

Self-Determination and Sexual Experience in Dating Relationships

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Abstract

The authors propose the Model of Self-Determined Sexual Motivation to examine sexual motivation in dating relationships using a Self-Determination Theory (SDT) framework. This model predicted that sexual need satisfaction would mediate the association between self-determined sexual motives and the outcome variables of psychological well-being and relational quality. Three studies tested this model. Study 1 was a cross-sectional study that investigated sexual motivation in dating relationships. Study 2 was an event-contingent interaction record study that investigated specific sexual interactions over 2 weeks. Study 3 combined event- and interval-contingent methods using a daily diary to examine the model for both partners to enable examination of actor and partner effects. Discussion section focuses on the power of examining SDT in the sexual domain.

Keywords

self-determination theory, sexual behavior, romantic relationships, relationship satisfaction, actor-partner interdependence model

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Why do people have sex with their dating partners? Some reasons include expressing love, wanting to please the partner, feeling peer pressure, and wanting physical pleasure (Sprecher & McKinney, 1993). In one study (Meston & Buss, 2007), participants expressed 237 reasons for engaging in sex, which were factor-analyzed to yield four large factors: *physical reasons* (for pleasure), *goal attainment* (to obtain social status), *emotional reasons* (for love and commitment), and *insecurity reasons* (out of obligation or pressure).

A seminal article concerning sexual motivation (Cooper, Shapiro, & Powers, 1998) addressed the functions served by sexual activity to better understand risky sexual behavior in young adults. Cooper et al. (1998) used a functional perspective to describe four basic reasons individuals have sex: (a) appetitive self-focused motivations, which enhance pleasure; (b) aversive self-focused motives, which minimize or avoid threats to self-esteem; (c) appetitive social motives, such as intimacy motives; and (d) aversive social motives, which involve gaining approval from others. Cooper et al. found that these four motives were associated with distinctive patterns of sexual risk-taking behaviors. For example, appetitive self-focused motivation was associated with more indiscriminate sexual behavior and with more risky sexual behavior. Appetitive social motives also predicted more frequent sexual activity and less condom use, but were less risky because sexual behavior was in the context of an ongoing exclusive sexual relationship. Aversive self-focused motives were associated with more risky sexual behavior in

terms of number of sexual partners but not in terms of condom use or other forms of birth control. Finally, aversive social motives were associated with lower birth control use during sexual activity, but primarily among those involved in a relationship; unattached individuals were more likely to take precautions. In their research, Cooper et al. also found two additional motives, one that reflected peer pressure to have sex and another that bolstered one's sense of self (e.g., feeling attractive), which were associated with higher risk-taking over time.

The benefit of Cooper et al.'s (1998) research was that they examined various motives young adults have for their sexual behavior and linked it directly to risky sexual behavior. However, neither Meston and Buss (2007) nor Cooper et al. (1998) examined sexual motivation in the context of exclusive romantic relationships and the outcomes—such as psychological well-being or relationship quality—of having sex with one's romantic partner. Furthermore, Cooper et al.'s framework was unable to incorporate all the motives for sex that their research revealed. Thus, it would be beneficial to have a perspective that incorporates the various motives for

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having sex and makes specific predictions about links to well-being or relationship functioning. One potentially useful theory that provides a context for understanding how motivation is linked to psychological outcomes is Self-Determination Theory (SDT; Deci & Ryan 1985, 2000). Before detailing the predictions concerning sexual motivation, we first provide a brief overview of SDT.

Self-Determination Theory (SDT)

“Self-determined” refers to self-governing one’s behavior. According to SDT (Deci & Ryan, 1985, 2000), one’s actions are self-determined when they are chosen and endorsed by the self rather than coerced or pressured by others. When applied to romantic relationships, “self-determined” refers to endorsing one’s involvement in the relationship rather than feeling coerced, guilty, or not knowing why one is involved in the relationship (Knee, Lonsbary, Canevello, & Patrick, 2005). Self-determined behaviors are characterized by choice, interest, and growth (Knee, Patrick, Vietor, Nanayakkara, & Neighbors, 2002).

SDT explains why people engage in behavior and links motivation to outcomes such as personal growth and well-being. Self-determined behaviors facilitate positive, open, and honest social interactions, which are associated with beneficial relationship outcomes (Blais, Sabourin, Boucher, & Vallerand, 1990; Rempel, Holmes, & Zanna, 1985; Seligman, Fazio, & Zanna, 1980). For example, romantic relationship partners motivated to be in relationships for their own sake (vs. motivated to obtain incentives or avoid negative consequences) reported greater feelings of love and faith in the relationship (Rempel et al., 1985; Seligman et al., 1980) and greater attachment security to close others (La Guardia, Ryan, Couchman, & Deci, 2000). When self-determined, relational partners view relationship problems as “challenges” rather than “hassles,” and do not experience these events as stressful (Blais et al., 1990). Consequently, higher self-determination has been associated with healthy conflict resolution (Knee et al., 2002). The more self-determined both relationship partners’ motivational style, the greater their perceptions of constructive behavior, which predicted their relationship happiness (Blais et al., 1990).

Sexual interactions are positively related to couple happiness and adjustment (Byers, Demmons, & Lawrance, 1998; Lawrance & Byers, 1995; Peck, Shaffer, & Williamson, 2004). Although self-determined motivation has been applied to romantic relationships, little research has tested self-determined motivation applied to understanding the *sexual* component of romantic relationships (for exceptions, see Jenkins, 2003; Sanchez, Moss-Racusin, Phelan, & Crocker, 2011; Smith, 2007).

According to Deci and Ryan (1985, 2000), *intrinsic* regulation refers to engaging in activities because the process of performing them are chosen and enjoyable ends in themselves. Intrinsically motivated individuals are involved in

intimate relationships for the pleasure that day-to-day couple activities bring, such as intimate contact with one’s partner (Jenkins, 2003). Intrinsically motivated relationship partners report greater relational functioning (Rempel et al., 1985; Seligman et al., 1980). Yet individuals can also be intrinsically motivated for sex at a personal level instead of at a relational level. That is, personal intrinsic motivation reflects sexual activity that is inherently stimulating and enjoyable in and of itself; it is the view that sex is fun and interesting (Jenkins, 2003).

However, people may have sex for extrinsic reasons (Boul, Hallam-Jones, & Wylie, 2009; cf. Cooper et al., 1998). That is, sex can be *externally* regulated (having sex for external rewards or avoid punishment), which is exemplified when people have sex due to anxiety about losing their partner (Jenkins, 2003).

Deci and Ryan (1985, 2000) distinguished different extrinsic motivations that are characterized by various levels of autonomy. *Introjected* regulation refers to behaviors that are initiated and regulated by internally controlling demands such as personal obligation. For example, someone may have sex because “I have to please my partner” (Blais et al., 1990; Jenkins, 2003). *Identified* regulation contains more choice because the regulation comes from within and the person values the activity. For example, people may have sex because they view sex as important for relational intimacy, even at the expense of a lack of sexual desire (Jenkins, 2003). Thus, identified behaviors are chosen and endorsed.

