. (2003) speculate whether the use of the adult-adult attachment model is appropriate given that some, but not all, adolescents have developed attachment relationships with romantic partners.

Studies within the parent-adolescent context find parental relationships as influencing future adolescent romantic relationships (e.g. Taradash, Connolly, Pepler, Craig, & Costa, 2001). Seiffge-Krenke, Shulman, and Klessinger (2001) conducted a six-year longitudinal study examining factors contributing to adolescents' amorous relationships. A consistent partnership with parents at age 17 was shown to predict the quality of romantic relationships at age 20 (Seiffge-Krenke, et al., 2001). This finding suggests that adolescents' confidence in parents as "reliable alliances" (p. 334) plays a role in future romantic relationships. Furthermore, Scharf and Mayseless' (2001) examination of boys found the parent-adolescent relationship to be an important foundation in building (directly or indirectly) adolescents' capacity for romantic relationships.

Given that internal working models are influenced by parents, the needs adolescents seek in sexual relationships may be discerned from a study of parent-adolescent attachments. Findings outside attachment theory demonstrate how parents influence adolescent sexuality. Mieschke, Bartholomae and Zentall's (2002) review of factors effecting adolescent sexuality reveals links between parent-adolescent communication about sex, parental transmission of values, parent-adolescent relationship quality, and parental monitoring and adolescent sexual behaviors. These findings illustrate that parents play a large role in adolescent socio-sexual development, making parent-child attachments an important relationship to explore when considering sex motives. To date, no research has been conducted on sex motives using the parent-adolescent attachment model.

The use of the parent-adolescent attachment model brings the issue of congruent and incongruent attachments to the forefront. A reiteration of Verschueren and Marcoen's (1999) study illustrates children with incongruent attachments to parents are situated in between the scores of those with two secure and two insecure attachments to parents on socio-emotional competence and self-evaluations. This demonstrates that secure attachments with either parent can buffer insecure attachments with the other parent. This epitomizes the "incomplete buffering hypothesis" (Verschueren & Marcoen, 1999, p. 185). To date, no studies have incorporated the notion of perceived congruent and incongruent attachments to parents predicting adolescent sex motives. Examinations of the associations of congruent versus incongruent attachments on adolescent sex motives will extend both attachment and sex motives research.

Lastly, sex motives will be analyzed between the sexes. Building on previous findings of sex differences in the literature, adolescents' sex is explored as a predictor variable. Prior research indicates main effects of sex are likely.

Following the theoretical model in Figure 1, the proposed study examines the following research questions. Are adolescents' sex motives associated with their perceptions of attachment styles with their parents? Do adolescents' perceptions of concordant or discordant attachments to parents influence sex motives differently? Are sex differences between adolescent males and females an influencing factor in the types of sex motives they express?

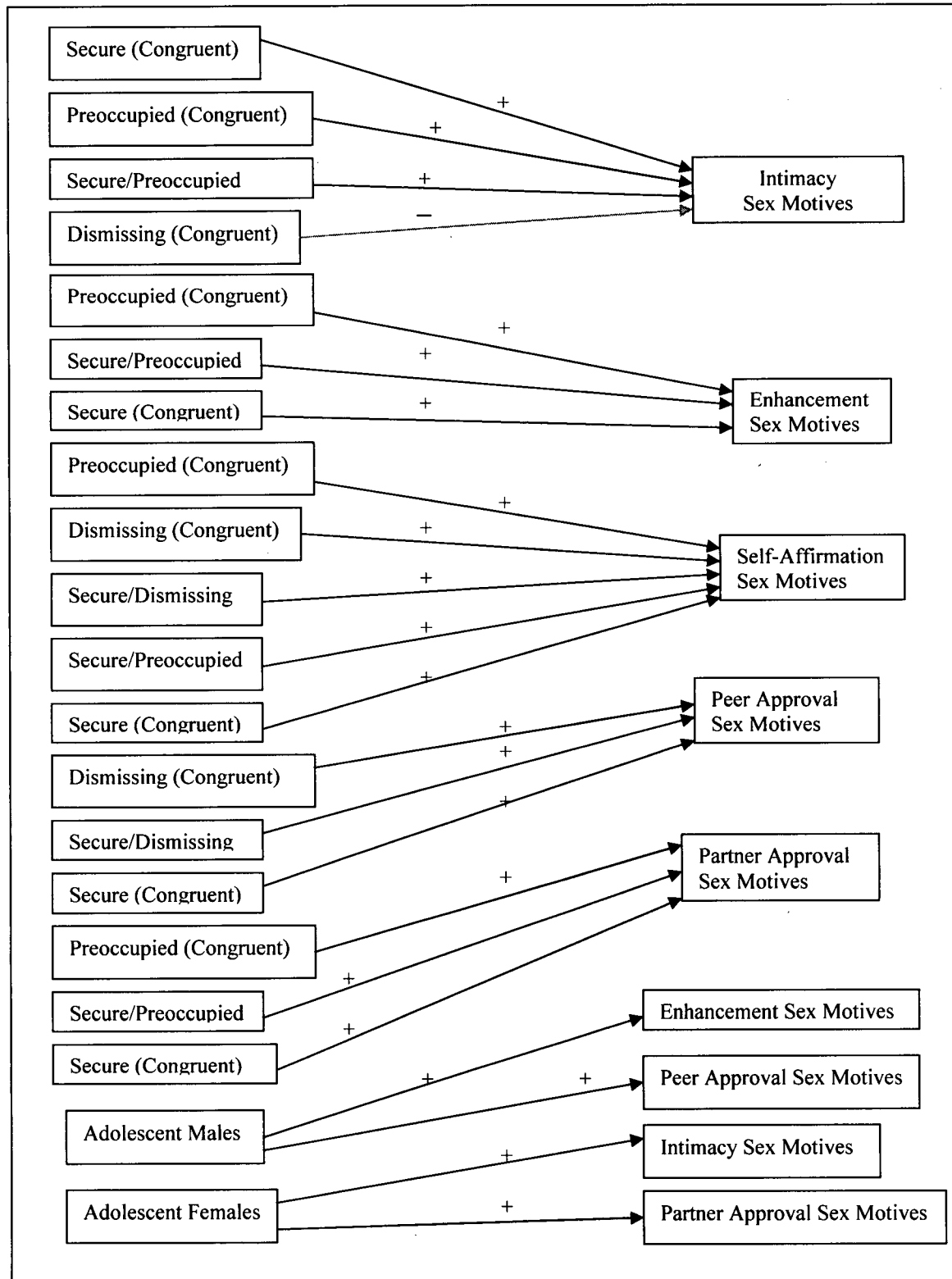


Figure 1 : Theoretical Model.

Hypotheses

Building on the previous research questions, the following seven hypotheses will be tested as depicted in Figures 2 through 8. The first hypothesis is derived from the previously analyzed literature linking secure, preoccupied, and dismissing attachment styles to intimacy. Adolescents who identify with each attachment classification seek or postpone intimacy for different purposes. Secure adolescents are comfortable maintaining a balance of autonomy and closeness while in a relationship, whereas adolescents who are classified as preoccupied pursue intimacy to feel enmeshed with a partner. Dismissing adolescents are likely to restrict sexual encounters as they lack trust in others and are uncomfortable with intimacy (Feeney & Noller, 1996). Earlier findings coupled with the “incomplete buffering hypothesis”, which predicts that individuals perceiving incongruent attachment styles will score in the middle of those with congruent secure and insecure attachments, guide the notion that adolescents with incongruent secure/dismissing attachment styles will score in between those with two secure (congruent) and two dismissing (congruent) attachment styles. Adolescents reporting incongruent secure/preoccupied attachment styles will not be buffered, as literature illustrates that individuals with secure and preoccupied attachments are sexually motivated for intimacy purposes.

H1: Adolescents who perceive secure (congruent), preoccupied (congruent) and incongruent secure/preoccupied attachments will score equally on the intimacy sex motive and score higher than adolescents who perceive incongruent secure/dismissing attachments with both parents. Adolescents with incongruent secure/dismissing attachments will score higher than adolescents who perceive dismissing (congruent) attachments with both parents.

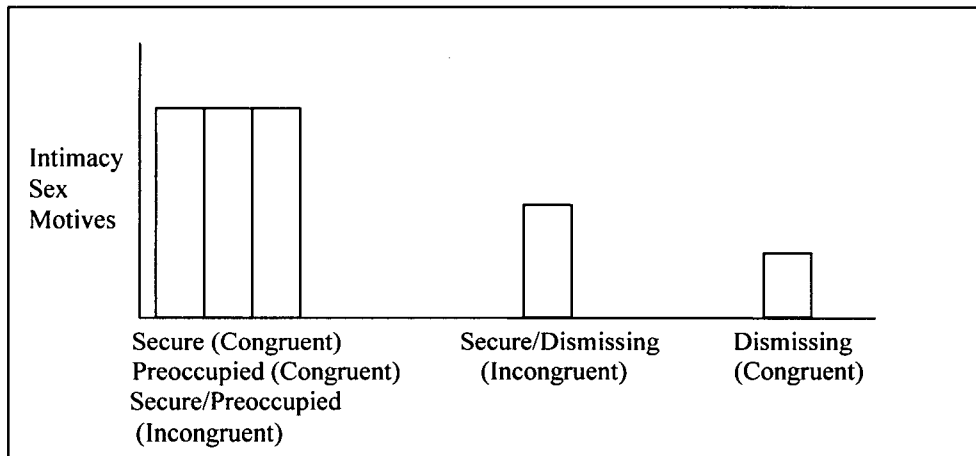


Figure 2 : Hypothesis 1 : Attachment Styles and Intimacy Sex Motives.

The second formal hypothesis builds on the previous discussion addressing the connections found between preoccupied attachments and enhancement sex motives. It is probable that adolescents who report preoccupied attachments construe physical pleasure as emotional satisfaction. The “incomplete buffering hypothesis” directs individuals with congruent preoccupied attachments to have the highest scores on the enhancement motive, as they are receiving similar messages from both parents about their self-worth, whereas those with congruent secure attachments will have the lowest scores. Perceptions of a preoccupied attachment to one parent are balanced by the effects of a secure attachment to the other parent in regards to enhancement sex motives. Thus, the second hypothesis ensues based on conceptualizations of preoccupied individuals, previous research linking preoccupied attachments and enhancement sex motives and the “incomplete buffering hypothesis”.

H2: Adolescents who perceive preoccupied (congruent) attachments with both parents will score highest on the enhancement sex motive, adolescents who perceive incongruent secure/preoccupied attachments will have intermediate scores on the enhancement sex motive, and adolescents who perceive secure (congruent) attachments with both parents will have the lowest scores on the enhancement sex motive.

