

Integrating the Attachment, Caregiving, and Sexual Systems Into the Understanding of Sexual Satisfaction

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Attachment theory stipulates that adult love relationships are governed by three interdependent behavioral systems: attachment, caregiving, and sex (P. R. Shaver, C. Hazan, & D. Bradshaw, 1988, *Love as attachment: The integration of three behavioural systems*. In R. J. Sternberg & M. Barnes (Eds.), *The anatomy of love* (pp. 68–98). New Haven, CT: Yale University Press), but few studies have explored the link between the caregiving and sexual systems. In an attempt to complement current research, this study was designed to provide a better understanding of sexual satisfaction by exploring the interplay of these three systems. Specifically, we examined a model in which the dimensions of romantic attachment and caregiving predicted reasons for engaging in sexual intercourse that served a caregiving function and, ultimately were related to sexual satisfaction in a sample of 152 adults who were cohabiting with a romantic partner. Path analyses revealed that individuals low in attachment-related avoidance scored higher on caregiving proximity and sensitivity, which in turn were associated with having sex to express valuing one's partner, and higher sexual satisfaction. Individuals who score higher on attachment anxiety simultaneously reported lower caregiving sensitivity, which was negatively associated with having sex to express valuing one's partner and reported having sex to express this same value. Attachment anxiety was also associated with scores on the measure of exerting too much control while providing care. This was in turn associated with using sexuality to enhance one's sense of power. Our model explained 16% of the variance in sexual satisfaction. Findings are discussed in light of attachment theory and implications for couple therapy.

Keywords: attachment, caregiving, sexual motives, sexual satisfaction, romantic relationships

Problems in the sexual domain often result in frustration and conflicts in adult love relationships (Bergeron, Benazon, Jodoin, & Brousseau, 2008), and the resulting sexual dissatisfaction is a frequent motive for entering couple therapy (Doss, Simpson, & Christensen, 2004). Because a significant proportion of adults report sexual distress (Bancroft, Loftus, & Long, 2003; Mulhall, King, Glina, & Hvidsten, 2008; Smith et al., 2011; Vanwesenbeeck, Bakker, & Gesell, 2010), it is crucial to conduct research aimed at

identifying and understanding factors underlying sexual dissatisfaction. Attachment theory offers a comprehensive framework for understanding romantic relationships and explaining sexual difficulties (e.g., Brassard, Péloquin, Dupuy, Wright, & Shaver, 2012; see Mikulincer & Shaver, 2007, for a review), and clinicians are beginning to integrate the theory and associated research findings into couple therapy focused on sexual distress (Johnson & Zuccarini, 2010). Attachment theory postulates that love relationships are governed by three interdependent behavioral systems: attachment, caregiving, and sexuality (Bowlby, 1969; Shaver, Hazan, & Bradshaw, 1988; Mikulincer & Shaver, 2007). These innate systems develop and gain complexity over time as a result of repeated interpersonal interactions with close others (Bowlby, 1969). They organize individuals' responses in ways that, according to evolutionary history, fostered individuals' survival and reproductive success. The three systems are believed to influence one another, although they remain conceptually and psychologically distinct (Mikulincer, 2006).

The relations between the attachment system and the other two systems, considered individually, have received empirical support, but studies documenting the theorized relation existing among all three systems simultaneously are still lacking. Further, although there is research demonstrating an association between attachment orientations and sexual satisfaction (e.g., Brassard et al., 2012;

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Butzer & Campbell, 2008), much less is known about the interplay between attachment, motives for engaging in sexual behavior, and sexual satisfaction, especially in adult committed relationships. Some evidence suggests, however, that sexual behavior can serve the aims of both the attachment and caregiving systems (Davis, Shaver, & Vernon, 2004), but no study to date has examined whether individuals' caregiving styles predict sexual motives aimed at caring for one's partner.

The present study was designed to provide a better understanding of sexual satisfaction by exploring the links among the attachment, caregiving, and sexual systems. Specifically, our goal was to examine a model in which aspects of romantic attachment and caregiving predicted partner-oriented motives for engaging in sexual activity and achieving sexual satisfaction. This investigation contributes not only to attachment theory, but also to clinical work with distressed couples.

Attachment

Among theorized behavioral systems, the attachment system is the most widely studied (Gillath & Schachner, 2006). The theory stipulates that depending on the quality of the care provided by attachment figures (usually parents), children develop internal representations of themselves and others (Bowlby, 1969). Consistent and sensitive care fosters the development of attachment security (i.e., perception of the self as worthy of love and positive expectations of others and the world in general), whereas insensitive care and neglect fosters the development of attachment insecurity (i.e., doubts about one's lovability and mistrust). In adolescence and adulthood, these comprehensive models of self and others guide perceptions of close relationships, as well as relationship-related emotions and behaviors (Bretherton & Munholland, 2008). The attachment system becomes especially important in the context of romantic relationships, as the romantic partner becomes the primary attachment figure (Hazan & Shaver, 1987; Mikulincer, 2006). Although mental representations of self and others are believed to be relatively resistant to change over time (Bowlby, 1979), they may be modified by major life experiences (both positive and negative) or by enduring interactional patterns with a romantic partner (Fraley & Davis, 1997).