SDT proposes that there are three psychological needs that increase the experience of personal health and well-being (Ryan & Deci, 2002): competence, relatedness, and autonomy. *Competence* refers to feeling effectance in one’s actions by exercising and expressing one’s capacities (Deci, 1975; Ryan & Deci, 2002). *Relatedness* refers to the need to care for and be cared for by others. When individuals behave in a way that is consistent with their own values instead of prescriptions for how they “should” behave, they experience higher satisfaction with their interactions and relationships (Hodgins, Koestner, & Duncan, 1996). *Autonomy* refers to experiencing choice and acting from interest and self-endorsed values (Deci & Ryan, 1985; Ryan & Deci, 2002). Need satisfaction is connected with improved emotional well-being (Reis, Sheldon, Gable, Roscoe, & Ryan, 2000; Sheldon, Ryan, & Reis, 1996), relationship functioning (Patrick, Knee, Canevello, & Lonsbary, 2007), and stronger attachment security (La Guardia et al., 2000).

Self-Determination and Sexual Behavior

Guided by SDT, Jenkins (2003) developed the Perceived Locus of Causality for sex (PLOC-s) Scale to assess various forms of sexual motivation. This measure has subscales for personal intrinsic motivation (because sex *itself* is fun and enjoyable), relational intrinsic motivation (because the *intimacy* of sex is fun and enjoyable; cf. Cooper et al., 1998),

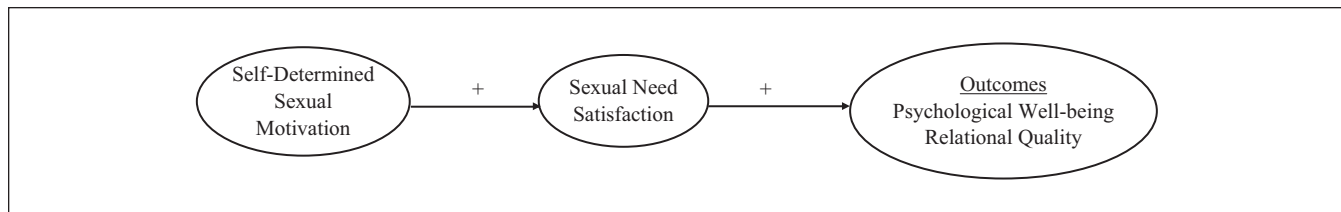


Figure 1. Model of Self-Determined Sexual Motivation.

identified motivation (because sex is an important part of a relationship), introjected motivation (because of guilt, shame, anxiety, and pride), and external motivation (to obtain rewards or avoid punishment; cf. Cooper et al., 1998). A sample of college students were asked to reflect on their most recent sexual experience and complete the PLOC-s as well as a measure of need satisfaction, relationship satisfaction, and measures of well-being. Jenkins' research found that self-determined sexual motivation for one's most recent sexual experience was associated with higher need satisfaction and more positive personal and relational outcomes. Similar results were found in Sanchez et al.'s (2011) Internet study of women, which revealed that intimacy-based sex motives were positively associated with sexual autonomy and sexual satisfaction, whereas approval sex motives (gaining the partner's approval or avoiding the partner's disapproval) were associated with lower sexual autonomy and sexual satisfaction.

As Jenkins' (2003) research implies, sexual encounters provide the conditions for need fulfillment, even if sexual gratification is fleeting. Smith (2007) examined the extent to which need satisfaction from sexual activity predicts sexual satisfaction. In Smith's study, participants were asked to complete an interaction record for every sexual experience they had over 3 weeks. This interaction record included information concerning the situation itself (time and location of the interaction, sexual activities enacted), the extent to which their psychological needs were met, and how satisfying the experience was. Smith found that need satisfaction obtained through sexual activity was associated with more positive and satisfying sexual experiences. Smith's interaction record investigation corroborated questionnaire data showing that sexual autonomy was associated with more pleasurable sexual experiences (Sanchez, Crocker, & Boike, 2005). In our article, we seek to test a model that integrates Jenkins' (2003) research examining self-determined sexual motivation and need satisfaction with Sanchez et al.'s (2005) and Smith's (2007) findings that need satisfaction obtained through sex is associated with better outcomes.

A Model of Self-Determination and Sexual Motivation

The present research uses SDT as a framework to explain sexual motivation in dating relationships. A benefit of

studying sexual behavior from an SDT standpoint is that it includes various motives for having sex. The present research combines and expands on Jenkins' (2003) and Smith's (2007) studies by (a) examining *why* people have sex with their romantic partners and (b) exploring how sexual motives are linked to psychological well-being and relationship quality.

The Model of Self-Determined Sexual Motivation (Figure 1) bridges sexual motivation with positive outcomes. According to the model, self-determined sexual motivation is associated with higher satisfaction of the needs for autonomy, competence, and relatedness through sexual activity (called *sexual need satisfaction* hereafter). According to the model, people who have sex to share an intimate experience with their partner, rather than because they feel pressured to do so, are expected to have their psychological needs met. The model hypothesizes that sexual need satisfaction is hypothesized to mediate the association between sexual motivation and outcomes (psychological well-being and relational quality). Thus, motivation for sexual behavior is expected to be associated with psychological well-being and relational quality because people are more likely to get their psychological needs met when behaving in self-determined ways, a link that has yet to be examined in the SDT literature on sex.

Previous research supports this model. Self-determined motivation is associated with more satisfying experiences, including the satisfaction of psychological needs (Brown & Ryan, 2004; Elliot, McGregor, & Thrash, 2002; Jenkins, 2003; Knee et al., 2005; Pelletier, 2002; Ryan & Deci, 2002). Thus, self-determined motives for sexual activity are likewise expected to lead to satisfying sexual experiences. Because research has shown positive individual (Jenkins, 2003; Reis et al., 2000; Sheldon et al., 1996; Smith, 2007) and relational outcomes (Jenkins, 2003; La Guardia et al., 2000; Patrick et al., 2007) when people get their psychological needs met, the model predicts positive psychological well-being and relational quality for those who get their psychological needs met from sex.

Overview of the Present Studies

We designed three studies to test the model in Figure 1. Study 1 was a questionnaire study designed to assess how individuals felt in general about their sexual relationship with their dating partners. Study 2 was an event-contingent interaction

record that asked participants to record their sexual interactions and their feelings about them for 2 weeks. Finally, Study 3 was a daily diary study combined with an event-contingent interaction record that asked participants to record their motivation for having sex, their feelings about having sex, and their *daily* psychological well-being and relational quality from *both partners* in the relationship. Thus, Study 3 enabled us to examine person-level and cross-partner effects.