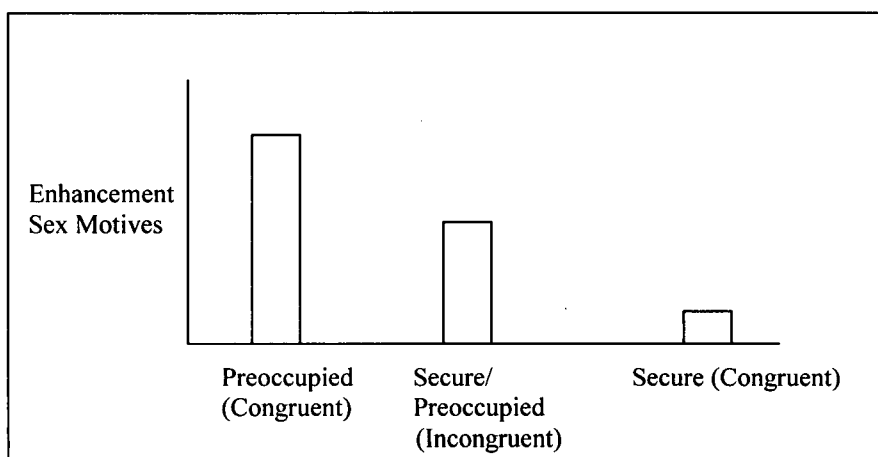


Figure 3 : Hypothesis 2 : Attachment Styles and Enhancement Sex Motives.

The review of the literature addressing attachment styles and self-affirmation sex motives demonstrate relationships between individuals with preoccupied and dismissing attachments and increasing self-confidence as a sex motive. Self-affirmation sex motives are guided by preoccupied individuals' low self-worth and dismissing individuals' reinforcements of self appraisal (Feeney & Noller, 1996). Once again, the "incomplete buffering hypothesis" is used to predict the degree of self-affirmation sex motives as a result of attachment congruence and incongruence. Verschueren and Marcoen (1999) state that children with incongruent attachments will score in between congruent secure and congruent insecure attachments on outcome variables, thus the same pattern is expected with regards to self-affirmation sex motives. In combination, preceding literature grounded in attachment theory and the "incomplete buffering hypothesis" leads the third hypothesis.

H3: Adolescents who perceive preoccupied (congruent) and dismissing (congruent) attachments with both parents will have higher scores on the self-affirmation sex motive than adolescents who perceive incongruent secure/preoccupied and secure/dismissing attachments. Adolescents who perceive secure (congruent) attachments to both parents will have the lowest scores on self-affirmation sex motives.

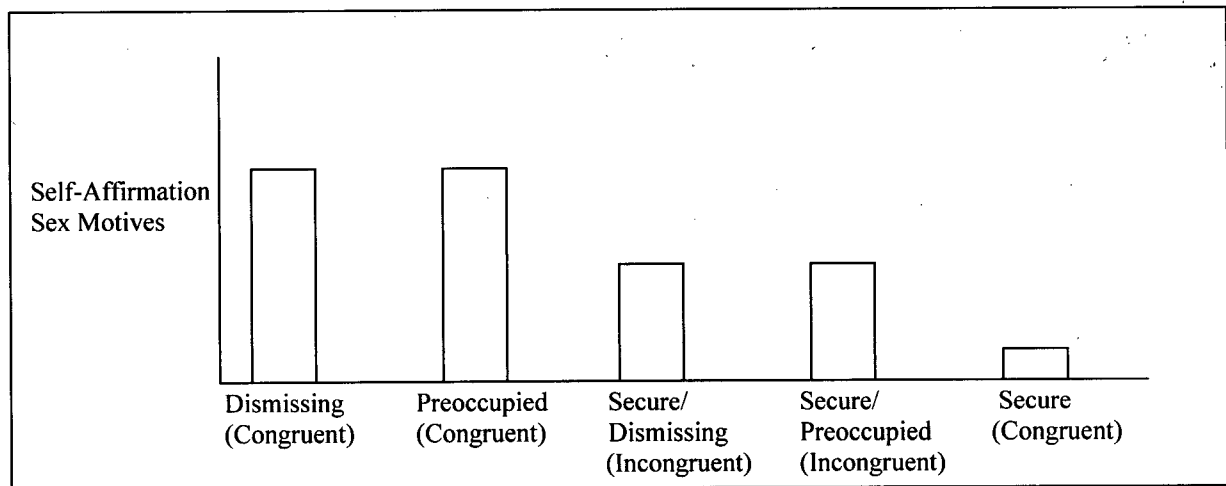


Figure 4: Hypothesis 3: Attachment Styles and Self-Affirmation Sex Motives.

The general hypothesis regarding peer approval sex motives is further formalized by emphasizing that individuals with dismissing attachments perceive others as untrustworthy. This is likely to produce an unwillingness to be vulnerable to intimate relations, thereby affecting relational development (Feeney & Noller, 1996). However, gaining peer approval remains in the realm of a non-intimate setting and is therefore not perceived as an emotionally exposed situation, which explains the link between those with dismissing attachments and peer approval sex motives. Once more, the “incomplete buffering hypothesis” coupled with earlier studies on attachment avoidance and peer approval sex motives direct the fourth hypothesis.

H4: Adolescents who perceive dismissing (congruent) attachments with both parents will have the highest scores on the peer approval sex motive, adolescents who perceive incongruent secure/dismissing attachments will have intermediate scores on the peer approval sex motive, and adolescents with secure (congruent) attachments with both parents will have the lowest scores on the peer approval sex motive.

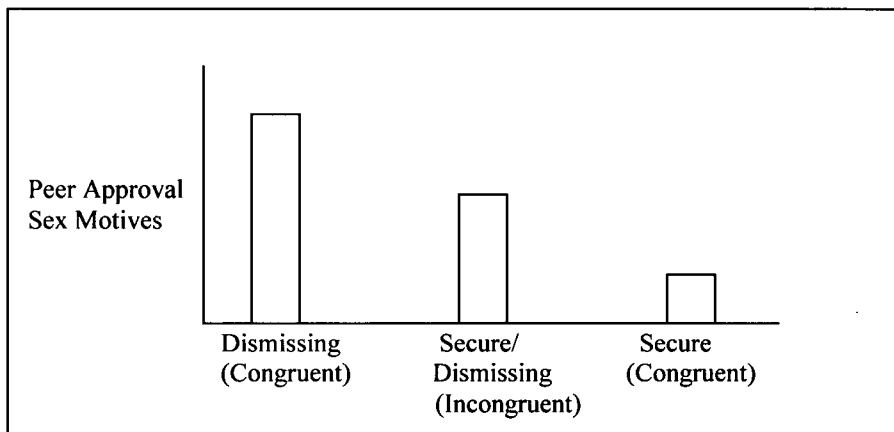


Figure 5: Hypothesis 4: Attachment Styles and Peer Approval Sex Motives.

Unlike peer approval, seeking partner approval is within the context of relational intimacy, which coincides with preoccupied individuals' goals for closeness (Feeney & Noller, 1996). The earlier examination of attachment anxiety and partner approval sex motives set forth a general hypothesis which is now expanded by the inclusion of the "incomplete buffering hypothesis". Individuals with incongruent secure/preoccupied attachments have a more balanced sense of their self-worth and are less likely than those with congruent preoccupied attachments to be influenced by partner approval sex motives. Accordingly, the "incomplete buffering hypothesis" logic together with previous findings grounded in attachment theory guides the fifth hypothesis.

H5: Adolescents who perceive preoccupied (congruent) attachments with both parents will score highest on the partner approval sex motive, adolescents who perceive incongruent secure/preoccupied attachments will have intermediate scores on the partner approval sex motive, and adolescents who perceive secure (congruent) attachments with both parents will have the lowest scores on the partner approval sex motive.

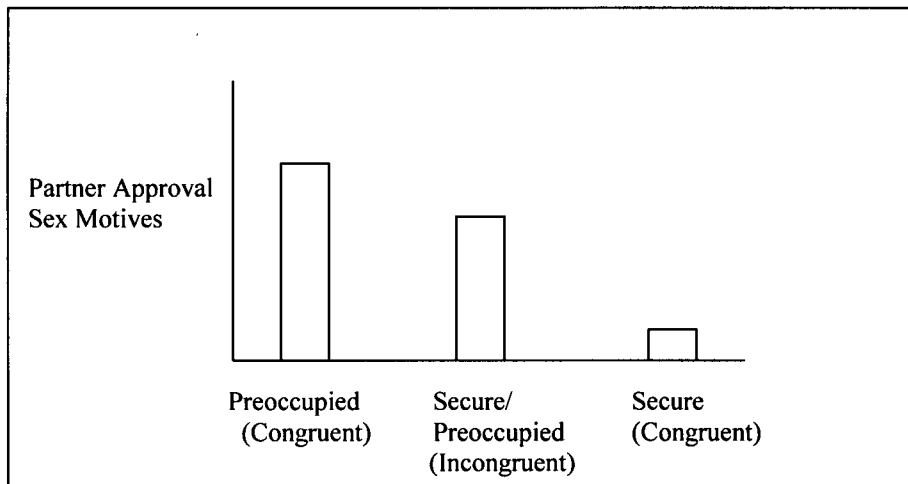


Figure 6: Hypothesis 5

The final hypotheses rely on findings from the literature on sex motives which finds sex differences, independent of attachment styles (Simpson & Rholes, 1998), on the enhancement (e.g. Regan & Dreyer, 1999), peer approval (e.g. Woody et al., 2003), intimacy (e.g. Hill & Preston, 1996), and partner approval (e.g. Browning et al., 2000) sex motives.

H6: Males (regardless of attachment styles) will have higher scores on enhancement and peer approval motives than will females.

H7: Females (regardless of attachment styles) will have higher scores on intimacy and partner approval motives than will males.