Two dimensions characterize adult attachment (Brennan, Clark, & Shaver, 1998; Fraley & Waller, 1998). *Anxiety over abandonment* pertains to the internal model of self and is defined as an excessive fear of rejection and abandonment due to chronic doubts about one's lovability. *Avoidance of intimacy* pertains to the internal model of others and refers to discomfort with proximity and emotional intimacy due to interpersonal mistrust (Mikulincer, 2006). From these two dimensions, it is also possible to conceptualize attachment as per four categories (Bartholomew & Horowitz, 1991; Brennan, Clark, et al., 1998). Individuals presenting with a *secure* style have low levels of both attachment-related anxiety and avoidance. They feel comfortable depending on their partners and believe themselves to be worthy of love. Individuals presenting with a *preoccupied* style report high anxiety and low avoidance of intimacy. To appease their fear of being unlovable, they crave proximity and tend to be dependent on their partner. Individuals presenting with a *dismissing* style report low attachment-related anxiety, but high avoidance of intimacy. They avoid intimacy and tend to repress their attachment needs. Lastly,

individuals presenting with a *fearful* style report high levels of both anxiety and avoidance. Although they long for interpersonal connections, they tend to avoid intimate relationships to protect themselves from potential rejection or abuse (Bartholomew & Horowitz, 1991; Brennan, Clark, et al., 1998). In the present study, attachment was assessed using a dimensional approach (i.e., anxiety and avoidance) rather than a categorical approach, because a dimensional approach better reflects the continuum that exists within the two dimensions (Brennan, Clark, et al., 1998; Fraley & Waller, 1998).

Caregiving

In adult intimate relationships, the caregiving system is complementary to the attachment system (Mikulincer & Shaver, 2007). It serves to meet attachment needs and alleviate distress in a partner whose attachment system is activated. Theoretically, the attachment system bears great influence on the caregiving system; it is only when an individual's attachment insecurities are at bay or when he or she possesses enough attachment security that he or she may attend to a partner's distress and provide him or her with support (Hazan & Shaver, 1994). In contrast, an individual whose attachment system is temporarily or chronically activated tends to focus on internal cues of distress and attempts to meet his or her own attachment needs before he or she may turn to others' need for assistance or reassurance (Mikulincer, 2006).

Kunce and Shaver (1994) conceptualized caregiving according to four dimensions. *Proximity* refers to the physical availability of the caregiver when the partner seeks support. *Sensitivity* refers to the ability to perceive the partner's attachment needs. *Control* refers to the propensity to take charge of the partner's problems rather than providing cooperative assistance to the partner. *Compulsive caregiving* refers to the caregiver's tendency to be excessive or intrusive in his or her approach to support, regardless of the partner's actual need for support or support preferences. (Feeney & Collins, 2001). Kunce and Shaver (1994) were the first to establish an empirical link between the four attachment styles and the four caregiving dimensions in adult relationships. In a sample of college students, they found that individuals who presented with a secure style scored higher on proximity than individuals presenting with a fearful or dismissing style. Individuals presenting with a preoccupied style reported more proximity than those presenting with a dismissing style. Individuals with a secure style reported more sensitivity than those with a preoccupied, fearful, and dismissing style. Whereas the dimension of *control* was not related to any of the four attachment styles, *compulsive caregiving* was higher in individuals with a preoccupied style, compared with those with a secure or dismissing style.

Subsequent research reported similar findings. For instance, attachment anxiety was found to be related to control and compulsive caregiving in dating couples (Feeney & Collins, 2001) and to low sensitivity, low proximity, and control in couples with children (Millings & Walsh, 2009). Attachment avoidance was found to be related to caregiving control in samples of dating couples (Feeney & Collins, 2001) and to low sensitivity, low proximity, and control in couples with children (Millings & Walsh, 2009). In a small sample of clinically distressed couples, Péloquin, Brassard, Lafontaine, and Shaver, (2013) found that men scoring high on attachment anxiety reported less proximity, whereas

women with high anxiety scores reported more control. Further, avoidance in men was related to less caregiving proximity and more control, whereas avoidance in women was related to less caregiving proximity. Inversely, Feeney (1996) found that spouses who scored high on attachment security provided more responsive care (high proximity, sensitivity, and cooperation) and noncompulsive caregiving than spouses from any of the other attachment styles.

Sexuality

In addition to the attachment and caregiving system, a third behavioral system is relevant in the context of adult love relationships: the sexual system (Mikulincer, 2006). This system has a relational function in that it promotes physical attraction and initial relationship formation, as well as subsequent love, intimacy, and commitment in partners (Birnbaum, 2010; Davis et al., 2004; Feeney & Noller, 2004). The optimal functioning of the sexual system often translates into sexual satisfaction—the subjective assessment of the positive and negative aspects of one’s sexual relationship (Byers, Demmons, & Lawrance, 1998). The literature has identified several predictors of sexual satisfaction, including relationship satisfaction (see Schwartz & Young, 2009; Sprecher & Cate, 2004, for reviews), sexual frequency (Brody & Costa, 2009; Laumann, Gagnon, Michael, & Michaels, 1994; McNulty & Fisher, 2008; Smith et al., 2011; Young, Denny, Luquis, & Young, 1998), and sexual communication (Byers & Demmons, 1999; Davis et al., 2006).

Theoretically, sexuality is also a potent means to fulfill attachment needs for proximity, intimacy, approval, and reassurance about the stability and longevity of the relationship (Davis et al., 2004). As such, previous research shows an association between attachment dimensions and motives for engaging in sexuality. For instance, studies conducted with adolescents show that individuals reporting high anxiety over abandonment engage in sexual intercourse primarily to express their love for their partner, to please them and feel accepted, and to avoid abandonment (Tracy, Shaver, Albino, & Cooper, 2003). Teenagers who score higher on attachment anxiety report wanting to increase intimacy in their relationship through sexuality (Feeney & Noller, 2004) and also endorse the need for proximity and for being reassured and protected as motives for having sex (Davis et al., 2004), although they also admit to using sexuality as a way of achieving power over their partner or manipulating their partner (Davis et al., 2004). Avoidance of intimacy is related to distinct motives for engaging in sexuality. Findings revealed that a high level of attachment avoidance was negatively associated with the sex motives of reassurance and proximity, but positively associated with stress reduction and peer approval in teenagers (Davis et al., 2004; Tracy et al., 2003). These results are based on samples of adolescents; their generalization to adult relationships is thus limited.