Consistent with the Model of Self-Determined Sexual Motivation (Figure 1), we generated three hypotheses for the present research:

Hypothesis 1: Self-determined motives for engaging in sexual activity would be related to higher sexual need satisfaction.

Hypothesis 2: Sexual need satisfaction would be positively related to psychological well-being and relational quality.

Hypothesis 3: Sexual satisfaction would mediate the relationship between self-determined motivation and outcomes (increased psychological well-being and relational quality).

Study 1: Questionnaire Study

We designed Study 1 to assess how people in dating relationships perceive their sexual motivation and their sexual relationships with their current romantic partners.

Method

Participants. Participants were 202 Introductory Psychology students (42 men, 160 women) who were given partial course credit for their participation. Participants were about 19 years old ($M = 18.81$, $SD = 2.09$) and were required to be in a dating relationship for at least 4 weeks ($M = 18.37$, $SD = 7.10$).

Measures and Procedure. We assessed sexual motivation using an adapted version of the PLOC-s from Jenkins' (2003) study. Jenkins' study asked participants to recall the most recent time they engaged in sexual activity and respond to items by using the stem, "The last time I had sex, I engaged in sexual activity" (p. 52), whereas for the present study, participants were prompted to think about why they generally engage in sexual activity with their partner and to respond to items using the stem, "I engage in sexual activity." According to Jenkins, personal intrinsic motivation reflects motivation for sex because sex *itself* is fun, whereas the relational intrinsic motivation reflects motivation for sex because the *intimacy* of sex is fun. Jenkins distinguishes the two forms of intrinsic motivation because for personal intrinsic motivation, the regulation is focused on the self, whereas for relational intrinsic motivation, the regulation is focused on the "we-ness" of the interaction. Eight items assessed personal intrinsic motivation (e.g., "Because I enjoy being sexual"; $\alpha = .91$, $M = 2.46$, SD

$= 0.93$). Ten items assessed relational intrinsic motivation (e.g., "For the pleasure of sharing a special and intimate experience"; $\alpha = .90$, $M = 2.84$, $SD = 0.87$). Six items assessed identified motivation (e.g., "Because sex is an important part of my relationship"; $\alpha = .88$, $M = 1.54$, $SD = 1.03$). Eleven items assessed introjected motivation (e.g., "Because I would feel bad to withhold from my partner"; $\alpha = .86$, $M = 0.63$, $SD = 0.62$), and seven items assessed external motivation (e.g., "Because I feel pressured by my partner to have sex"; $\alpha = .77$, $M = 0.35$, $SD = 0.49$). Respondents used a 5-point scale (0 = *not at all for this reason*, 4 = *very much for this reason*) to indicate if each of the provided reasons was a reason they tend to have sex with their current partner.

We assessed sexual need satisfaction using a modified version of the nine-item Need Satisfaction Scale (La Guardia et al., 2000). We altered items such as "When I am with my mother, I feel free to be who I am" to "When I engage in sexual activity with my partner, I feel free to be who I am." Items assessed experiences of autonomy (e.g., "I feel free to be who I am"), competence ("I feel like a competent person"), and relatedness ("I feel loved and cared about"). Respondents used 7-point scales to rate the extent to which each statement was true of them (1 = *not at all true*, 7 = *very true*). Internal consistency was adequate ($\alpha = .80$, $M = 53.70$, $SD = 7.10$).

We measured psychological well-being using the Rosenberg Self-Esteem (RSE) Inventory (Rosenberg, 1965), Brunstein's (1993) Affect Balance Scale, Ryan and Frederick's (1997) Vitality Scale (Ryan & Frederick, 1997), and Diener, Emmons, Larsen, and Griffin's (1985) Satisfaction With Life Scale. The RSE Scale is a commonly used measure of self-esteem (e.g., "I feel like a person who has a number of good qualities"); items were assessed using 5-point scales (1 = *strong disagreement* to 5 = *strong agreement*), with higher scores representing higher self-esteem. The Affect Balance Scale reflects the extent that participants experience 10 positive (happy, excited) and 10 negative (upset, anxious) emotions in general (1 = *very slightly, or not at all* to 5 = *extremely*). The Vitality Scale uses 7-point scales (1 = *not at all true*, 7 = *very true*) to assess the degree to which participants feel vigorous and alert (e.g., "I feel alive and vital" and "I feel energized"). Finally, the Satisfaction with Life Scale assesses how satisfied individuals feel about their lives in general (e.g., "My life is close to my ideal"). Responses were made on 7-point scales (1 = *strongly disagree* to 7 = *strongly agree*) and summed; higher scores reflect higher life satisfaction.

We used the following measures to assess relational quality: The Inclusion of Other in the Self Scale (IOS; Aron, Aron, & Smollan, 1992), the Dyadic Adjustment Scale (DAS; Spanier, 1976), the Global Measure of Relationship Satisfaction (GMREL; Lawrance & Byers, 1992, 1995), and Rusbult's (1983) measure of relationship satisfaction and commitment. We used the IOS (Aron et al., 1992) to assess closeness in the relationship. Participants selected one of seven Venn diagrams that best represented their relationship. Each diagram depicted two circles in various degrees of

Table 1. Means and Standard Deviations for Variables (Study 1).

	α	Women	Men	<i>t</i>
		<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	
Self-determined sexual motivation	—	5.32 (2.34)	6.10 (2.61)	-1.88*
Relational intrinsic (+2)	.90	2.83 (0.88)	2.90 (0.84)	-0.47
Personal intrinsic (+2)	.91	2.36 (0.93)	2.84 (0.86)	-3.04***
Identified (+1)	.88	1.41 (0.99)	2.04 (1.00)	-3.68***
Introjected (-1)	.86	0.60 (0.58)	0.77 (0.74)	-1.67*
Extrinsic (-2)	.77	0.32 (0.48)	0.45 (0.54)	-1.51
Sexual need satisfaction	.80	53.81 (7.41)	53.26 (5.78)	0.44
Autonomy	.51	17.66 (3.02)	17.51 (2.35)	0.29
Relatedness	.71	18.97 (2.58)	18.41 (2.79)	1.21
Competence	.66	17.21 (3.19)	17.34 (2.44)	-0.25
Psychological well-being	.84	0.03 (3.29)	-0.04 (3.26)	0.13
Rosenberg self-esteem	.84	40.91 (6.14)	41.38 (6.12)	-0.45
Positive affect	.83	37.26 (5.67)	36.28 (5.48)	1.00
Negative affect	.83	21.75 (6.28)	22.14 (6.11)	-0.36
Vitality scale	.86	32.87 (7.39)	32.74 (6.72)	0.10
Life satisfaction	.88	34.05 (7.65)	34.21 (7.24)	-0.12
Relational quality (<i>z</i>)	.88	0.29 (3.99)	-1.07 (4.35)	1.79*
IOS (7-point scale)	—	4.96 (1.56)	4.88 (1.58)	0.28
Dyadic adjustment	.88	107.47 (13.05)	103.75 (12.94)	1.53
GMREL	.93	30.65 (4.34)	29.41 (4.55)	1.63
Committed	.92	5.60 (1.35)	5.31 (1.70)	1.14
Relationship satisfaction	.92	6.39 (1.45)	6.19 (1.57)	0.76

Note: IOS = inclusion of other in the self scale; GMREL = global measure of relationship satisfaction. Self-determined sexual motivation = Relational intrinsic + Personal intrinsic + Identified - Introjected - 2 × (Extrinsic) = 2 × (Intrinsic) + 1 × (Identified) - 1 × (Introjected) - 2 × (Extrinsic).