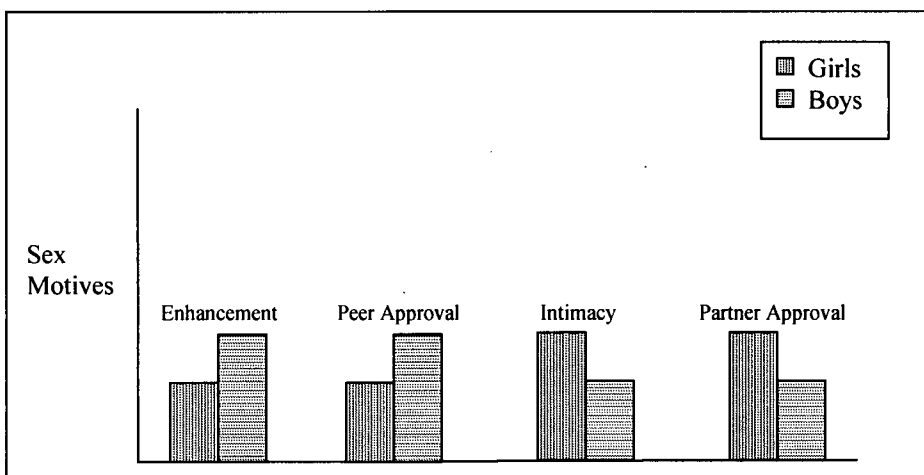


Figure 7: Hypothesis 6 and 7

Method

Participants

Five hundred and sixty-six respondents completed an online survey created specifically for a longitudinal study of high school students. Participants who had not engaged in sexual behaviors were instructed to omit the sex motives questions. A total of 266 participants responded to the sex motives and the attachment to mother and father items. Twenty-two cases were excluded. Nine respondents completed less than 80% of the sex motives items, which was determined as the bottom line for addressing missing data. Six cases left the living arrangements blank, and another 6 cases were living in home-stay situations and were instructed to answer the attachment scales for their home-stay parents. One additional subject was deleted from the dataset because the answers given were not serious. The present dataset represents a total of 244 cases.

Of the 244 participants, 116 were males and 127 were females and one subject did not reveal his or her sex. Participants' age ranged from 13 years to 18 years with a mean age of 15.25 years. One hundred and sixty subjects (65.6%) of the sample were Caucasian/European, 19.2% ($n=47$) Asian, 0.8% ($n=2$) African, 2% ($n=5$) Latino/Hispanic, 0.8% ($n=2$) First Nations or Native, and the remainder of the sample, 8.5% ($n=21$), considered themselves of mixed ethnicity. Seven participants (2.9%) did not respond to the question pertaining to ethnic background.

The majority of participants, 61.1% ($n=149$) live in intact families. Twenty-seven subjects (11.1 %) live mostly with their mothers, while 3.7% ($n=9$) live mostly with their fathers. Thirty-four subjects (13.9%) live with their mother or father and their parents' partner. Six participants (2.4%) live with their divorced parents equally. Eighteen participants (7.2%) live with other family members, and 0.4% ($n=1$) of the sample stated they live alone.

Procedures

This first wave of data collection is the beginning of a five-year longitudinal study exploring adolescent life among high school students. The Vancouver School Board (VSB) approved the proposed study, as did the secondary school administration. Of the 1118 parental consent forms distributed, a total of 632 were returned indicating that adolescents were permitted to participate in the study, 139 specified that adolescents were not allowed to partake in the study, and 347 did not respond. Parental approval was requested twice, with a 25% response rate in the first round, and an overall response rate of 69%. A draw for gift certificates and a pizza party were the incentives used for students to return consent forms, whether or not parents authorized adolescents' involvement in the study.

Trained researchers explained assent to the participants and highlighted issues of anonymity and confidentiality along with the purpose of the survey. Subjects were given approximately one hour and twenty minutes to complete the survey online. Once data collection was complete it was downloaded to the principal investigator's computer and kept in a secure file.

Measures

Demographic information. Information about adolescents' sex, age, ethnicity and family constellation was self-reported (See Appendix 1).

Adolescent Attachment Questionnaire (AAQ). The AAQ (West et al., 1998) was developed in response to a paucity of theoretically driven measures gauging adolescents' perceptions of their attachments to parents. It consists of 3 questions for each of 3 scales measuring availability, anger, and goal-corrected partnership. In combination, the three scales portray adolescents' perception of attachments to their mother and father, respectively. The AAQ is a self-report Likert-type scale, with 1 being equivalent to *strongly agree* and 5 *strongly*

disagrees. The AAQ has convergent validity with the three attachment categories of the AAI (autonomous/secure, dismissing, and preoccupied/enmeshed) (West et al., 1998).

In order to distinguish attachment relationships between mother and father, two AAQ scales were administered with items altered to represent questions for mother and father separately (i.e. "It makes me feel good to do things for my mother", "It makes me feel good to do things for my father") (Marshall & Katsurada, 2004). (See Appendices 2 and 3). Cronbach's alphas for mother's anger, availability and goal-corrected partnership are .66, .85, and .84, and Cronbach's alphas for father's anger, availability and goal-corrected partnership are .76, .88, and .89, respectively.

Sex Motives Scale (SMS). The SMS (Cooper et al., 1998), a self-report questionnaire, was developed to measure sexual motivations amongst adolescents and young adults from a functionalist perspective. This scale considers psychological and emotional motivations in understanding human sexual behaviors. These motivations are the basis for the SMS and include self-focused goals, other-focused goals, appetitive and aversive behaviors which intersect to create four distinct categories of motivations: (1) appetitive self-focused goals (2) aversive self-focused goals (3) appetitive other-focused goals, and (4) aversive other-focused goals. Self-focused goals are based on behaviors that serve intrinsic needs or "autonomy-competence needs" (p. 1530), whereas other-focused goals are behaviors that attempt to "elicit a specific response from another person or group of persons...or attachment or communal needs" (Cooper et al., 1998, p. 1530).

The formulation and testing of the SMS demonstrated moderate cross-time stability after one-year (Cooper et al., 1998). Tests against 10 additional scales deemed the SMS to have discriminant validity and documented convergent validity between additional scales and the SMS (Cooper et al., 1998).

The SMS is a five point Likert-type scale (where 1 is *never/almost never* and 5 equals *almost always/always*) originally comprising 29 items that factor into six subscales, enhancement, intimacy, self-affirmation, coping, peer and partner approval (Cooper et al., 1998), each corresponding with the four classifications previously stated. The SMS has been altered for this study by removing four items thought to measure coping as it is not relevant in early and middle adolescent populations. An additional item was removed because its factor loadings were weak across all components. Therefore, the scale as it appears in this study contains 24 items (See Appendix 4).

The SMS has also been modified in its definition of sex to better fit the target population. Sex was defined as diverse behaviors including, “kissing, fondling genitals, vaginal-penile intercourse, oral sex or touch mouth to genitals, and masturbating with a partner”. The survey was designed to allow participants to skip the SMS if they did not identify as having engaged in sex with another person.

“Theory Based Items” (Schachner & Shaver, 2004). Five additional sex motives questions were included. The last five questions seen in Appendix 4). These questions were constructed to reflect sex motives that attachment theorists contend should be associated with attachment styles (Schachner & Shaver, 2004). Internal consistency and principal components analysis for the sex motive items are reported in the preliminary analysis section.

Preliminary Data Analysis

Preliminary analysis involved conducting a principal components analysis on the items from the SMS (Cooper et al., 1998) and the new theory based items (Schachner & Shaver, 2004) in order to create one scale representing sex motives. Table 1 displays the loadings of a rotated component matrix consisting of five components. The five dimensions found were enhancement, intimacy, self-affirmation, partner approval and peer approval with alpha scores of .90, .95, .93,

.92, and .90, respectively. From the SMS, the item "my friends are having sex" was dropped as its factor loadings were weak on each of the five components. Although the item "I have sex to make [my] partner love me" loaded higher on the peer approval dimension (.45), it theoretically fits better with the partner approval dimension where the factor loading is (.40). The SMS and new theory based sex motives items now comprise a scale consisting of 28 items within five dimensions.

Table 1

Rotated Components Matrix of Sex Motives Scale and New Theory Based Items

Measure and Variable	Components				
	1	2	3	4	5
Enhancement					
1. Feel horny	.15	.24	.10	.72	-.05
2. Feels good	.12	.28	.03	.81	-.15
3. For excitement	.04	.29	.16	.83	.12
4. Thrill of it	.06	.22	.26	.82	.10
5. Satisfy sexual needs	.08	.15	.27	.78	-.06
Intimacy					
1. Be more intimate with partner	.03	.75	.08	.43	.11
2. Express Love	-.08	.88	.02	.20	-.01
3. Make emotional connect	-.04	.89	.10	.21	.05
4. Feel closer to partner	-.01	.89	.17	.24	.07
5. Feel emotionally closer to partner	-.01	.90	.16	.14	.03
Self-Affirmation					
1. Prove I am attractive	.11	.14	.78	.18	.20

2. Feel better about myself	.28	.12	.82	.21	-.02
3. Feel more interesting to others	.27	.01	.85	.12	.13
4. Feel more self-confident	.18	.15	.83	.20	.16
5. Feel desirable	.23	.13	.81	.14	.13
Partner Approval					
1. Afraid partner won't love me	.33	.05	.13	-.02	.86
2. Afraid partner will be angry	.25	.05	.13	-.02	.89
3. Worry partner won't want me	.31	.03	.14	-.02	.87
4. Afraid partner will leave me	.34	.03	.13	-.02	.87
5. Have sex to make partner love me	.45	.28	.22	.11	.40
Peer Approval					
1. Worry people will talk if I don't have sex	.80	-.03	.05	-.07	.30
2. People will think less of me if I don't have sex	.73	.05	.12	.00	.35
3. Other people will kid me if I don't have sex	.81	.02	.15	-.01	.24
4. Have sex so others won't put me down	.83	-.08	.14	.04	.21
5. Have sex just so I can say I have done it	.79	.03	.26	.12	.17
6. Have sex to fit in better	.84	-.04	.19	.06	.22
7. Have brief hook-ups/not have longer relationship	.51	-.07	.13	.30	.01
8. Have sex so I can brag	.74	-.04	.20	.23	.08

Results

Cluster Analyses: Identification of Attachment Styles

As homogeneous categories of attachment were sought, cluster analyses was used to create discrete variables (Borgen & Barnett, 1987) using the AAQ measure (West et al., 1998). Secure attachments were expected to have below the mean scores on the anger scale and above

the mean scores on the availability and goal-corrected partnership scales. Dismissing attachments were expected to show scores above the mean on the anger scale and below the mean scores on availability and goal corrected partnership scales. Preoccupied attachments were expected to have scores above the mean on goal-corrected partnership, and scores below the mean on anger and availability.

The anger, availability, and goal-corrected partnership subscale scores were transformed into z scores prior to using a combination of hierarchical agglomerative and iterative partitioning methods. Aldenderfer and Blashfield (1984) suggest first computing Ward's method for initial solutions followed by *k*-means to obtain more useful final solutions. Both Ward's and *k*-means methods use Euclidean distance as a similarity measure to calculate centroids (Aldenderfer & Blashfield, 1984).

The Ward's method generates "minimum variance within clusters" (p. 43) producing imperfect clusters that may overlap with one another (Aldenderfer & Blashfield, 1984). Dendrograms and algorithms (fusion coefficients) were analyzed to determine the number of clusters. Results suggest three clusters generated the best fit for attachment to both mother and father using Ward's method.