Other than responding to one’s attachment needs, sexual behaviors, such as kissing and cuddling, may also serve a caregiving purpose to soothe, nurture, comfort, or help relax the partner in times of stress (Davis et al., 2004; van Anders, Edelman, Wade, & Samples-Steele, 2013). As such, attachment anxiety and avoidance distinctly predict how likely an individual is to use sexuality as a means to care for his or her partner. That is, whereas attachment anxiety in adolescence was positively related to the tendency to

use sex to nurture the partner, attachment avoidance was negatively related to this sexual motive (Davis et al., 2004). These findings support theory stipulating the existence of a link between the caregiving and sexual behavioral systems (Mikulincer, Shaver, Gillath, & Nitzberg, 2005). However, to date very few studies specifically examined mechanisms explaining the link between the caregiving and sexual systems.

Two studies (Hanley, 1997; Péloquin et al., 2013) investigated the link between the four caregiving dimensions and sexual satisfaction. In a sample of dating individuals, Hanley (1997) found that women’s compulsive and controlling caregiving negatively predicted their own sexual satisfaction. Men’s caregiving proximity and sensitivity positively predicted their sexual satisfaction, whereas their level of caregiving control negatively predicted their sexual satisfaction. However, the vast majority of individuals surveyed in this study (87%) were not cohabiting with their partner at the time of the study. As a result, we may speculate that the caregiving system may not have been fully developed and established within these couples; this may limit generalization of findings to more committed couples. Péloquin et al. (2013) conducted two studies using cohabiting or married couples. In committed couples recruited in the general community, they found that caregiving proximity and sensitivity were positively related to both partners’ sexual satisfaction, whereas an individual’s caregiving control was negatively related to his or her partner’s sexual satisfaction. Furthermore, they found that caregiving proximity in both partners predicted women’s sexual satisfaction in clinically distressed couples. Compulsive caregiving was unrelated to sexual satisfaction in both samples.

The originality of these two studies resides in the novel and precise examination of the links between caregiving behaviors and sexual satisfaction. However, the mechanisms by which caregiving behaviors relate to sexual satisfaction were not empirically addressed in these studies, and additional research is needed to identify potential mediating variables. Furthermore, although Davis’ study suggests that sexuality can be used to fulfill caregiving functions (Davis et al., 2004), no previous study has directly examined the association between caregiving behaviors and motives for engaging in sexual intercourse. Sexual motives, or reasons why individuals engage in sexual activity, are tightly linked to the very function of the sexual behavioral system and examining their association to the caregiving system might provide key information about the way the two systems interrelate and would perhaps help explain the association between caregiving style and sexual satisfaction. In particular, sexual motives have previously been associated with sexual satisfaction. For instance, approach sexual motives (e.g., attraction, romance, and love) were positively related to sexual satisfaction in a sample of teenage girls (Impett & Tolman, 2006). Love and commitment sex motives were also positively related to sexual satisfaction in college men and women (Stephenson, Ahrold, & Meston, 2011). Impett, Peplau, and Gable (2005) proposed a motivational approach to the study of sexuality. In particular, they proposed that approach sex motives (i.e., behaviors aimed at obtaining positive outcomes) should be inherently rewarding and should be related to increased sexual satisfaction. In a daily diary study involving undergraduate students, they found that on days when participants engaged in approach sexual motives, participants reported more positive emotions, relationship satisfaction, and closeness with partner (after accounting for sexual

frequency). Hence, this suggests that sexual motives aimed at fostering intimacy between partners (i.e., approach motives; including sexual motives aimed at caring for the partner) should be related to increased sexual satisfaction, in part because of the emotional and physical connection that is created during the sexual encounter. Certainly, it is also possible that sexually satisfied individuals will be more likely to engage in approach sexual motives compared with individuals who experience their sexuality more negatively.

In sum, there is a wealth of theoretical writings (e.g., Bowlby, 1969; Mikulincer & Shaver, 2007) detailing the interrelationships among the three behavioral systems in adult love relationships, but empirical investigation is presently lagging behind in addressing the gap between theory and empirical data.

The Current Study

The general goal of this study was to provide empirical support for the hypothesized associations between the attachment, caregiving, and sexual behavioral systems in adult love relationships. More specifically, we aimed to examine a specific mechanism underlying the association between caregiving style and sexual satisfaction. In particular, based on Davis and colleagues' findings (2004), we tested a model in which caregiving dimensions predicted sexual motives aimed at caring for the partner, which then explained sexual satisfaction in individuals. The role of attachment insecurities were also considered in the current study because attachment anxiety and avoidance have both been related to caregiving dimensions and sexual motives, and also to sexual satisfaction. That is, attachment anxiety and avoidance both predicted lower sexual satisfaction in adult community samples (Butzer & Campbell, 2008; Davis et al., 2006) and in couples seeking marital therapy (Brassard et al., 2012). Inversely, individuals presenting with secure attachment are typically better able to engage in mutually satisfying sexual intercourse (Shaver & Hazan, 1988), because sexuality tends to be perceived more positively and be associated with pleasurable emotions and experiences. Therefore, these individuals tend to report better sexual satisfaction than individuals presenting with attachment insecurities (see Mikulincer & Shaver, 2007, for a review).