* $p < .10$. ** $p < .01$. *** $p < .001$.

overlap. Scores from one to seven were assigned to each diagram, with higher scores assigned to diagrams with higher degrees of overlap. The DAS was modified for dating samples and assesses affectional expression, dyadic cohesion, dyadic consensus, and dyadic satisfaction. The GMREL asked participants to rate their relationship on five 7-point bipolar scales: good-bad, pleasant-unpleasant, positive-negative, satisfying-unsatisfying, and valuable-worthless. Higher scores indicated higher relationship satisfaction. For Rusbult's measure of commitment and satisfaction, participants used 9-point scales (0 = *do not agree at all* and 8 = *agree completely*) to rate their agreement with statements about relationship commitment (e.g., "I am committed to maintaining my relationship with my partner") and satisfaction ("I feel satisfied with our relationship").

Finally, participants provided information on their gender, age, and relationship length.

Results and Discussion

Creation of Composite Measures. Based on prior research (Blais et al., 1990), we created a composite index that integrates the information from the separate scales of the PLOC-s. Personal intrinsic motivation, relational intrinsic

motivation, and identified regulation are considered more self-determined motivation and were assigned weights of 2 for the forms of intrinsic motivation and a weight of 1 for identified motivation (because identified motivation is less self-determined than intrinsic motivation). External regulation and introjected regulation are considered controlling motives and were assigned weights of -2 and -1, respectively (because introjected regulation is more self-determined than external regulation). We refer to this composite score as *self-determined sexual motivation* from this point forward; internal reliability of this composite score was adequate ($\alpha = .76$, $M = 5.48$, $SD = 2.41$).

Next, we created the index of *psychological well-being* by subtracting negative affect scores from the positive affect scores to create a net positive affect score and then standardizing and adding net positive affect, self-esteem, life satisfaction, and vitality ($\alpha = .84$). We then created an index of relational quality by standardizing and adding the IOS, the two measures of satisfaction, the DAS, and commitment ($\alpha = .88$). All composites were also submitted to a principal components analysis. Inspection of eigenvalues and scree plots revealed one-factor solutions for each composite measure. See Table 1 for means and *SD*s of all measures for men and women, along with *t* tests for sex differences. Women

Table 2. Correlation Matrix Among Variables (Study 1).

	1	2	3
1. Self-determined sexual motivation	—		
2. Sexual need satisfaction	.48***	—	
3. Psychological well-being	.14*	.42***	—
4. Relational quality	.19*	.53***	.36***

* $p < .10$. *** $p < .001$.

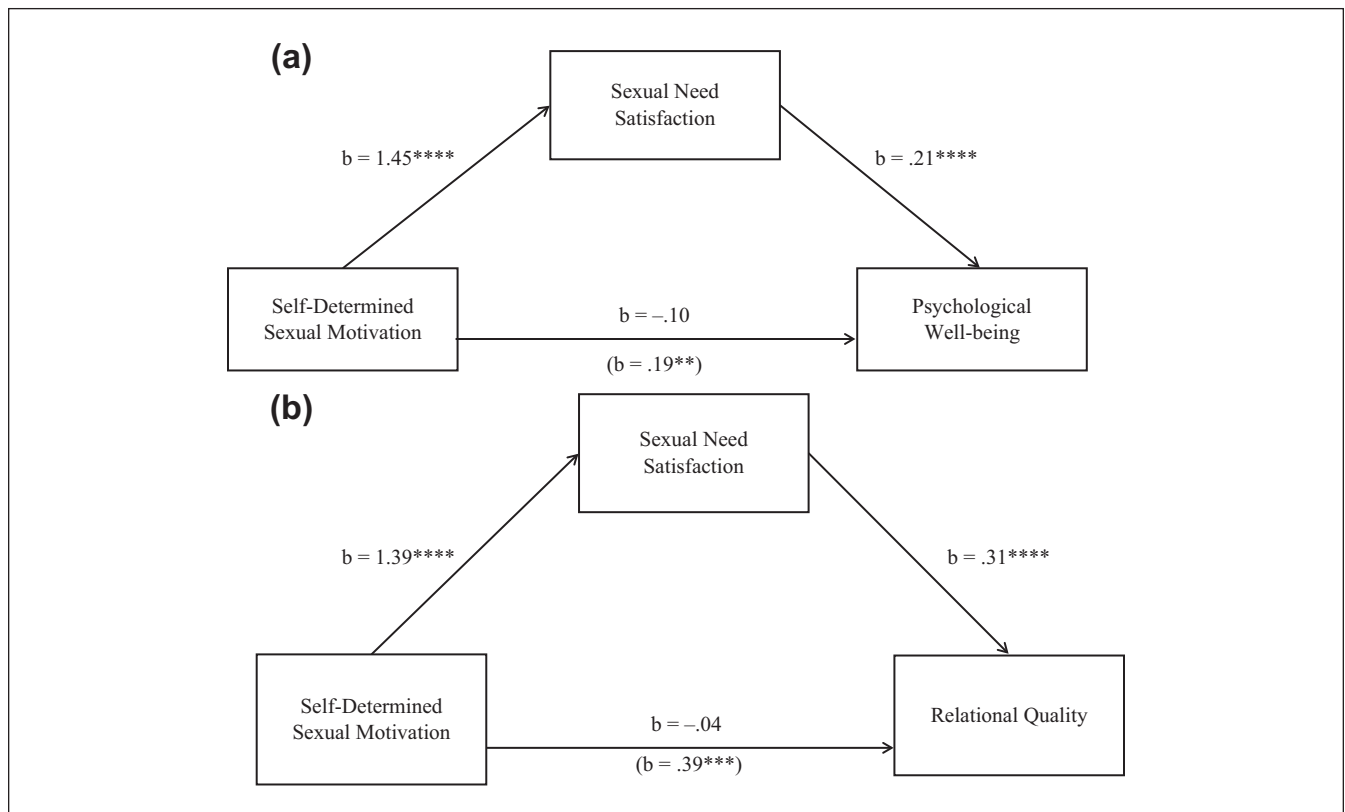


Figure 2. Study 1: Mediation model of self-determined motives and (a) psychological well-being or (b) relational quality.

Note: Path numbers are unstandardized regression coefficients. Total effects for sexual motivation are inside parentheses.