Seed values obtained from the Ward's method were used in the *k*-means cluster analyses. The *k*-means method is recommended when clusters are determined a priori (Borgen & Barnett, 1987) and is intended for researchers to designate the number of clusters (Aldenderfer & Blashfield, 1984). Figure 8 represents the three clusters generated for mother and father, respectively.

Contrary to expectations, the preoccupied attachment categories for mother and father were not theoretically coherent. Referring to Figure 8, what was supposed to convey a preoccupied attachment is not defensible in theory and is therefore labeled as *not preoccupied*.

Thirty-five percent of participants ($n = 84$) were classified as members of the not preoccupied grouping for mother and 40% ($n = 97$) represented not preoccupied for fathers. Thirty-five percent of the sample were grouped as securely attached to mother ($n = 84$) and 37% ($n = 89$) as securely attached to father. Seventy-five participants (31%) were grouped into the dismissing attachment style to mothers whereas 23% ($n = 54$) were classified into the dismissing attachment style to fathers.

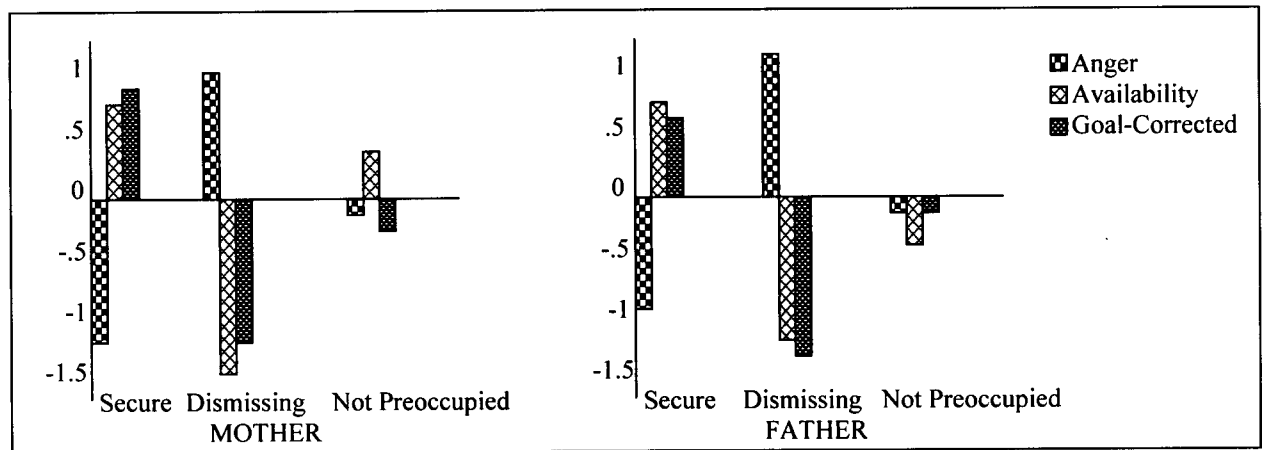


Figure 8. Cluster Patterns for Mothers and Fathers

The clusters are maintained in tests of hypotheses because the secure and dismissing classifications are statistically and theoretically consistent with a previous study (Marshall & Katsurada, 2004). The third group was not consistent with theory therefore the not preoccupied category was not included in the analyses. The study focused on secure and dismissing attachment groups.

Congruent and Incongruent Attachment Variable

Following the cluster analyses, a new variable was created to represent the combination of adolescents' perceived attachment to mother and father. Five (2%) subjects did not complete either the mother or father scale and were therefore left out of the combined attachment styles. In addition, 137 participants (57.3%), who rated as congruent not preoccupied or an incongruent attachment style containing the not preoccupied grouping were excluded. These deletions left

40.7% ($n=102$) of the sample to group into one of the three categories of congruent and incongruent attachments consisting of secure and dismissing attachment styles. The congruent categories comprised a total of 80% ($n = 82$) of which 53% ($n=54$) were secure, and 27% ($n=28$) were dismissing. The incongruent secure/dismissing group consisted of a total of 20 % ($n=20$).

Data Analysis

Analysis of variance (ANOVA) was used to evaluate the relationship between attachment styles and sex motives¹, as analyzing the mean differences of several categorical independent variables on a single interval dependent variable (Tabachnick & Fidell, 1996) was the aim of this investigation. Table 2 displays the descriptive statistics for the dependent variables². The ANOVA tests were run with only the hypothesized groups selected for the analysis. Sex was included in each analysis to confirm an absence of interaction effects. Note that hypotheses originally set out to test preoccupied categories cannot be examined, therefore the tests of hypotheses include only congruent secure and dismissing and incongruent secure/dismissing categories (Hypotheses 1, 3, and 4).

¹ The peer and partner approval variables were negatively skewed and thus transformed using Log 10. Tests of peer and partner approval sex motives resulted in similar findings for the raw and transformed data. The non-transformed variables were therefore interpreted throughout.

² Several rationales are put forth to explain why the maximum score of the present sample did not reach 5 on peer approval sex motives. First, it is likely that adolescents are less likely to self report peer approval sex motives, as their ability to self reflect these motivations may not be fully developed. Second, adolescents may be embarrassed to admit that they have sexual motivations that are about seeking acceptance from peers. A third possibility is that early and middle adolescents are sexually motivated in specific situations for peer approval but have interpreted the survey items as representing their general patterns of sexual motivations.

Table 2.

Descriptive Summary for Dependent Variables

	Minimum	Maximum	<i>M</i>	<i>SD</i>
Intimacy Sex Motives	1	5	3.45	1.13
Enhancement Sex Motives	1	5	3.37	1.03
Self-Affirmation Sex Motives	1	5	2.66	1.16
Peer Approval Sex Motives	1	4.71	1.67	.78
Partner Approval Sex Motives	1	5	1.64	.84

Since ANOVA tests excluded segments of the sample population, findings of a significant relationship between adolescent sex and sex motives were interpreted cautiously. To test the relationship between sex differences and sex motives *t*-tests were computed with all participants. The *t*-test is the appropriate analysis, as the independent variable is dichotomous and the dependent variable is interval (Agresti & Finlay, 1997).

Hypothesis 1. The first hypothesis predicts adolescents who perceive incongruent secure/dismissing attachments to parents have scores in the middle of adolescents who perceive congruent secure and dismissing attachments to parents on the intimacy sex motive. The congruent secure category is hypothesized to have the highest score and the congruent dismissing group is predicted to have the lowest score on the intimacy sex motive. This hypothesis was tested using a 2 X 3 (sex X attachment) ANOVA. Table 3 illustrates that adolescents in the secure/dismissing category had the highest scores on the intimacy sex motive, adolescents in the congruent secure group had intermediate scores on the intimacy sex motive, and adolescents in the congruent dismissing category had the lowest scores on the intimacy sex motive.

Table 3.

Descriptive Statistics for Intimacy Sex Motives as a Function of Attachment Congruence and Incongruence

<i>Attachment Style</i>	<i>M</i>	<i>SD</i>	<i>N</i>
Congruent Secure	3.21	1.26	54
Incongruent Secure/Dismissing	3.98	1.05	19
Congruent Dismissing	3.18	1.16	28

As shown in Table 4, the relationship between sex of adolescents and the intimacy sex motive was not statistically significant. The overall model between attachment styles and the intimacy sex motive was statistically significant. The eta square, which specifies the strength of the relationship, was .07 indicating a weak association between attachment styles and intimacy sex motives.

Table 4.

2 X 3 ANOVA Between Subjects Effects on Intimacy Sex Motives

<i>Source</i>	<i>df</i>	<i>F</i>	η^2	<i>p</i>
Attachment	2, 95	3.58*	.07	.03
Sex	1, 95	.79	.01	.38
Sex X Attachment	2, 95	.46	.01	.63

* $p < .05$.

An analysis of simple contrasts illustrates a statistically significant difference between adolescents in the incongruent secure/dismissing and congruent secure categories, $p < .05$. Consequently, adolescents' perceived attachment styles with parents are associated with their intimacy sex motives. However, adolescents who endorse the incongruent secure/dismissing attachment style did not have scores in the middle of adolescents reporting congruent secure and

dismissing attachment styles to parents on intimacy sex motives, and therefore the first hypothesis is not supported.

Hypothesis 3. The third hypothesis states that adolescents who perceive incongruent secure/dismissing attachment styles to parents score in between adolescents with congruent secure and dismissing attachments to parents on the self-affirmation sex motive. Adolescents who perceive congruent secure attachments will have the lowest scores and adolescents who perceive congruent dismissing attachments to parents are expected to have the highest scores on the self-affirmation motive. This hypothesis was tested with a 2 X 3 (sex X attachment) ANOVA. Table 5 shows that the means of each attachment classification are in the predicted direction.

Table 5.

Descriptive Statistics for Self-Affirmation Sex Motives as a Function of Attachment

Congruence and Incongruence

<i>Attachment Style</i>	<i>M</i>	<i>SD</i>	<i>N</i>
Congruent Secure	2.31	1.10	54
Incongruent Secure/Dismissing	2.50	1.07	19
Congruent Dismissing	3.19	1.18	27

As shown in Table 6, attachment styles were significantly related to self-affirmation sex motives. The association between attachment and self-affirmation sex motives was weak, with an eta square score of .12.

Table 6.

2 X 3 ANOVA Between Subjects Effects on Self-Affirmation Sex Motives

Source	<i>df</i>	<i>F</i>	η^2	<i>p</i>
Attachment	2, 94	6.11 *	.12	.00
Sex	1, 94	4.21 *	.04	.04
Sex X Attachment	2, 94	.25	.01	.78

* $p < .05$.

Simple contrasts reveal statistically significant relationships between the congruent dismissing and secure groups, $p < .001$, and between congruent dismissing and incongruent secure/dismissing groups, $p < .05$. The hypothesis that adolescents who perceive incongruent secure/dismissing attachment styles with parents score in between adolescents who perceive congruent secure and dismissing attachments with parents was generally supported.

Table 6 also shows an unexpected significant relationship between the sex of adolescents and the self-affirmation sex motive. The relationship between adolescent sex and the self-affirmation sex motive was weak, with an eta square score of .04. Adolescent males scored higher ($M = 2.87$, $SD = 1.21$) than adolescent females ($M = 2.32$, $SD = 1.07$) on the self-affirmation sex motive.

Hypothesis 4. The fourth hypothesis predicted that adolescents who perceive incongruent secure/dismissing attachments to parents score in between adolescents who perceive congruent secure and dismissing attachments to parents. Adolescents who perceive congruent secure attachments are expected to have the lowest score and those in the congruent dismissing attachment group are estimated to have the highest scores on peer approval sex motives. A 2 X 3 (sex X attachment) ANOVA was computed to test this hypothesis. Table 7 shows the summary of the descriptive statistics.