Hence, based on available findings, it was hypothesized that attachment insecurities would be distinctly associated with caregiving dimensions, which would in turn be related to specific caregiving motives for engaging in sexuality with the partner, and ultimately sexual satisfaction in adults involved in committed relationships. More precisely, we expected that individuals presenting with low attachment insecurity (low avoidance and anxiety) would be more available and sensitive to their partner's need to be reassured or comforted (more proximity, more sensitivity, and less caregiving control). As a way of caring for their partner, it was expected that such individuals would use sexuality as another manner to respond to their partner's attachment needs. That is, caregiving proximity and sensitivity, as well as low caregiving control, would be positively related to sexual motives aimed at valuing and nurturing the partner and negatively related to sexual motives aimed at enhancing one's sense of power over the partner. Lastly, these motives (valuing the partner, nurturing the partner, low need to enhance one's sense of power) would be associated with more sexual satisfaction in these individuals. That

is, from a theoretical point of view, secure individuals who care about their partner's needs or feelings would be more likely to engage in sexuality for altruistic motives centered on their partner's needs, rather than for egotistical motives solely. The satisfaction of pleasing their partner could in itself be related to their own sexual satisfaction. Individuals presenting with attachment insecurities, on the other hands, would be too overwhelmed by their own internal concerns and thus would be unable to respond to their partners' need in a selfless and dedicated manner (Mikulincer & Shaver, 2007). As a result, they would be less likely to use sex to fulfill their partners' needs, rather focusing on their own needs and preoccupations, ultimately limiting their ability to be sexually intimate in a satisfying way.

Method

Participants

This study included 152 voluntary French-speaking Canadian participants from the province of Quebec who were recruited in the general community: 105 women (70%) and 46 men (30%). All were involved in a heterosexual relationship for at least 6 months ($M = 8.4$ years; $SD = 10.23$; ranging from 8 months to 45 years) and were cohabiting with their partner ($M = 6.6$ years; $SD = 9.97$; ranging from 1 month to 44 years). Cohabitation was required because it increases the likelihood of forming attachment bonds with the partner and fosters additional caregiving opportunities. Participants' average age was 32 years ($SD = 12.06$; ranging from 19 to 62 years). The majority of participants were Caucasian (95%). A quarter of participants were married (24.5%), whereas all others were cohabiting with their partner without being married. Among participants with children ($n = 39$), the mean number of children was two. The majority of participants were employed full- or part-time (59.9%), and a third of participants were students (31.6%) or had another occupation (4.6%). Among participants, 38.1% earned less than \$24,999, 22.3% earned between \$25,000 and \$44,999, and 38.2% earned \$45,000 or more. In terms of education, 22.4% had no diploma or a high school diploma, 26.3% had a college degree (preuniversity diploma in Canada), and 51.2% had a university degree.

Measures

Information about sex, age, ethnicity, marital status, relationship and cohabitation lengths, children, occupation, income, and education was assessed using a sociodemographic questionnaire.

Romantic attachment. The French version of the *Experiences in Close Relationships* (ECR; Brennan et al., 1998; Lafontaine & Lussier, 2003) was used to assess the two dimensions of romantic attachment. The ECR includes 36 items on a 7-point Likert scale, ranging from 1 = *disagree strongly* to 7 = *agree strongly*. Both subscales scores (anxiety and avoidance) are calculated by averaging their respective items. Higher scores indicate high anxiety over abandonment ($\alpha = .86$ for men and for women) and high avoidance of intimacy ($\alpha = .87$ for men, $\alpha = .88$ for women; Lafontaine & Lussier, 2003). Alpha coefficients for the present sample were .90 for both variables.

Caregiving. The French version of the *Caregiving Questionnaire* (Kunce & Shaver, 1994) was used to assess caregiving

behaviors in romantic partners. The four dimensions (proximity, sensitivity, control, and compulsion) are measured using 32 statements rated on a 6-point Likert scale, ranging from 1 = *doesn't describe me at all* to 6 = *describes me very well*. Subscale scores are calculated by averaging the respective items. Higher scores are indicative of high levels of proximity, sensitivity, control, and compulsive caregiving. Although the full scale was administered, compulsive caregiving was excluded for the purpose of the present study because previous research from our team (Péloquin et al., 2013) demonstrated no association between this caregiving dimension and sexual satisfaction in two independent samples. Cronbach's alphas range from .80 to .87 (Kunce & Shaver, 1994). In the present sample, Cronbach's alphas ranged from .73 to .84.

Sexual motives. Sexual motives were assessed using the French translation of the Affective and Motivational Orientation related to Erotic Arousal Questionnaire (AMORE; Hill & Preston, 1996). Although the full scale (62 items) was administered as part of a larger study, only three motives were used in the current study: showing value for one's partner (eight items), providing nurturance to one's partner (six items), and enhancing one's feelings of power (10 items). Items are rated on a 5-point Likert scale ranging from 1 = *not true at all* to 5 = *completely true*. Scores are obtained by summing the items for each motive. A higher score indicates an interest or a greater tendency to endorse each motive. Hill and Preston (1996) reported good internal consistency for the three subscales (.89, .85, and .91, respectively). Convergent validity is supported by positive correlations between the attention subscale of the Interpersonal Orientation Scale questionnaire (Hill, 1987) and the eight subscales of the AMORE. In the current study, alphas were .88, .79, and .87, respectively.

Sexual satisfaction. To assess sexual satisfaction, we used the French version of the Global Measure of Sexual Satisfaction (GMSEX; Lawrance & Byers, 1998), a section of the Interpersonal Exchange Model of Sexual Satisfaction (IEMSS). The GMSEX comprises five subjective evaluation items rated on a 7-point bipolar scale. Items are summed to obtain the total score (ranging from 5 to 35); a high score indicates higher sexual satisfaction. This instrument has good internal consistency in students ($\alpha = .90$) and married couples ($\alpha = .96$). The GMSEX score is negatively linked to sexual dissatisfaction as assessed by the Index of Sexual Satisfaction (Hudson, Harrison, & Crosscup, 1981). In the current study, Cronbach's alpha was .93.