** $p < .05$. *** $p < .01$. **** $p < .001$.

reported less personal intrinsic and identified regulation than men; otherwise, there were no gender differences.

Does sexual need satisfaction mediate the relationship between sexual motivation and outcomes? Hypothesis 1 predicted that self-determined sexual motives would be linked to higher sexual need satisfaction. Hypothesis 2 predicted that sexual need satisfaction would be positively associated with outcome variables. Table 2 shows intercorrelations for all variables. Consistent with expectations, self-determined sexual motives were positively associated with sexual need satisfaction, which in turn was associated with higher psychological well-being and relational quality.

Hypothesis 3 predicted that sexual need satisfaction would mediate the association between sexual motivation and the outcome variables. Analyses described below controlled for

gender. A commonly used bootstrapping technique was used to assess mediation (Preacher & Hayes, 2004, 2008). Bootstrapping techniques have been recommended for testing mediation instead of Baron and Kenny’s (1986) steps using the Sobel (1982) test because the Sobel test should only be used with very large samples (Preacher & Hayes, 2004).

Psychological Well-Being. Self-determined sexual motives positively predicted psychological well-being. When sexual need satisfaction was included in the model, sexual need satisfaction was significant and self-determined sexual motives was reduced in magnitude to nonsignificance. Sexual need satisfaction (95% confidence interval [CI] = [.19, .42]) mediated the association between self-determined sexual motivation and psychological well-being (Figure 2a). Thus, self-determined motives were positively associated with

psychological well-being, and this association was explained by the association between self-determined motives and sexual need satisfaction. Gender was nonsignificant in this model.

Relational Quality. Self-determined motives positively predicted relational quality. When sexual need satisfaction was included in the model, self-determined motives were no longer statistically significant. Sexual need satisfaction (95% CI = [.28, .63]) mediated the association between self-determined motives and relational quality (Figure 2b). Thus, the association between self-determined motives and relational quality was explained by the association between self-determined motives and sexual need satisfaction. Gender was nonsignificant in this model.

Summary. According to the Model of Self-Determined Sexual Motivation, self-determined motives should be positively associated with sexual need satisfaction, which in turn should mediate the relationship between self-determined sexual motivation and the outcome variables of psychological well-being and relational quality. Our findings supported these expectations. Engaging in sexual activity for more self-determined reasons was associated with higher need fulfillment during sex, which in turn was associated with feeling better about oneself and experiencing greater closeness and satisfaction in the relationship, supporting mediation hypotheses.

Study 1 was not without limitations. First, the study was a cross-sectional study of people reflecting on their sexual experiences with their relationship partner in general. This method requires participants to reflect across multiple experiences over a long period time, decreasing accuracy in reporting—a limitation we seek to resolve in Studies 2 and 3. The second limitation concerns the gender composition of the participants; more than 79% of the sample was women whose experiences may not generalize to men.

Study 2: Interaction Diary

Study 2 was a diary study designed to examine specific sexual interactions and how they relate to psychological well-being and relational quality. Diary studies have several advantages over one-time studies. First, diary studies provide insight on the quantity and quality of sexual interactions and how they relate to other variables, such as psychological adjustment (Reis & Wheeler, 1991). Second, diaries allow participants to report their interactions without relying on memory for several incidents over long time periods.

Method

Participants. Participants were 147 Introductory Psychology students (34 men, 112 women, 1 did not indicate sex; $M_{\text{age}} = 19.10$ years, $SD = 1.76$) who were given partial course credit for participating. Participants were required

to be in a heterosexual dating relationship for at least 4 weeks ($M = 19.07$ months, $SD = 16.14$) and live within 25 miles of their partner. Data from an additional 31 participants were not used in the analysis: 8 participants did not complete the study, 16 failed to follow study directions, and 9 indicated they were not completely honest when completing the diary.

Intimate Interaction Diary Form. We used an adapted version of the Rochester Interaction Record (Wheeler & Nezlek, 1977) to record participants' sexual interactions. This scale was developed to measure daily social interactions, but has also been used to assess sexual interactions (Smith, 2007; Smith, Nezlek, Webster, & Paddock, 2007). The fixed-format diary enables participants to record various aspects of their interactions, such as behaviors that occur and emotional responses to the interaction. Following Smith (2007; Smith et al., 2007), participants were instructed to record every sexual interaction, defined as "any interaction that lasts 10 minutes or longer in which a person is physically intimate with another person." The term "intimate interaction" was used instead of "sexual interaction" to incorporate a broad range of interactions that may include sexual activity beyond vaginal intercourse. Thus, "making out" would be an intimate interaction but cuddling or a peck on the lips would not. We instructed participants to complete the form after the event but not to let recording it interfere with the interaction itself.

For each interaction, participants provided situational information such as when the interaction occurred, how long it lasted, and behaviors involved. The form also incorporated questions assessing motivation for engaging in sexual activity, selected from Jenkins' (2003) PLOC-s described in Study 1. Sexual need satisfaction during the interaction was assessed by modifying the La Guardia et al. (2000) Need Satisfaction Scale described in Study 1 to fit a diary format by asking participants how they felt "during the interaction." Six items completed this stem: choiceful, competent, connected to my partner, a lot of closeness and intimacy, my feelings and wishes were respected, inadequate. Participants were asked to use 5-point scales (1 = *strongly agree*; 5 = *strongly disagree*) to indicate the extent to which they agreed or disagreed with each statement ($\alpha = .77$). Finally, several questions assessed outcomes of the interaction by asking the participant how they feel "right now." These questions included (a) the GMREL ($\alpha = .93$; Lawrance & Byers, 1992, 1995) to reflect present feelings about the relationship, (b) a modified version of the IOS (Aron et al., 1992) to reflect present feelings of closeness, (c) two items to reflect state self-esteem ("Right now I take a positive attitude toward myself" was adapted from Rosenberg's [1965] Self-Esteem Inventory and "Right now I have high-self-esteem" was modified from Robins, Hendin, & Trzesniewski's [2001] Single-Item Self-Esteem Scale), and (d) one item to assess commitment ("Right now I feel committed to my partner").

Table 3. Means and Standard Deviations for Interaction Ratings (Study 2).