Table 7.

Descriptive Statistics for Peer Approval Sex Motives as a Function of Attachment Congruence and Incongruence

<i>Attachment Style</i>	<i>M</i>	<i>SD</i>	<i>N</i>
Congruent Secure	1.60	.86	54
Incongruent Secure/Dismissing	1.52	.56	19
Congruent Dismissing	1.91	.91	28

Table 8 illustrates that only the model for adolescent sex and peer approval sex motives was statistically significant. Adolescent males had higher scores on peer approval sex motives than adolescent females. The eta square score of .04 indicates a weak relationship. Note that reference should be made to the sixth hypothesis where all participants are included in the analysis. The model testing the relationship between attachment styles and peer approval sex motives was not statistically significant.

Table 8.

2 X 3 ANOVA Between Subjects Effects on Peer Approval Sex Motives

<i>Source</i>	<i>df</i>	<i>F</i>	<i>η^2</i>	<i>p</i>
Attachment	2, 95	1.78	.04	.17
Sex	1, 95	4.00 *	.04	.05
Sex X Attachment	2, 95	.46	.01	.64

* $p < .05$.

Overall, the hypothesis that adolescents who perceive incongruent secure/dismissing attachments to parents score in the middle of adolescents who perceive congruent secure and dismissing attachments to parents on peer approval sex motives was not supported.

Hypothesis 6. Male adolescents were hypothesized to have higher scores on the enhancement and peer approval sex motives than were female adolescents. Independent samples t-tests were used to calculate the relationship between sex of the adolescents and enhancement and peer approval sex motives. Levene's test revealed that the assumption of homogeneity of variances was violated therefore the Mann-Whitney U non-parametric test was interpreted. Both enhancement and peer approval sex motives were statistically significant. As shown in Table 9, males have higher means on enhancement and peer approval sex motives than females.

Table 9.

Descriptive Statistics for Sex Motives as a Function of Adolescent Sex

	Males ($n = 116$)	Females ($n = 127$)
	$M (SD)$	$M (SD)$
Enhancement Sex Motives	3.72 (.97)**	3.05 (.99)
Peer Approval Sex Motives	1.94 (.86)**	1.42 (.61)
Intimacy Sex Motives	3.49 (1.16)	3.40 (1.11)
Partner Approval Sex Motives	1.71 (.87)	1.58 (.82)

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

Hypothesis 7. The final prediction was that adolescent females score higher on intimacy and partner approval sex motives than adolescent males. Independent samples t-tests resulted in non significant relationships between adolescent sex and the partner approval motive, $p = .20$, and intimacy motives, $p = .54$ (See Table 9). Therefore the postulation that adolescent females endorse intimacy and partner approval sex motives more than adolescent males is not supported.

Post Hoc Analysis

Although cluster analysis generated secure and dismissing groupings according to attachment theory, the preoccupied classification was not consistent with theory. Tests using

ANOVA excluded a group that may have provided pertinent information. Therefore, an alternative method of assessing attachment and sex motives was carried out by using a continuous measure of attachment. This permitted inclusion of the whole sample in analyses. A single score of attachment security with the AAQ was formed as suggested by West et al. (1998). Rather than assessing attachment categories, the individual and combined effects of perceived maternal and paternal attachment security on sex motives were investigated. According to West et al. (1998) the AAQ subscales together measure "adolescents' perceptions of the available responsiveness" (p. 670) of their mother and father. It can be argued that the degree of available responsiveness represents attachment security in adolescence and is therefore defined as such.

To evaluate the association between parent-adolescent attachment security and sex motives Ordinary Least Squares (OLS) regressions were executed. Prior to conducting the regressions, the three items comprising the anger scale were reverse coded to be consistent with scale formation. Next, two new variables were created by taking the mean score of the nine items of each AAQ for mother and father, with alpha scores of .87 and .89 respectively. These new variables represent scales of perceived maternal and paternal attachment security, with higher scores indicating greater security.

Following Aiken and West (1991), the perceived maternal and paternal attachment security variables were centered to reduce multicollinearity between the independent variables and interaction terms. Interaction terms were created between perceived maternal and paternal attachment security. In addition, to confirm that sex did not interact with perceived maternal or paternal attachment security, interaction terms (sex X maternal attachment security, sex X paternal attachment security, maternal attachment security X paternal attachment security, and sex X maternal attachment security X paternal attachment security) were created.

Five separate hierarchical multiple regression analyses were conducted, one with each sex motive as a dependent variable. Three main effects were entered into the first step (sex, maternal attachment security, and paternal attachment security). If a main effect between adolescent sex and a sex motive was found, adolescents' sex was dummy coded (males = 0, females = 1) in order to interpret sex differences. The maternal and paternal attachment security variables were included as main effects to explore the possible predictive power of each parent's attachment security on sex motives. Next, interaction effects between sex and attachment security were included to confirm that interactions do not exist. The variables included in the second step were sex X maternal attachment security and sex X paternal attachment security. The third step included a two way interaction of maternal attachment security X paternal attachment security to explore adolescents' perceptions of the combined attachment security of both parents, and on the fourth step a three way interaction of sex X maternal attachment security X paternal attachment security was entered.

To generate parsimonious tests the step-down method was used. That is, when significance was not found for the last step imputed the regression was rerun with the highest step producing a significant model. Scatterplots³ were inspected for irregularities in the residuals, specifically for outliers, which were found to be non-influential. Following are the results from each of the five hierarchical regressions. Note that all tables illustrating the regressions display only the significant steps to promote comprehensibility.

Statistically significant interactions between perceived maternal and paternal attachment security were examined following procedures outlined in Aiken and West (1991). First, maternal attachment was arbitrarily selected as the moderator variable. Next, a hierarchical regression was

³ Scatterplots revealed heteroscedasticity in tests of peer and partner approval sex motives. Log 10 transformations on both variables did not resolve the problem of non-normal distribution. Hence the non-transformed variables were

conducted with paternal attachment security imputed on the first step and the interaction between paternal and maternal attachment security, at levels below the mean, on the second step.

Assessments of the beta were interpreted and plotted. The same process was completed with the interaction variable for perceived paternal and maternal attachment security at levels above the mean.

Regression 1. The dependent variable for the first regression was intimacy sex motives. The highest step showing statistical significance was the two way interaction between maternal and paternal attachment security, $F(6, 231) = 2.37, p < .05$, as displayed in Table 10. The F change statistic illustrates that only Model 3 is significant and explains 3.4% of the variance of intimacy sex motives.

Table 10.

Hierarchical Regressions Predicting Intimacy Sex Motives

<i>Independent Variables</i>	<i>B</i>	<i>SE B</i>	<i>β</i>
Step 1			
Sex	-.11	.15	-.05
Maternal Attachment	.06	.10	.04
Paternal Attachment	-.09	.09	-.08
Step 2			
Sex	-.11	.15	-.05
Maternal Attachment	-.22	.55	-.16
Paternal Attachment	.34	.47	.28
Sex X Maternal Attachment	.11	.21	.19
Sex X Paternal Attachment	-.17	.18	.35
Step 3			
Sex	-.14	.15	-.06
Maternal Attachment	-.40	.54	-.29
Paternal Attachment	.57	.47	.46
Sex X Maternal Attachment	.17	.20	.32
Sex X Paternal Attachment	.26	.18	-.54
Maternal X Paternal Attachment	-.34	.10	-.22**

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

Figure 9 illustrates the plotted interaction between maternal and paternal attachment security and intimacy sex motives. When levels are below the mean on perceived maternal attachment security, the relationship between intimacy sex motives and perceived paternal

attachment security was not significant, $\beta = .14, p = .13$. When perceived maternal attachment security was at levels above than the mean, there was a significant negative association between paternal attachment security and intimacy sex motives, $\beta = -.27, p < .05$.

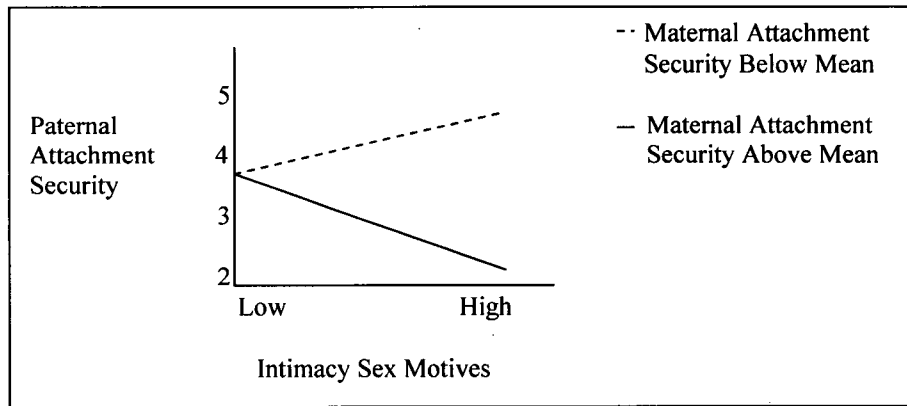


Figure 9: Interaction Effects of Maternal and Paternal Security on Intimacy Sex Motives.

Regression 2. Enhancement sex motives was the dependent variable assessed in the second regression. As shown in Table 11, the highest significant step was the interaction between maternal and paternal attachment security, $F(6, 231) = 7.18, p < .001$. The F change statistic shows statistical significance in Model 3. Overall, Model 3 explains 16% of the variance of enhancement sex motives. A main effect for adolescents' sex, where adolescent males endorsed enhancement sex motives more than females was found. A main effect was also found for paternal attachment security on enhancement sex motives.

Table 11.

Hierarchical Regressions Predicting Enhancement Sex Motives

<i>Independent Variables</i>	<i>B</i>	<i>SE B</i>	<i>β</i>
Step 1			
Sex	-.65	.13	-.32**
Maternal Attachment	.03	.09	.02
Paternal Attachment	-.15	.08	-.14*
Step 2			
Sex	-.65	.13	-.32**
Maternal Attachment	-.56	.47	-.44
Paternal Attachment	.14	.40	.13
Sex X Maternal Attachment	.23	.18	.46
Sex X Paternal Attachment	-.11	.16	-.25
Step 3			
Sex	-.68	.13	-.33**
Maternal Attachment	-.70	.47	-.55
Paternal Attachment	.32	.40	.28
Sex X Maternal Attachment	.28	.18	.57
Sex X Paternal Attachment	-.18	.15	-.41
Maternal X Paternal Attachment	-.26	.09	-.19*

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

The slopes of the interaction are plotted in Figure 10. When levels were below the mean on perceived maternal attachment security, the relationship between enhancement sex motives and perceived paternal attachment security was not significant, $\beta = .02$, $p = .83$. When perceived

maternal attachment security was at levels above the mean, there was a negative relationship between enhancement sex motives and paternal attachment security, $\beta = -.28, p < .05$.