Procedure

This cross-sectional correlational study was approved by the ethics committee of the University of Sherbrooke. Questionnaires were available online through the secure website Survey Monkey and required 30 to 40 min for completion. Participants were recruited through posters around town, at their workplace (e.g., e-mail sent to employees of a bank), or via the social network Facebook and e-mails. They were informed about the purpose of the project, the nature of their participation, the risks/disadvantages/benefits of their participation, and the possibility to withdraw at any time.

Results

Preliminary Analyses

Preliminary examination of the data showed that all variables were normally distributed as indicated by skewness and kurtosis indices comprised between -1 and 1. Table 1 shows means, standard deviations, and bivariate correlations for attachment, caregiving, sexual motives, and sexual satisfaction variables. All significant correlations were in the expected direction. That is, attachment avoidance and anxiety were negatively correlated with caregiving proximity and sensitivity, whereas only anxiety was positively correlated with caregiving control. Both proximity and sensitivity were positively related to using sex to value one's partner, but not to nurture one's partner. Using sexuality to enhance one's power was negatively related to caregiving sensitivity, but positively related to caregiving control. Only the motive of valuing one's partner was positively associated with sexual satisfaction. Preliminary analyses (correlations, *t* tests) did not support the need to control for gender, relationship duration, or cohabitation duration in the main analyses, as none of the main study variables were related to these demographic variables.

Main Analyses

To examine the link between attachment insecurities, caregiving dimensions, sexual motives, and sexual satisfaction, path analyses were conducted using the AMOS software (maximum likelihood estimation). All variables were included in a single model to

Table 1
Means, Standard Deviations, and Correlations for Attachment, Caregiving, Sexual Motives, and Sexual Satisfaction

	1	2	3	4	5	6	7	8	9
1. Avoidance		.03	-.63**	-.35**	.12	-.35*	.06	.08	-.34**
2. Anxiety			.07	-.28**	.30**	.18*	.13	.22**	-.07
3. Proximity				.43**	-.32**	.37**	.09	-.08	.35**
4. Sensitivity					-.41**	.25**	.03	-.16*	.26**
5. Control						-.14	-.08	.24**	-.18*
6. Value partner							.46**	.13	.35**
7. Nurture partner								.23**	.07
8. Enhance own power									.03
9. Sexual satisfaction									
Mean	2.09	3.27	41.18	36.98	34.21	3.89	2.88	2.35	28.91
Standard deviation	.87	1.13	6.19	6.53	7.04	.76	.75	.72	5.13

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

account for the contribution of each variable simultaneously. Prior to testing the model, residual terms from caregiving variables were allowed to correlate to account for the preliminary association observed between these variables. The same was done for sexual motives variables. Because the preliminary correlation between attachment avoidance and anxiety was near zero, the two variables were not correlated in the model. All possible direct paths between individuals' attachment insecurities, caregiving, sexual motives, and sexual satisfaction, as well as indirect effects were tested, using bootstrapping estimates (Preacher & Hayes, 2008). That is, a saturated model was first tested. Then, if an indirect path to an outcome variable (e.g., attachment anxiety—showing value—sexual satisfaction) was found to be significant, whereas the direct path (e.g., attachment anxiety—sexual satisfaction) was not significant (showing a mediation effect), this direct path was removed from the model. This analytical strategy was followed until additional modification yielded no additional improvement in the model fit. Our goal was to obtain a parsimonious model, optimizing statistical power. Only the final model (found to adequately fit the data) is presented in Figure 1. The fit of the final model was found to be excellent as per most fit indices ($\chi^2/df = 1.546$, CFI = .970, RMSEA = 0.060, RSMR = .052).

Results indicate that low avoidance of intimacy positively predicted sexual satisfaction through three different paths. Mainly, individuals reporting low attachment avoidance reported using more physical proximity to soothe their partner, which in turn predicted their tendency to use sexuality as a way of showing their partner's value. Such sexual motive was then associated with individual's own sexual satisfaction. Individuals reporting low avoidance were also more sensitive to the needs of their partner, which in turn predicted their tendency to use sexuality to value their partner, and ultimately, this motive was related to their sexual satisfaction. The indirect effect of avoidance on sexual satisfaction (through these two paths) was significant ($p = .002$). Moreover, the direct effect between avoidance and sexual satisfaction remained significant after accounting for this indirect effect.

Low attachment anxiety also positively predicted sexual satisfaction through two distinct paths. Individuals low in attachment

anxiety reported being more sensitive to their partner's needs, which in turn made them more likely to use sexuality as a way of showing their partner's value. A high score on this motive was then related to a higher score of sexual satisfaction. Interestingly, however, these individuals concomitantly reported being less likely to use sexuality to show how much they value their partner, which in turn predicted lower sexual satisfaction in these individuals. These seemingly contradictory paths are discussed further below. The indirect effect of anxiety on sexual satisfaction (through both paths) was significant ($p = .025$), and after controlling for this indirect effect, anxiety did not directly predict sexual satisfaction.

Low attachment anxiety also positively predicted the use of caregiving control, which was then associated with the use of sexuality to enhance one's sense of power over the partner. However, this sexual motive did not predict sexual satisfaction. The indirect effect of anxiety on the power motive was significant ($p = .004$).

Although it was initially tested in the overall model, nurture as a motive to engage in sexuality was dropped from the final model. Preliminary correlations showed that nurture was associated with valuing one's partner only, but not to any of the caregiving variables or sexual satisfaction. When included in the path analyses, this variable was unrelated to any of the variables and worsened the model's fit to the data.