	α	Women M (SD)	Men M (SD)	t
Self-determined sexual motivation	—	8.26 (3.14)	6.97 (3.21)	4.98***
Relational intrinsic (+2)	—	4.41 (0.80)	4.00 (0.97)	5.96***
Personal intrinsic (+2)	—	3.90 (1.20)	3.89 (1.18)	0.15
Identified (+1)	—	3.92 (1.07)	3.91 (0.92)	0.10
Introjected (-1)	—	1.53 (0.74)	2.02 (0.97)	-7.50***
Extrinsic (-2)	—	1.22 (0.52)	1.40 (0.74)	3.93***
Sexual need satisfaction	.77	27.01 (3.28)	25.69 (4.03)	4.57***
Autonomy	.54	8.94 (1.27)	8.45 (1.64)	4.30***
Relatedness	.90	8.99 (1.57)	8.68 (1.64)	2.28**
Competence	.22	9.17 (1.17)	8.65 (1.51)	4.87***
Psychological well-being	.83	12.98 (2.04)	12.74 (2.38)	1.41
Positive attitude about self	—	4.49 (0.72)	4.34 (0.85)	2.31**
Self-esteem	—	4.33 (0.76)	4.24 (0.89)	1.30
Life satisfaction	—	4.16 (0.89)	4.15 (1.00)	0.19
Relational quality (z)	.88	0.21 (2.46)	-0.76 (2.77)	4.58***
Interaction GMREL	.93	6.42 (2.69)	7.32 (3.00)	-3.89***
IOS (7-point scale)	—	5.25 (1.49)	5.00 (1.41)	2.03**
Committed	—	4.62 (0.76)	4.36 (0.93)	3.91***

Note: GMREL = global measure of relationship satisfaction; IOS = inclusion of other in the self scale. Response scales ranged from 1 to 5 except for the IOS, which ranged from 1 to 7. Items on the relational quality index were standardized before they were combined. Reliability coefficients (α s) are based on interaction-level data for the whole sample. Self-determined sexual motivation = Relational intrinsic + Personal intrinsic + Identified - Introjected - 2 × (Extrinsic) = 2 × (Intrinsic) + 1 × (Identified) - 1 × (Introjected) - 2 × (Extrinsic).
 ** $p < .05$. *** $p < .01$. **** $p < .001$.

Table 4. Correlation Matrix Among Variables (Study 2).

	1	2	3
1. Self-determined sexual motivation	—		
2. Sexual need satisfaction	.49***	—	
3. Psychological well-being	.30***	.48***	—
4. Relational quality	.44***	.56***	.56***

**** $p < .001$.

Procedure. Participants attended an initial session where they were informed that they would be completing a questionnaire and keeping a diary of their intimate interactions over 2 weeks. During this session, participants completed the demographic questionnaire. Following the questionnaire, participants were given instructions for completing the interaction diary and asked to complete the form following the interaction to ensure recording accuracy.

During debriefing, participants were asked about the truthfulness of the completion of the interaction forms (on a 10-point scale from 1 = *not at all honest* to 10 = *completely honest*; $M = 9.46$, $SD = 0.76$). Participants reported spending about 10 min ($M = 9.36$, $SD = 4.98$) completing the diary for each interaction. On a 5-point scale (1 = *not at all* to 5 = *very much*), participants revealed that completing the interaction diary form interfered with neither the interaction itself ($M = 1.48$, $SD = 0.72$) nor with their daily lives ($M = 1.40$, $SD = 0.66$), which were both significantly below the scale midpoint of 3.0 ($ts > 10.07$, $ps < .001$).

Results and Discussion

Interaction Descriptive Analyses. Over a 2-week period, 147 participants described 930 physically intimate interactions. The number of interactions per person ranged from 1 to 24 ($M = 6.32$, $SD = 3.90$). Interactions ranged from 10 min to 6.5 hr ($M = 45.02$ min, $SD = 34.64$). Of these interactions, 56.8% involved vaginal intercourse, 33% involved giving oral sex, and 27.5% involved receiving oral sex. Participants reported that both partners initiated 43.9% of these encounters, 21.1% were initiated by the participants, and 30.9% were initiated by the participants' partners.

Interaction Composite Measures. From the interaction record data, we created interaction sexual motivation composites. An index of self-determined sexual motivation was computed using the same weighting procedure described in Study 1. Sexual need satisfaction was computed by combining the six items from the modified La Guardia et al. (2000) Need Satisfaction Scale ($\alpha = .77$). Psychological well-being was computed by combining the items that assessed self-esteem and life satisfaction ($\alpha = .83$). Relational quality was computed by standardizing and adding together the IOS, the GMREL measure, and the item assessing commitment ($\alpha = .88$). Table 3 shows means and SD s of all measures for men and women, along with t tests of sex differences. Table 4 shows correlations among variables. Women reported greater self-determined sexual motivation, sexual need satisfaction, and

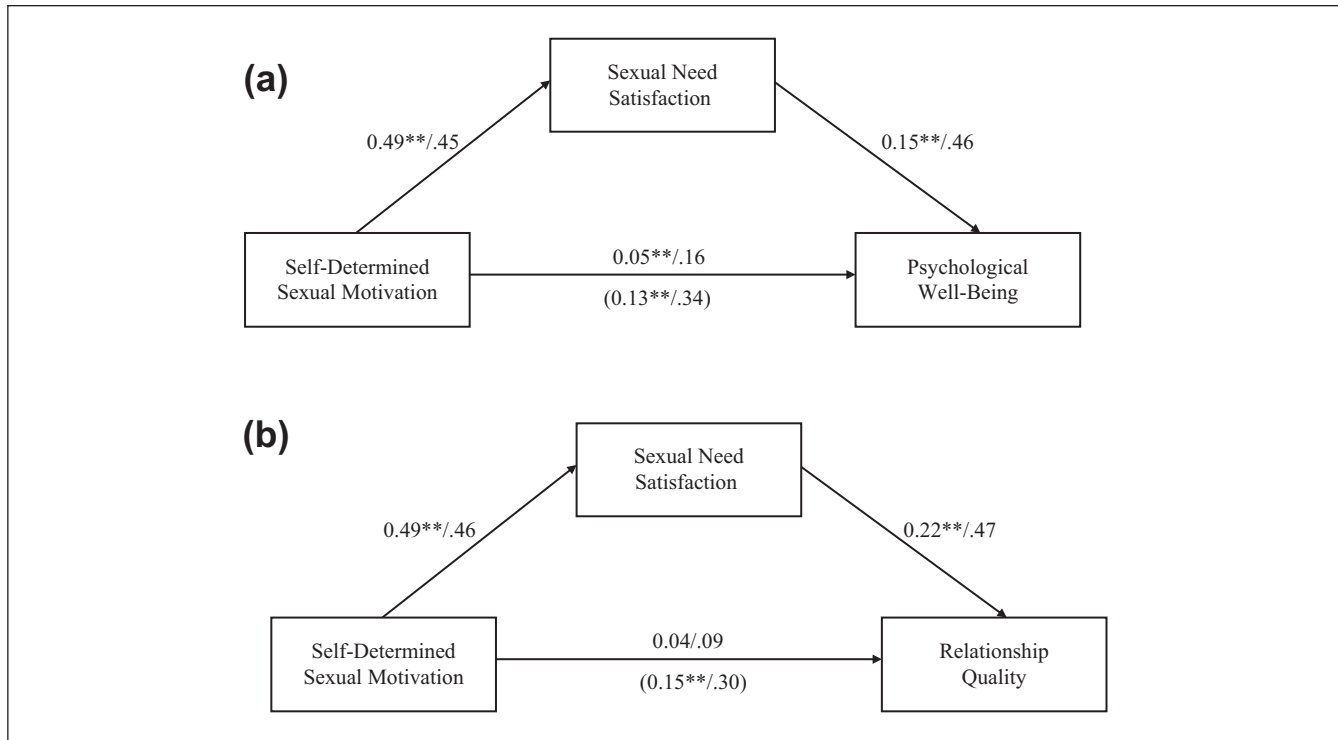


Figure 3. Study 2: Mediation model of self-determined motives and (a) psychological well-being or (b) relational quality. Note: Path numbers: Unstandardized regression coefficients/partial correlations. Total effects for sexual motivation are inside parentheses. ** $p < .05$.

relational quality than men. Self-determined sexual motivation, sexual need satisfaction, psychological well-being, and relational quality were positively intercorrelated.