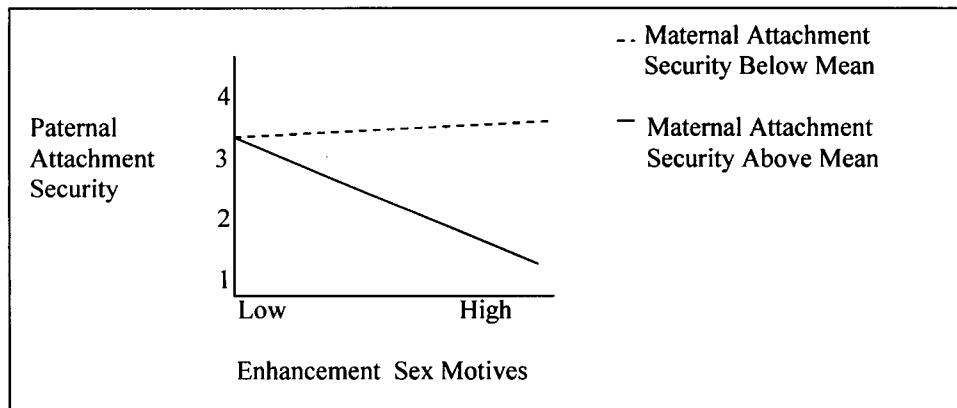


Figure 10: Interaction Effects of Maternal and Paternal Security on Enhancement Sex Motives.

Regression 3. In the third regression the dependent variable was self-affirmation sex motives. Although all models were statistically significant a closer look at the F change revealed no statistical significance with the inclusion of Models 2 and 3. There were no significant interactions found, thus Models 2 and 3 were removed. Statistically significant relationships were found in Model 1, $F(3, 233) = 11.66, p < .001$. The overall model explains 13% of the variance in self-affirmation sex motives. Referring to Table 12, a main effect was found between perceived paternal attachment security and self-affirmation sex motives. The strength of the relationship is modest and a negative slope indicates that lower paternal attachment security is related to adolescents' higher self-affirmation scores.

To explore the difference between maternal and paternal attachment security as predictors of self-affirmation sex motives a hierarchical regression was computed. Adolescent sex was imputed as a control variable in the first step, maternal attachment security was the second step, and paternal attachment security was the third step. A negative relationship between maternal attachment security and self-affirmation sex motives, $\beta = -.15, p < .05$, resulted in the second step. Maternal attachment security accounted for 11%; whereas paternal attachment

security accounted for 13% of the variance in self-affirmation sex motives. Thus, both maternal and paternal attachment security are important predictors of self-affirmation sex motives, but paternal attachment security accounts for 2% more of the variance.

Adolescents' sex was also found to be significantly related to self-affirmation sex motives, with adolescent females having lower scores on self-affirmation motives than males.

Table 12.

Hierarchical Regressions Predicting Self-Affirmation Sex Motives

<i>Independent Variables</i>	<i>B</i>	<i>SE B</i>	<i>β</i>
Step 1			
Sex	-.69	.14	-.30**
Maternal Attachment	-.11	.10	-.08
Paternal Attachment	-.20	.09	-.16*

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

Regression 4. The peer approval sex motive was the dependent variable utilized in the fourth regression. All models of the hierarchical regression were statistically significant however the F change statistic demonstrated that the addition of Models 2 and 3 was not significant and therefore these Models were removed. A statistically significant relationship was found in Model 1, $F(3, 234) = 10.21, p < .001$. Table 13 shows the results of the regression. Adolescent females endorse peer approval sex motives less than males. The strength of this relationship is moderate. Twelve percent of the variance in peer approval sex motives is explained by adolescents' sex. Thus, females scoring lower than males on peer approval sex motives scale is consistent with the results found in tests of hypothesis 6.

Table 13.

Hierarchical Regressions Predicting Peer Approval Sex Motives

<i>Independent Variables</i>	<i>B</i>	<i>SE B</i>	<i>β</i>
Step 1			
Sex	-.50	.10	-.32**
Maternal Attachment	-.04	.07	-.04
Paternal Attachment	-.08	.06	-.09

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

Regression 5. Partner approval sex motives was the final dependent variable tested in the series of regression analyses. No statistically significant relationships were found. Accordingly, neither sex nor maternal and/or paternal attachment security are associated with adolescent partner approval sex motives.

Discussion

The goal of the present analysis was to examine the link between adolescents' perceptions of attachments to parents and sex motives using the parent-adolescent attachment model. Tests of congruent and incongruent attachments were guided by the "incomplete buffering hypothesis", demonstrating integrated parental effects, where perceptions of one secure parent buffers the effects of one insecure parent (Verschuere & Marcoen, 1999). In addition, the relationship between adolescents' sex and sex motives was examined independently of attachment styles. This is the first study to examine sex motives from a parent-child paradigm while exploring congruent and incongruent attachments in relation to various sex motives.

Cluster analyses generated theoretically accurate classifications for perceived maternal and paternal secure and dismissing attachments, however, the preoccupied taxonomy was theoretically questionable. The results of cluster analyses hindered the scope of this

investigation, as only adolescents' perceiving congruent secure, dismissing, and incongruent secure/dismissing attachment classifications were examined. In view of the fact that the preoccupied attachment category was not included in hypotheses testing, post hoc analyses were carried out to further examine the relationship between attachment and adolescent sex motives. Specifically, hierarchical regression analyses were conducted with the whole sample as an alternative method of assessing the association between maternal and paternal attachment security and adolescent sex motives.

On the whole, both ANOVA and regression analyses found significant relationships between adolescent perceptions of either their attachment styles or parental attachment security and several sex motives. The discussion proceeds with an interpretation of the significant results regarding attachments and intimacy, enhancement, and self-affirmation sex motives and explains the non-significant associations of attachment and peer and partner approval sex motives. A description of sex differences findings from ANOVA, *t*-tests, and regression analyses follow.

Attachment and Intimacy Sex Motives

Results from ANOVA tests found a significant difference between adolescents who perceive incongruent secure/dismissing and congruent secure attachment styles on intimacy sex motives. Interestingly, adolescents perceiving incongruent secure/dismissing attachments endorsed the intimacy sex motive more than adolescents who reported congruent secure attachments to parents. This finding is contrary to the proposed buffering hypothesis, as it appears that one secure parent in an incongruent attachment configuration is more strongly related to adolescents' endorsement of intimacy sex motives than two secure parents. Previous research has found that avoidant adolescents are the least likely and secure adolescents are the most likely to be sexually motivated for intimacy (e.g. Tracy et al., 2003). It is possible that adolescents perceiving incongruent secure/dismissing attachment styles identify more with the

secure parent and overcompensate for the dismissing attachment, resulting in higher endorsements of intimacy sex motives.

When the relationship between maternal and paternal attachment security and intimacy sex motives was tested a different conclusion arises. Post hoc analysis found a significant interaction between maternal and paternal attachment security and adolescents' intimacy sex motives. The interaction effect demonstrates that the association between paternal attachment security and intimacy sex motives is modified depending on the levels of adolescents' perceived maternal attachment security. The combination of how maternal and paternal attachment securities interact to predict intimacy sex motives is perplexing because the buffering hypothesis states that one secure parent will buffer the effects of one insecure parent. These results do not indicate support for a buffering effect. Note it may be erroneous to speak of the buffering hypothesis with regards to the findings from regression analysis because there are no comparison groups to confirm the position of adolescents' perceiving incongruent attachment securities.

A possible explanation of these findings lies in the parent-child attachment paradigm. Previous studies examining the link between attachments and sex motives use the adult-adult attachment paradigm, which assesses the link between attachment to romantic partners and sex motives (e.g. Tracy et al, 2003). Analyzing attachment to romantic partners entails evaluating one relationship (e.g. Schachner & Shaver, 2004). The present study's focus on the parent-child model of attachment, where adolescents report both maternal and paternal attachment relationships, may explain the unexpected findings of how adolescents' perceived combined maternal and paternal attachment security predict intimacy sex motives.

Attachment and Enhancement Sex Motives

Post hoc analysis using enhancement sex motives as the dependent variable resulted in an interaction effect of maternal and paternal attachment security on enhancement sex motives. The

interaction effect illustrates that the relationship between paternal attachment security and enhancement sex motives changes according to the levels of perceived maternal attachment security. This finding is theoretically interpretable given the different roles mothers and fathers have on child development. Mothers are said to be responsible for emotional development whereas fathers are said to be accountable for socializing children to the outside world (Verschueren & Marcoen, 1999). Thus, adolescents may be less inclined to endorse enhancement sex motives because emotions may be reflected upon and compared with actions. It is plausible that the joint effects of parents provide this evaluation which predicts enhancement sex motives in such a fashion.

Attachment and Self-Affirmation Sex Motives

Tests using ANOVA found a significant relationship between congruent secure, dismissing, and incongruent secure/dismissing groups and self-affirmation sex motives. These results provide support for the incomplete buffering hypothesis because adolescents perceiving congruent dismissing attachments had the highest scores on self-affirmation sex motives, adolescents perceiving incongruent secure/dismissing attachments had intermediate scores on self-affirmation sex motives, and adolescents perceiving congruent secure attachments had the lowest scores on self-affirmation sex motives. These findings demonstrate that a secure attachment buffers the effects of an insecure attachment to the other parent. This finding is consistent with Verschueren and Marcoen's (1999) study, which found similar patterns of children's scores on socioemotional factors, thus supporting the incomplete buffering hypothesis.

Regression analysis using self-affirmation as the dependent variable resulted in a main effect between paternal attachment security and self-affirmation sex motives. Specifically the relationship between adolescents perceiving lower levels of attachment security with fathers was positively related with higher levels of self-affirmation sex motives. Further explorations into the

difference between maternal and paternal attachment security as predictors of self-affirmation sex motives illustrated that paternal attachment security accounts for slightly more variance of self-affirmation sex motives than maternal attachment security. This hints at support for the “dominance hypothesis”. A review of the literature on paternal influences provides insight into why adolescents’ perceived lower paternal attachment security is linked with stronger endorsements of self-affirmation sex motives. Palkovitz (2002) summarized the influence fathers have on children as “...the more extensive a father’s emotional investment, attachment, provision of resources, and involvement with his children, the more beneficial it is for children in terms of ...self-esteem” (Palkovitz, 2002). Thus, self-confidence may be compromised as a consequence of the relationship between adolescents’ perceived lower paternal attachment security and may influence adolescent motivations to seek self-affirmation from sexual activity.