Discussion

Attachment theory stipulates that adult love relationships are governed by three interrelated behavioral systems: attachment, caregiving, and sex (Bowlby, 1969; Mikulincer & Shaver, 2007; Shaver et al., 1988), but the relation between caregiving and sexuality has received little empirical attention to date. The present study sought to better understand sexual satisfaction in adults involved in established relationships by examining the interplay among the attachment, caregiving, and sexual systems. The precise goal was to test a model in which romantic attachment (anxiety and avoidance) and caregiving styles (proximity, sensitivity, and

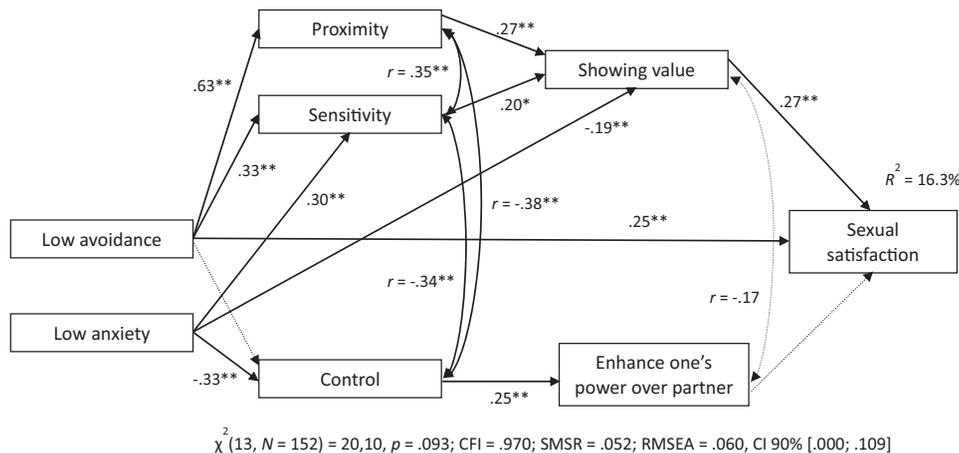


Figure 1. Path analyses showing romantic attachment predicting caregiving styles, sexual motives, and sexual satisfaction. Standardized path coefficients are shown. Dashed lines indicate nonsignificant paths. * $p < .05$; ** $p < .01$.

caregiving control) predicted motives for engaging in sexual activity serving a caregiving function (valuing and nurturing one's partner) as opposed to a self-centered motive (enhancing one's sense of power over one's partner). Such sexual motives were then expected to predict individuals' own sexual satisfaction. This study was novel because it examined mechanisms by which attachment insecurities would be related to sexual motives, and by which caregiving styles would be associated with individuals' own sexual satisfaction.

As expected, individuals presenting with low avoidance of intimacy reported using more physical proximity and being more sensitive to their partner's needs when he or she experiences distress. Proximity and sensitivity toward the partner then was related to using sexuality as a way of valuing one's partner, which was then related to higher sexual satisfaction in these individuals. These findings are consistent with theory and previous research. That is, individuals who are comfortable with intimacy and emotional aspects of intimate relationships are more likely to use physical proximity and touch to soothe their partner during times of stress (Brennan, Wu, & Loev, 1998; Kuncze & Shaver, 1994; Péloquin et al., 2013). They more readily and comfortably use touch and physical proximity (Brennan, Wu, et al., 1998), and as such, they probably enjoy physical closeness and sexual contacts with their partner. Interestingly, a recent study found that cuddling with a partner involves both sexual and nurturant intimacy and is related to more frequent and pleasurable sexuality with a partner (van Anders, Edelman, Wade, & Samples-Steele, 2013). Other studies also found that objective measures of tactile sensitivity are related to better sexual function in both men and women (Brody, Houde, & Hess, 2010; Frohlich & Meston, 2005; Salonia et al., 2009). Results from all of these studies may explain the increased sexual satisfaction in these individuals. Considering that the sexual context is experienced positively by these individuals, this may also explain why they tend to use this modality as a way of valuing their partner and expressing their appreciation of their partner, thereby supporting the previous hypothesis that sexuality can serve a caregiving function (Davis et al., 2004; Pistole, 1999).

Furthermore, individuals who are comfortable with closeness also tended to be more sensitive to their partner's needs. Previous studies have found that individuals with low avoidance of intimacy are more empathic toward their partner (Péloquin, Lafontaine, & Brassard, 2011). On the other hand, individuals with high scores on attachment avoidance tend to use deactivating strategies aimed at distancing themselves from distress-related cues and attachment related content (Mikulincer & Shaver, 2007), hence explaining their lack of sensitivity toward their partner's need for assistance when they experience distress. An individual presenting high sensitivity is more likely to be considerate of his or her partner and to be attuned to his or her needs (Millings & Walsh, 2009), possibly including his or her partner's need to feel valued in the relationship. Supporting this hypothesis, Hanley (1997) found that caring and concerns for one's partner's sexual needs and preferences was positively related to caregiving proximity in both men and women, as well as to caregiving sensitivity in men. Sexuality may thus be one of many means to express that one's partner is valued and appreciated. Through sexuality, this individual may provide care and tenderness in a way that is altruistic and focused on the partner's needs and well-being without letting his or her own needs and preoccupations interfere. Because he or she is skilled at

recognizing his or her partner's daily cues of distress, he or she may be motivated to appease his or her partner's concerns and distress and enhance his or her partner's self-esteem and sense of worth through sexual intimacy. Overall, these findings are consistent with attachment theory and support previous studies demonstrating that individuals presenting with attachment avoidance use sexuality for unemotional or egotistical reasons primarily, rather than as a context in which they can connect emotionally with their partner (Cooper et al., 2006; Mikulincer & Shaver, 2007).