Multilevel Analyses. These data had a multilevel data structure because sexual interaction events (Level 1) were nested within people (Level 2). Thus, we analyzed data with multilevel path models using the Mplus 6 program (Muthén & Muthén, 2010). Predictor variables were person-mean-centered in each analysis. Before examining hypotheses, we ran analyses to examine the between- and within-person variance in all four variables (Nezlek, 2011); there was adequate variance to model at both levels, χ^2 s (144) > 828.8, $ps < .001$. Across these variables, within-person variance ranged from 29% to 53%; between-person variance ranged from 47% to 71%.

Mediation Results. Consistent with Study 1, we tested two models: one for psychological well-being and one for relationship quality. Because the multilevel mediation program we used—Mplus 6 (Muthén & Muthén, 2010)—does not provide tests of indirect effects for multilevel random effect models, we chose to define mediation using the traditional definition; mediation is present when a significant direct effect is reduced in magnitude or to nonsignificance after controlling for the mediator (Baron & Kenny, 1986). We tested our hypothesized within-person associations using

two-step multilevel models (Aiken & West, 1991). At Step 1 of each model, we tested the direct effect of self-determined sexual motivation on psychological well-being or relational quality. As predicted, the self-determined sexual motivation was positively and significantly related to psychological well-being ($b = 0.13$, $t = 4.29$, $p < .001$, $r = .34$) and relational quality ($b = 0.15$, $t = 3.80$, $p < .001$, $r = .30$). Also at Step 1, we examined the direct effect of the hypothesized mediator—sexual need satisfaction—on psychological well-being and relational quality, which revealed significant effects (Figure 3).

At Step 2, we examined the extent to which sexual need satisfaction mediated both models. When examining psychological well-being, the link between self-determination sexual motivation and sexual need satisfaction was positive and significant ($b = 0.49$, $t = 6.14$, $p < .001$, $r_p = .45$), as was the link between sexual need satisfaction and psychological well-being ($b = 0.16$, $t = 6.22$, $p < .001$, $r_p = .46$). However, for psychological well-being, the direct effect of self-determined sexual motivation was not reduced to nonsignificance ($b = 0.053$, $t = 1.99$, $p = .046$, $r_p = .16$) suggesting that partial mediation, but not full mediation, occurred (Baron & Kenny, 1986).

When examining relational quality, the link between self-determined sexual motivation and sexual need satisfaction was positive and significant ($b = 0.49$, $t = 6.21$, $p < .001$, $r_p = .46$), as was the link between sexual need satisfaction and relational

quality ($b = 0.22$, $t = 6.49$, $p < .001$, $r_p = .47$). For relational quality, the direct effect of self-determined sexual motivation was reduced to nonsignificance ($b = 0.039$, $t = 1.13$, $p = .26$, $r_p = .09$), suggesting full mediation (Baron & Kenny, 1986). Participant gender did not significantly moderate any effects for psychological well-being or relational quality.

Summary. Our diary data supported Hypothesis 1 that sexual interactions reflecting self-determination would be associated with higher sexual need satisfaction. Hypothesis 2 was that sexual need satisfaction would be associated with greater psychological well-being and relational quality, which was also supported by the data. Finally, Hypothesis 3 was that sexual need satisfaction would mediate the association between self-determined sexual motivation and outcomes. Self-determined sexual motivation was linked directly to psychological well-being and relational quality. Sexual need satisfaction fully mediated the association between self-determined motivation and relationship quality, but appears to only partially mediate the association between self-determined motivation and psychological well-being.

Study 2 expanded on Study 1 in important ways. First, it provided information about the frequency and quality of sexual interactions among dating couples. Second, given that people reported on *specific* interactions, the data provided were more accurate than data provided by large questionnaire studies. Furthermore, Study 2 investigated the *quality* of specific interactions and how they relate to outcomes such as psychological well-being and relational quality. Study 2's micro-level findings were consistent with Study 1's macro-level findings even though this need not be the case, as different levels of analysis can be statistically independent (Nezlek, 2011).

One surprising finding was that while men reported more self-determined regulation (personal intrinsic and identified regulations), they also scored higher on less self-determined regulation (introjected and extrinsic regulations), suggesting that men might be more motivated for sex. Another surprising gender difference was that men reported lower sexual need satisfaction and relational quality than women. However, gender did not moderate associations among self-determined sexual motivation, sexual need satisfaction, and outcome variables.

A second limitation was that Study 2 relied on individuals' reports of sexual experience. Thus, it remains unknown how one's sexual motivation is linked to the partner's sexual need satisfaction or outcome variables. In Study 3, we sought to examine self-determined sexual motivation among couples. By examining dyads, we simultaneously solve both of Study 2's limitations because couples' studies allow one to examine actor and partner effects as well as collect data from equal numbers of men and women.

Study 3: Couples' Daily Diaries

In Study 3, we made several changes beyond studying couples. First, we extended the time period to 3 weeks (vs. 2).

Second, we expanded our coverage to include days when couples did not have a sexual interaction in addition to days in which they did. This expanded coverage allowed us to make stronger, more generalizable inferences about how sexual interactions relate to couples' daily lives. In addition, it expands our methodology across studies to include event-contingent (Study 2) and interval-contingent (Study 3) daily diary studies (Nezlek, 2001).

Method

Participants. Participants were 88 Introductory Psychology students and their partners (44 men, 44 women) who were given course research credit or paid US\$30, respectively, for their participation. On average, participants were 19.10 years old ($SD = 1.76$). Participants were required to be in a sexually active heterosexual relationship and live within 25 miles of their partner. The median relationship duration was 8 months ($M = 13.66$, $SD = 13.76$). We analyzed couples ($N = 44$) as the unit of analysis (Kenny, Kashy, & Cook, 2006).

Intimate Interaction Diary Form. We used an adapted version of the Rochester Interaction Record (Wheeler & Nezlek, 1977) to record participants' sexual interactions, as in Study 2. Measures included items from the PLOC-s (Jenkins, 2003) and Sexual Need Satisfaction during the interaction (La Guardia et al., 2000).