Attachment and Peer and Partner Approval Sex Motives

It is important to comment on the lack of relationships between perceived parental attachment security and adolescent peer and partner approval sex motives. There are several explanations that may account for these non results. First, the mean scores of peer and partner sex motives are an indication that early and middle adolescents do not endorse such motives to a great extent. It is likely that younger populations are not able to self-reflect their motivations about seeking approval from others. Damon and Hart (1982) have documented that the development of the ability to self-reflect comes with age. Therefore, early and middle adolescents may have been unable to admit the influence of others on their sex motives.

In the same light, previous studies that find significant relationships between attachment and peer and partner sex motives utilize college-aged populations and the adult-adult model of attachment (e.g. Schachner & Shaver, 2004). It may be that maternal and paternal attachments are related to sex motives pertaining to internal factors, such as intimacy, enhancement, and self-

affirmation, whereas peer and partner approval become more apparent with age. Alan and Land (1999) suggest that by the time attachment to partners develop adolescent cognitive capability is at higher levels. Early and middle adolescents may not be in a cognitive position to understand the external forces which motivate them sexually.

Sex Differences

Moving towards an interpretation of the results on sex differences and enhancement and peer approval sex motives reveals them to be consistent with previous research (e.g. Woody et al., 2003). The finding that males score higher than females on enhancement and peer approval sex motives can be explained by biological and social theories. With regards to enhancement sex motives, Vohs et al's. (2004) review of the literature found multiple links between testosterone levels and sexual motivations. Furthermore, sociocultural theories contribute to the particulars of the relationship between males and enhancement sex motives, as it is socially expected and accepted that males are more sexually interested than females (Impett & Peplau, 2003). Sociocultural theories are also useful in clarifying why males seek praise from peers more than females. Sexual behaviors are likely to define masculinity (Holland et al., 2000) thereby making peer validation a strong influence for adolescent males. Although the hypothesis that the sexes endorse enhancement and peer approval sex motives differently was supported, intimacy and partner approval sex motives were not supported.

Contrary to expectations adolescent females did not score higher on partner approval or intimacy sex motives than adolescent males. A possible explanation lies in an analysis of how sexual and romantic relationships are socially constructed in adolescence. Miller and Benson (1999) discuss the present laissez-faire nature of dating in adolescence which is "characterized by greater gender equality and less formality" (p. 106). It is conceivable that sexual activities and thereby sexual motives have also reached a level of casualness among some adolescents. A

recent documentary titled *Secrets* (Ami & Williams, 2005) as well as a *New York Times* article (Denizet-Lewis, 2004) both depict seemingly nonchalant attitudes regarding sexual relations, such as the phenomenon of “friends with benefits”. Friends with benefits or “hook- ups” are casual sexual behaviors, unspecified, with a friend or acquaintance and are “sometimes a euphemism for oral sex, performed by a girl on a boy” (Deinzet-Lewis, 2004, p. 31). Although the prevalence of friends with benefits is unknown in Canadian adolescents, it is likely that the informality of sex is accepted among some adolescents (Miller & Benson, 1999). Furthermore, the concept of “erotic plasticity” states that females are more influenced by cultural and societal norms than are males (Vohs, et al., 2004). Given Miller and Benson’s (1999) discussion addressing an increased acceptance of casual sexual encounters, early and middle adolescent females may be less inclined, than in previous years, to endorse stereotypical intimacy and partner approval sex motives.

If adolescents’ attitudes are changing regarding what is appropriate sexual expression it is likely that females in the present sample may support more non-traditional sex roles.

Endorsement of non-traditional sex roles would result in lower scores of the stereotypical feminine sex motives of intimacy and partner approval. An alternative explanation of curiosity is possible, where adolescent females engage in sexual activity because they are curious and do not necessarily consider creating intimacy or appeasing their partners. For example, Cullari and Mikus (1990) found adolescents between grades 9 and 12 reporting curiosity as primary reasons for having sex.

Shifting to an interpretation of the unpredicted relationship between adolescent sex and self-affirmation sex motives suggests adolescent males endorse self-affirmation sex motives more than adolescent females. It may be argued that males’ sexual motivations of self-affirmation lie within the realm of defining masculinity. Adolescent males may have associated

the self-affirmation sex motive items with motives for engaging in sex to feel better about themselves as men. Early and middle adolescents are in the midst of identity development where engaging in sexual activity increases self-confidence because it may be associated with masculinity.

Theoretical Implications

The findings in the present study lead to several theoretical suggestions concerning issues of multiple attachments. Although support for the incomplete buffering hypothesis is not overwhelming, the evidence accumulated contributes to the concept of integrated multiple attachments (Howes, 1991). The process of how multiple attachments unite cannot be addressed due to the design of this study. Future longitudinal research, with larger sample sizes, is needed to determine the process of combined attachment congruence and incongruence (Verschueren & Marcoen, 1999).

Overall, the results indicate that understanding the organization of multiple attachments as predictors require more research, specifically in the domain of adolescent sex motives. The multifaceted matter of multiple attachments in particular domains, specifically with regards to sex motives, is absent in the literature. Approximately a decade ago Bretherton (1991) addressed the unresolved issue of multiple attachments and concluded that mothers were dominant in "the construction of the working model of self" (p. 14). Given the results, it is theoretically erroneous to assume a dominance model for maternal attachments across indeterminate outcomes. It is more prudent to conceptualize a "differential effects hypothesis" (Verschueren & Marcoen, 1999, p. 196), as the literature has not yet gathered substantial explanations to render a mother or father dominant hypothesis in the specific domain of sex motives.

Practical Implications

The study findings have implications for the development of sexual relationships during adolescence. There is great support in the attachment literature (e.g. Feeney & Noller, 2004) that secure individuals will have the healthiest romantic and sexual relationships, where dismissing and preoccupied individuals will face different struggles to satisfy their interaction goals. For example, Feeney and Noller (2004) find that avoidant young adults, aged 17-23 years, endorse the notion of casual sex, where anxious individuals compromise their safety (e.g. less condom use) to feel more connected with another and better about themselves. Thus, the issue of sexual health education becomes one of great importance as education may help to circumvent unsafe practices associated with different attachment styles.

It makes sense that psychological diversity is taken into consideration while teaching sexual health, as not all adolescents are motivated in the same way. Previous research also demonstrates that decisions to engage in sexual activity are rooted in socio-psychological factors (Cooper et al., 1998; Levinson, et al., 1995). Sexual health education that addresses decision making and motivation is opportune in creating awareness about the different needs sex satisfies. Thus, efforts to insist that public education address socio-psychological sex motives in early and middle adolescence and sooner are essential for adolescent sexual health and safety.

Limitations

The present study has both methodological and theoretical limitations. Among methodological factors, the design and measures available in the data set restrict the scope of the present study. Since the design is cross-sectional, intra-individual changes cannot be addressed nor can developmental processes be inferred from the present study (Baltes, Reese, & Nesselroade, 1977). Rather, distinguishing inter-individual differences was the aim of the present study, which accounts for the relationship between adolescents' perceptions of attachments with

parents and sex motives at one moment in time. Since this study was correlational, causal conclusions cannot be made. However, the findings contribute to the overall understanding of the phenomena of multiple attachments and adolescent sex motives.

A second methodological limitation is the use of self-report measures. Because early and middle adolescents are responding to items regarding sexual motives and relationships with parents, they may respond to the items in an ideal rather than accurate manner. This social-desirability response bias has been given considerable attention among scholars, specifically in sexuality research (e.g. Weideman, 2004). Furthermore, participants may have answered on the extreme options of the Likert-type scale, or may entirely agree with the items put forth and exaggerate their responses, a bias termed acquiescence response (Weideman, 2004). Although biases cannot be entirely eliminated, the data was stringently cleaned to avoid including participants with embellished answers. The use of self-report measures entails the abovementioned limitations, but there are also benefits to using self-report questionnaires. The present study gains accurate representations of adolescents' attachment relationships and sex motives, as the questions are directed and answered by the target population.

A third methodological limitation is the lack of a representative sample. Participants were not randomly selected, rather the population of a single high school was approached for participation. After parental consent and adolescent assent were requested, roughly 50% of the secondary school population participated in the study. Excluding approximately half of the high school population leads to speculation about the characteristics of the individuals included in the sample.

Another concern with regard to generalizability centers on class. The data was collected from one high school in an area considered to be of higher socio-economic status, illustrating that the sample is not representative of the general population in the region. Lastly, given that

cluster analyses did not produce theoretically justifiable preoccupied attachments and were omitted in tests of hypotheses the sample size was further decreased.

Another issue that relates to the generalizability of findings from attachment theory is that of cultural diversity. Rothbaum, Weisz, Pott, Miyake and Morelli (2000) contend that attachment theory was constructed and is based on Western ideals which bias studies with diverse samples. Given that the sample study incorporated participants from diverse ethnic backgrounds, questions about the validity of attachment measures with non-Western cultures arise.

Shifting to the theoretical limitations, the issue of discrete versus continuous variables is at the forefront. The original plan for the study was carried out with attachment as categories rather than dimensions, a decision which resulted in a loss of individual differences (Bartholomew & Horowitz, 1991; Feeney & Noller, 2004). The clustering of the discrete variables, of mother and father attachments, created congruent and incongruent attachment styles, which optimized the use of categories. This combination provided the opportunity to compare adolescents' perceived congruent and incongruent attachments to parents while creating greater individual differences between the categorical variables. However, cluster analyses proved to be a limitation as it did not generate theoretically interpretable categories of attachment styles, specifically the preoccupied classification.

The lack of a theoretically interpretable preoccupied attachment was possibly due to the heterogeneity of age and ethnicity in the sample. The age range in the present study is 13 years to 18 years. It is possible that cognitive development dictates the conceptualization of the AAQ items, resulting in divergent interpretations for different age groups. Furthermore, two thirds of the sample were Caucasian, leaving one third of participants to identify with diverse cultures who may have interpreted the notions of availability, anger, and goal corrected partnership

differently. To compare with Marshall and Katsurada's (2004) study, which produced three theoretical clusters of attachment styles, participants from Japan were homogeneous and subjects from the United States were 80.4% Caucasian, which is indicative of participants' uniform understanding of the AAQ items. Overall, questions about the reliability and validity of the AAQ result from the theoretically unjustifiable clusters. Thus, additional assessment tools of adolescent attachment should be included in future research.