Lastly, if the focus is to express appreciation and love to one's partner through sexual contact, rather than focusing exclusively on one's own needs, the intimate experience may be more satisfying because the individual is able to share a deeper connection with his or her partner, which likely equally considers the needs of both partners in a positive and respectful manner.

However, even after taking into account several mediating variables, attachment avoidance remained a significant predictor of lower sexual satisfaction. This reflects the strong association between avoidance of intimacy and sexual dissatisfaction observed in studies conducted with both community and clinical samples (Birbaum, 2007; Brassard et al., 2012; Butzer & Campbell, 2008). Individuals with high attachment avoidance have previously been reported to prefer emotionless sex over intimate exchanges (Feeney, Noller, & Patty, 1993), to show low interest and experience low pleasure in sexuality (Schachner & Shaver, 2004), to have more orgasms from vibrator use (Costa & Brody, 2011), and even, to avoid sexuality altogether (Brassard, Shaver, & Lussier, 2007), all of which could explain their low sexual satisfaction. Hence, unless individuals are comfortable with closeness and intimacy (low avoidance) and engage in behaviors fostering such closeness with the partner (e.g., caregiving proximity), they are less likely to appreciate sexual intimacy with their partners and more likely to report sexual dissatisfaction. Current findings are thus in line with expectations.

Interesting findings were observed for individuals who scored high on attachment anxiety. That is, although they were found to be less sensitive toward their partner's distress and needs, which then was associated with a lower tendency to use sexuality to value their partner, these individuals also concomitantly reported a higher tendency to use sexuality to express their appreciation of their partner. Although initially surprising, these contradictory findings appear to reflect anxious individuals' ambivalent stance toward their intimate relationships. That is, consistent with attachment theory, these individuals appear to be lacking in their ability to recognize the actual needs and cues of distress in their partners, possibly because of being preoccupied with their own self-centered worries and internal self-doubts. Such chronic worries would tax their internal resources and prevent them from fully and genuinely attending to their partner's own emotional experiences and needs (Mikulincer & Shaver, 2007; Péloquin et al., 2011), and this would perhaps explain their lower tendency to use sex to value their partner.

Once these difficulties are taken into account, however, the results also highlight a positive feature of attachment anxiety. Mainly, these individuals also report expressing their love to their partner through sexuality and using sexuality in a caring and positive manner. As theory suggests, individuals high in anxiety are likely to engage in behaviors aimed at demonstrating their love and ultimately, keeping their partners involved in the relationship.

As such, they have been found to engage in sexual behavior to please their partners (Schachner & Shaver, 2004) and even sometimes tend to confuse sex with love (Cooper et al., 2006). In this perspective, their caregiving and sexual behaviors might serve both other-oriented and egotistical motives aimed at responding to both their partner's and their own attachment needs for reassurance and love (Collins, Guichard, Ford, & Feeney, 2006; Davis et al., 2004; Feeney & Collins, 2003).

Attachment anxiety was also associated with caregiving control, which then was related to using sex as a way of enhancing one's sense of power over one's partner. This finding is consistent with prior research showing a link between attachment anxiety and caregiving control (Feeney & Collins, 2001; Millings & Walsh, 2009; Péloquin et al., 2013), as well as using sexuality to enhance one's sense of power (Davis et al., 2004). We may speculate that feeling that one is powerful can serve as a reassurance strategy for anxious individuals, who are constantly worried and hypervigilant for signs of rejection or abandonment by their partner. Sexuality for these individuals may be used to exert their power over their partner and to reduce the perceived likelihood that their partner will leave. Supporting this claim, previous research showed that individuals high in anxiety prefer intense sexuality (Schachner & Shaver, 2004) and that anxious men are particularly more likely to engage in coercive sexual behavior (Brassard et al., 2007; Davis, 2006). Such behaviors typically serve to meet attachment needs for proximity, reassurance, and love (Gillath & Schachner, 2006). Caregiving control was positively related to having sex to enhance feelings of personal power. Individuals using caregiving control have previously been described as dominant (Feeney & Collins, 2001), and following from the above discussion, they may use sexuality as a way of controlling their partner's behavior (hence feeling more powerful) rather than to foster opportunities for flexible exploration of sexual desires and needs or to care for their partner. The lack of association observed between using sexuality to enhance one's power as a sex motive and sexual satisfaction may depend on the partner's reaction to such behavior. That is, some partners seek sexual experiences to feel overpowered, a sex motive that has been identified in previous research (Hill & Preston, 1996). The complementarity of these sex motives (feeling overpowered vs. enhancing one's power over) in two partners might lead the two of them to be highly satisfied with their sexuality. However, if an individual seeks to increase his or her own power over the partner, whereas his or her partner dislikes such power imbalance, one may expect sexual dissatisfaction in both partners. Studies examining the complementarity of sexual motives in couple members to predict sexual satisfaction would allow for this hypothesis to be tested.

The lack of association observed between nurturance as a motive for sex and any other variable in the model is highly surprising and incoherent with Davis and colleagues' (2004) findings that individuals high in attachment anxiety are more likely to endorse this motive. However, Davis' study surveyed teenagers whereas the current study recruited adults in cohabiting relationships. Dewitte (2012) suggested that at the beginning of a relationship the sexual system motivates people to stay together in the temporary absence of caregiving and attachment bonds, which eventually take over and consolidate relationships. Hence, we may speculate that in adolescent couples, sexuality may be used to nurture the partner. In adult couples, however, communication, empathy, and

emotional support (i.e., features of the caregiving system) might be more effective as a way of nurturing and providing assistance to a distressed partner, and sexuality is perhaps less likely to serve that purpose in these couples.

Implications and Limitations

This study is novel in its approach to the study of attachment theory in adult love relationships as it provides empirical support for the theoretical assumption that love relationships are governed by three unique, yet interrelated, behavioral systems. This study is also one of the first to document associations between caregiving and sexual dimensions, while also considering attachment dimensions. Findings thus underline that all dimensions of conjugal life are narrowly linked. Most importantly, this study bears implications for couple therapists who intervene with distressed couples using an attachment framework. That is, interventions aimed at modifying any of the three behavioral systems will likely result in changes in the other systems. For instance, among other approaches, emotion-focused couple therapy (Johnson, 2004) may be useful for addressing some sexual difficulties. This approach fosters the development of secure attachment bonds through the restructuring of dysfunctional attachment dynamics. This approach has traditionally intervened through facilitating understanding and communication of attachment-related fears and needs (attachment system), as well as through improving empathic understanding of the other and modeling genuine supportive behavior (caregiving system). More recently, however, clinical writings have recognized the interactions between sexual difficulties and dysfunctional interactional dynamics (Johnson & Zuccarini, 2010). It is possible to think that interventions directly targeting the sexual system may benefit attachment-caregiving dynamics. However, future studies are needed to verify this hypothesis and examine the impact of sex therapy, for instance, on caregiving and attachment dynamics in couples.

Nevertheless, this study presents some limitations. First, generalizability of our results might be limited due to a number of factors, including the small sample size, the lack of ethnic diversity in our participants, and the potential for self-selection bias regarding individuals who volunteer for sexuality research. Second, the correlational and cross-sectional nature of this investigation, as well as the path analyses used, precludes any causal inference about our results. That is, although theoretical grounds informed hypotheses about potential causal associations among variables, only bidirectional associations between variables can be ascertained in the proposed model (i.e., sexually satisfied individuals may be more likely to engage in sexuality for approach motives, including caregiving sexual motives). Longitudinal designs would provide more information about the temporal sequence of behaviors inherent to each system. A longitudinal study examining the relative weight of each system for optimal relationship functioning over time would be another interesting avenue for future research. Third, this study did not use a dyadic analytical approach, and as such, it may not fully capture attachment dynamics evolving within each couple (Brassard et al., 2007; Péloquin et al., 2013). Future studies examining the links among behavioral systems should seek to recruit couples and use couples as their unit of analysis.

Fourth, the sample size was relatively small and may have limited our ability to find additional significant associations in our model, especially since path analyses normally require larger sample sizes to ensure sufficient statistical power. As a result, we did not consider gender as a potential moderating variable in our model. Future studies need to investigate potential gender difference in the function of the caregiving and sexual system. Other important covariates of sexual satisfaction will also need to be included in future studies examining the caregiving and sexual systems conjointly. Length of the relationship, for instance, may be a potential moderating factor, because low sexual desire, motivation, and satisfaction may be more common in long-term, committed relationships, despite high levels of emotional intimacy and care between partners. Sexual function is another important factor to consider, because it is very closely related to sexual satisfaction. Lastly, as each system comprises a wide number of possible indicators, using several measures of each system could provide a more comprehensive picture of the associations (or mediating factors) between each system and adult romantic relationships as a whole. For instance, caregiving indicators could include variables such as empathy, conjugal support, or actual observations of supportive behavior. Similarly, sexual indicators could include variables such as actual sexual behaviors (e.g., penile-vaginal intercourse frequency, tactile sensitivity, Brody et al., 2010), sexual communication, sexual self-esteem, or actual indexes of sexual function (including sexual dysfunctions).

Résumé

Selon la théorie de l'attachement, les relations amoureuses des adultes sont régies par trois schèmes comportementaux interdépendants : l'attachement, le soutien de l'autre et le sexe (P. R. Shaver, C. Hazan & D. Bradshaw, 1988, Love as attachment: The integration of three behavioural systems. Dans R. J. Sternberg & M. Barnes (éds), *The anatomy of love* (pp. 68–98). New Haven, É.-U. : Yale University Press), mais peu d'études ont exploré le lien entre le soutien et la sexualité. En vue d'enrichir les données existantes, la présente étude visait à fournir une meilleure compréhension de la satisfaction sexuelle en explorant l'interaction entre ces trois schèmes. Précisément, le modèle utilisé a servi à examiner, dans un échantillon de 152 adultes cohabitants avec un partenaire sentimental, la mesure dans laquelle l'attachement amoureux et le soutien de l'autre permettaient de prédire les raisons de s'adonner à des relations sexuelles en guise de soutien et en quoi, ultimement, ces comportements étaient reliés à la satisfaction sexuelle. Les analyses des pistes causales ont révélé que les individus présentant un faible niveau d'évitement dans leur relation d'attachement avaient un plus haut score sur le plan de la proximité et de la sensibilité, ce qui, en retour, était associé à des relations sexuelles pour exprimer l'importance accordée au partenaire et un score d'anxiété d'attachement plus élevé à la fois. Ils faisaient état d'une plus faible sensibilité au soutien, ce qui était négativement associé à des relations sexuelles pour exprimer l'importance accordée au partenaire, et déclaraient avoir des relations sexuelles pour exprimer cette même importance. En outre, l'attachement anxieux était associé à des scores indiquant un trop grand contrôle dans le soutien accordé, ce qui, en retour, était associé à l'usage de la sexualité pour accroître le sentiment de

pouvoir de l'individu. Le modèle utilisé explique 16 % de la variance sur le plan de la satisfaction sexuelle. Les résultats sont examinés en fonction de la théorie de l'attachement et des répercussions sur la thérapie de couples.

Mots-clés : attachement, soutien, motifs sexuels, satisfaction sexuelle, relations amoureuses.

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