The use of continuous variables of attachment security in post hoc analyses presents limitations. The interpretation of lower scores on the attachment security scale can only be construed as less secure, rather than providing information to differentiate between the insecure groups of dismissing and preoccupied. As a result of using attachment security as opposed to attachment styles the ability to test the buffering hypothesis was lost. Nonetheless, the use of an attachment security dimension was beneficial for exploration, as it acted as a substitute for discrete variables in assessing the data.

A second theoretical issue was that of the definition of sex in the instructions for the SMS. Sex was characterized as including a list of behaviors including kissing. Is the inclusion of kissing accurate in defining sex? There is certainly a difference between motivations for kissing and other more physical behaviors such as oral sex or intercourse. Thus, perhaps adolescents who answered the SMS based on a history of kissing were not parallel to adolescents who answered for more physical sexual behaviors. Alternatively, it is arguable that sexual motivations exist whether or not behaviors are articulated. The present study essentially explored how perceived parental attachment security is related to adolescent interaction goals and subsequently how interaction goals are related with sex motives. Therefore, whether or not motivations for engaging in sex are expressed it is likely that all adolescents surveyed could have provided answers to the SMS, as motivations rather than behaviors were explored in relation to attachment

security to parents.

Future Directions

Given the present findings, future research tackling the issue of perceived parent-adolescent attachments relationship with sex motives requires larger sample sizes. Larger sample sizes would increase the variability of the measures especially with a heterogeneous sample such as the one in this study (Agresti & Finlay, 1999). In addition, it is necessary to use a larger sample size while using multiple variables or planned comparisons to make an adequate examination of the variables (Agresti & Finlay, 1999).

A number of important studies are necessary to gain a more complete picture of adolescent attachment relationships and sex motives. To quote Lamb (2002) "...children develop within family systems, in which all parties affect and are affected by one another. Influences do not always run directly from parents to children" (p. 104). Although the findings show relationships between adolescents' perceived attachments and sex motives, the variance accounted for by maternal and paternal attachments was weak. Therefore, including factors that are contextually relevant to adolescents is an important next step for future studies. For example, Allen and Land (1999) suggest that adolescents develop attachment relationships with peers. Assessing adolescents' parental and peer attachments would be useful in determining the relationship of both attachment relationships with sex motives. The inclusion of peer attachments would add another relationship in which adolescents develop (Allen & Land, 1999).

Longitudinal research evaluating the relationship between individual and joint maternal and paternal attachment security and adolescent sex motives are necessary for explaining developmental processes. This research is an asset in understanding the causal effects of various attachment relationships on adolescent sex motives and would contribute to the issue of multiple attachment organizations. In addition, the ways in which adolescents are sexually motivated have

implications for future socio-sexual expressions. As romantic relationships develop, observing changes or stability of sex motives would make an interesting study, as the transition from parental attachment to romantic partner attachments relationship with sex motives may be gauged. If adolescents develop similar attachments to romantic partners as they have formed with parents, then parents become a more important predictor of sex motives than the present study suggests.

Conclusion

By means of attachment theory, the quality of parent-adolescent relationships were distinguished and related to sex motives. The parent-adolescent attachment relationship was partially supported as predicting adolescent sex motives, making parents a factor in adolescent socio-sexual development. The value of this research lies in the theoretical domain of attachment theory and the practical sphere of adolescent sexual development and health. Theoretically, the present research has contributed to the issue of multiple attachments, while advocating for sexual health education that is inclusive of psychological diversity.

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Appendix 1: Demographic Questions

1. Are you male or female?
2. What is your age?
3. What is your grade?
4. What is your cultural background?

First Nations / Native

Caucasian / European

Latino / Hispanic

African

South Asian (e.g., India, Pakistan, Sri Lanka)

East Asian (e.g., China, Japan, Korea)

South East Asian (e.g., Philippines, Indonesia, Thailand)

5. Who do you live with most or all of the time? (**check one**)

I live with both of my parents, who are married to each other and/or living together.

I live with homestay parents. (All questions about parents in this survey should be answered about your **homestay** parents).

I live with one of my parents **only**, most of the time.

I mostly live with (select one):

Mom

Dad

I live with my mom and her partner (a person married to or living with my mom).

My mom's partner is (select one):

Male

Female

I live with my dad and his partner (a person married to or living with my dad).

My dad's partner is (select one):

Male

Female

I live with a family member other than my parents. Who?

I live in a situation different from any of the ones listed. Describe it.

Appendix 2: AAQ (West et al., 1998) (Mother)

Choose the rating you feel is best for you (on a scale from 1=strongly agree to 5=strongly disagree).

1. My mother only seems to notice me when I am angry.
2. I often feel angry with my mother without knowing why.
3. I get annoyed at my mother because it seems I have to demand her caring and support.
4. I'm confident that my mother will listen to me.
5. I'm confident that my mother will try to understand my feelings.
6. I talk things over with my mother.
7. I enjoy helping my mother whenever I can.
8. I feel for my mother when she is upset.
9. It makes me feel good to be able to do things for my mother.

Appendix 3: AAQ (West et al., 1998) (Father)

Choose the rating you feel is best for you (on a scale where 1=strongly agree to 5=strongly disagree).

1. My father only seems to notice me when I am angry.
2. I often feel angry with my father without knowing why.
3. I get annoyed at my father because it seems I have to demand his caring and support.
4. I'm confident that my father will listen to me.
5. I'm confident that my father will try to understand my feelings.
6. I talk things over with my father.
7. I enjoy helping my father whenever I can.
8. I feel for my father when he is upset.
9. It makes me feel good to be able to do things for my father.

Appendix 4: Sex Motives Scale (Cooper et al., 1998) and Schachner and Shaver's (2004) theory based items combined.

*Sex includes many behaviours. These behaviours include kissing, fondling genitals, vaginal-penile intercourse, oral sex or touch mouth to genitals, and masturbating with a partner. Have you ever done **any** of these behaviours with a partner?*

No ☐

Yes ☐

Listed below are different reasons why people have sex.

For each statement, select the response which best describes how often you personally have sex for each of these reasons (on a scale where 1=almost never, 3=sometimes, 5=almost always).

1. I feel horny.
2. It feels good.
3. For excitement.
4. For the thrill of it.
5. To satisfy my sexual needs.
6. To be more intimate with my partner.
7. To express love to my partner.
8. To make an emotional connection.
9. To feel closer to my partner.
10. To feel emotionally closer to my partner.
11. To prove I am attractive.
12. I feel better about myself.
13. I feel more interesting to others.
14. I feel more self-confident.
15. It helps me feel desirable.
16. I am afraid my partner won't love me if I don't have sex.
17. I am afraid my partner will be angry

with me if I don't have sex.

18. I worry my partner won't want me
if I don't have sex.
19. I am afraid my partner will leave me
if I don't have sex.
20. I worry people will talk about me
if I don't have sex.
21. People will think less of me if
I don't have sex.
22. Other people will kid me if
I don't have sex.
23. I have sex so others won't put me down.
24. I have sex just so I can know that say that
I have done it
25. I have sex to fit in better
with other people
26. I have sex to make my partner
love me more.
27. I have brief hook ups or casual sex
so I do not have to deal with
the emotions from a longer relationship.
28. I have sex so I can brag
about it to others.

Appendix 5: Lord Byng Student Life Survey Parental Informed Consent Form.

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Lord Byng Student Life Survey Parental Informed Consent Form

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(604) 822-5672

Co-Investigators: Lisa Catto, Carla Haber, Alice Balter, & Derek Wun
Social Work and Family Studies
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Dear Parent,

We are writing to request permission for your son or your daughter to participate in a research project that is being conducting at Lord Byng School. This project is a collaborative project between Lord Byng Secondary School and researchers from the School of Social Work & Family Studies at the University of British Columbia. Part of this study is being conducted to fulfill the thesis requirements for a Master of Arts degree for Lisa Catto and Alice Balter under the direction of Dr. Sheila Marshall.

The overall purpose of the study is to attempt to understand whether introducing a dress code and other programs over the school year are related to students' perceptions of safety and well-being and their day-to-day decision making. The goal for embarking on the study, as established by Lord Byng Secondary School is:

- To improve levels of social responsibility in all students at Lord Byng in order to foster a positive school climate which stimulates student learning.

The objectives are:

- To reduce the amount of theft, vandalism, and graffiti by strengthening the bond between school and student.
- To create awareness, through education and modeling positive language to build a safe and caring learning community.
- Promote respectful and responsible attitudes and safe behaviours around sexuality including body image, sexual expression, and sexual orientation.

The research study will examine how students make important decisions about what to wear to school, how to act with same sex and opposite sex friends, scheduling and sleep. Additionally, the research project will track students' feelings of safety and well-being at school. The information that we will acquire from this study will be useful for the educators at Lord Byng, counsellors, and parents of adolescents.

We write this letter to invite your adolescent child to participate in this study. Participation is completely voluntary. You may refuse to allow your child to participate without any consequences. Whether your child participates or not will have no affect on his or her marks or grades.

Involvement in this study includes filling out a questionnaire at the beginning of the school year and approximately 8 months later. Convenient times will be arranged with teachers to ensure that core curricula are not affected. The questionnaires will take about 1 hour each time (total time involved is 2 hours). The questionnaires will not be linked to students' names, nor will students write their names on the questionnaires. Students who do not participate will be engaged in self-assigned tasks related to their school work (e.g., finishing homework, reading) while the others complete the questionnaires.

Participants can refuse to answer any question, and may withdraw from the study at any time. To maintain privacy, your child's name will not be recorded at any time.

There are no known risks associated with being involved in this study. In the unlikely event that your child feels uncomfortable as a result of the questions, he or she will be provided with the opportunity to speak to a counsellor.

All information collected for this research will be kept in a locked filing cabinet on the UBC Point Grey campus. No names or other identifying information will appear in any reports of the completed study. Only the research team will have access to the data.

All students who return a consent form (regardless of whether or not they participate) will have their names placed in a draw for a prize consisting of a gift certificate to A & B Sound or 2 movie passes (both worth approximately \$20).

If you have any questions or desire further information with respect to this study, you may contact Dr. Sheila Marshall or one of her associates at (604) 822-5670. If you have any concerns about your treatment or rights as a research subject, you may contact the Research Subject Information Line in the UBC Office of Research Services at 604-822-8598.

Thank you for your time and consideration of this request. **Please sign the consent form on the following page and return it with your son or daughter to the school.**

Consent:

Your child's participation in this study is entirely voluntary and you may refuse to participate or withdraw your child from the study at any time without penalty.

Your signature below indicates that you have received a copy of this consent form for your own records.

Please indicate whether you consent for your son/daughter to participate in the study with you by checking the appropriate box below:

☐ YES, I

☐ NO, I do not consent to my child's participation in this study.

Child's name (please print): _____

Parent Name (please print): _____

Parent Signature

Date

Please return this form to the school.