Daily Diary Form. One change from Study 2 was the inclusion of a daily diary, which participants were asked to complete each day, even when they did not have sex. Items included a modified version of the IOS (Aron et al., 1992) assessing present feelings of closeness, the two items assessing state self-esteem, and the item to assess commitment, which were described in Study 2.

Procedure. Couples attended an initial session where they were informed that they would be completing online questionnaires and keeping a diary of their intimate interactions over 3 weeks. During this session, participants completed initial online questionnaires. For the next 21 days, couples privately and individually completed the diary questionnaire each day, regardless of whether an intimate interaction occurred. Following the last daily diary session, participants also completed a follow-up series of online questionnaires. At the end of this final session, participants read an online debriefing. Participants reported spending a median of 10 min ($M = 11.60$, $SD = 5.91$) completing the diary each day. Using a 9-point scale (1 = *not at all*, 9 = *very much*), participants indicated that completing the interaction diary form did not interfere with their daily lives ($M = 4.16$, $SD = 2.04$); this was significantly below the scale midpoint of 5.0 ($t = 3.42$, $p = .001$). We also collected data using other measures not pertaining to the present study; we analyzed only those measures that were consistent with our hypotheses.

Table 5. Means and Standard Deviations for Interaction Ratings (Study 3).

	α	Women	Men	t
		M (SD)	M (SD)	
Self-determined sexual motivation	—	17.39 (4.86)	16.21 (5.00)	2.96***
Relational intrinsic (+2)	—	7.99 (1.17)	7.84 (1.62)	1.10
Personal intrinsic (+2)	—	7.42 (1.90)	7.83 (1.68)	-2.79***
Identified (+1)	—	7.65 (1.42)	7.90 (1.45)	-2.11**
Introjected (-1)	—	2.77 (1.96)	3.93 (2.41)	-6.47***
Extrinsic (-2)	—	1.45 (0.96)	1.71 (1.05)	-3.04***
Sexual need satisfaction	.78	8.21 (0.90)	7.95 (1.00)	3.45***
Autonomy	.59	8.20 (1.02)	7.92 (1.25)	2.79***
Relatedness	.88	8.28 (1.10)	8.12 (1.25)	1.52
Competence	.45	8.16 (1.19)	7.80 (1.38)	3.35***
Daily psychological well-being	.88	7.23 (1.57)	7.54 (1.44)	-3.97***
Positive attitude about self	—	7.43 (1.65)	7.65 (1.61)	-2.31**
Self-esteem	—	6.98 (2.02)	7.52 (1.61)	-5.78***
Life satisfaction	—	7.28 (1.56)	7.47 (1.73)	-2.23**
Daily relational quality (z)	.81	0.10 (0.78)	-0.03 (0.88)	4.09***
Interaction GMREL	.97	8.31 (1.24)	8.17 (1.35)	2.35**
IOS (7-point scale)	—	5.07 (1.55)	4.99 (1.71)	1.55
Committed	—	8.19 (1.47)	7.80 (1.77)	5.45***

Note: GMREL = global measure of relationship satisfaction; IOS = inclusion of other in the self scale. Response scales ranged from 1 to 9 except for the IOS, which ranged from 1 to 7. Reliability coefficients (α s) are based on interaction-level data for the whole sample; statistical tests (r s, t s) are based on interaction-level couples' data; neither adjust for dependency (i.e., intimate interactions nested within couples). Self-determined sexual motivation = Relational intrinsic + Personal intrinsic + Identified - Introjected - 2 × (Extrinsic) = 2 × (Intrinsic) + 1 × (Identified) - 1 × (Introjected) - 2 × (Extrinsic). ** p < .05. *** p < .01. **** p < .001.

Results and Discussion

Interaction Descriptive Analyses. Over 3 weeks, 88 participants completed 1,274 diary sessions, or about 14.5 days per person. Within these days, participants described 499 physically intimate interactions. Thus, for 39% of diary completion days, participants described a physically intimate interaction—an average of 5.67 interactions per person. Interaction durations ranged from 5 min to 6.9 hr (median = 30.0 min, M = 43.47, SD = 42.09). Of the nearly 500 interactions, 74.0% involved vaginal intercourse, 1.4% involved anal intercourse, 42.2% involved giving oral sex, 42.0% involved receiving oral sex, and 97.6% involved kissing. Of the interactions, 39.5% were initiated by both partners, 26.4% were initiated by the participant, and 27.8% were initiated by the participants' partner.

Creation of Composite Measures. Composite variables were created as described in Study 2. Table 5 shows the items or subscales contributing to each composite variable, and comparisons between men and women. Consistent with Study 2, women reported greater self-determined sexual motivation than men, and higher sexual need satisfaction and daily relational quality. However, women also reported lower daily psychological well-being than men. See Table 6 for intercorrelations among the composite variables used in the main analyses; bolded correlations show positive within-couple

relations for the measures of interest. These significant within-couple correlations suggested a dyadic approach to analyses (Kenny et al., 2006).

Multilevel Path Modeling and the Actor-Partner Interdependence Model (APIM). These data had a multilevel structure because repeated events (days, sexual interactions) were nested within couples. We analyzed the data with multilevel path models using the Mplus 6.1 program (Muthén & Muthén, 2010). We analyzed multilevel path models in an APIM framework (Kenny et al., 2006). APIMs are ideal for dyadic data because they simultaneously estimate the *actor* effects—where a person's attitude/behavior is related to another measure of their own attitude/behavior—and *partner* effects—where a person's attitude/behavior is related to his or her partner's attitude/behavior. Because of incomplete temporal data, we chose to examine concurrent—not lagged—multilevel APIMs (MAPIMs).

Figure 4 shows a MAPIM that we expanded to include mediation paths. Thick lines show *actor* effects; thin lines show *partner* effects. Dashed lines show a simple MAPIM (one without mediation) that tests *direct* effects (see Figures 5a and 6a). Solid lines show an expanded MAPIM (one that incorporates mediation) that tests *indirect* effects; this corresponds to Figures 5b and 6b.

All Study 3 variables showed adequate and significant variance at the between-couple level, χ^2 s (39) > 113.7, ps < .001.

Table 6. Intercorrelations Among Variables (Study 3).

	Women's correlations				Men's correlations			
	1	2	3	4	5	6	7	8
Women								
1. Self-determined sexual motivation	—							
2. Sexual need satisfaction	.64**	—						
3. Psychological well-being	.20**	.30**	—					
4. Relational quality (z)	.49**	.48**	.11	—				
Men								
1. Self-determined sexual motivation	.34**	.28**	.33**	.18**	—			
2. Sexual need satisfaction	.20**	.34**	.11	.25**	.56**	—		
3. Psychological well-being	.19**	.30**	.34**	-.05	.37**	.48**	—	
4. Relational quality (z)	.29**	.28**	-.07	.63**	.40**	.24**	.08	—

Note: Values in bold denote convergent within-couple correlations.
 ** $p < .05$.

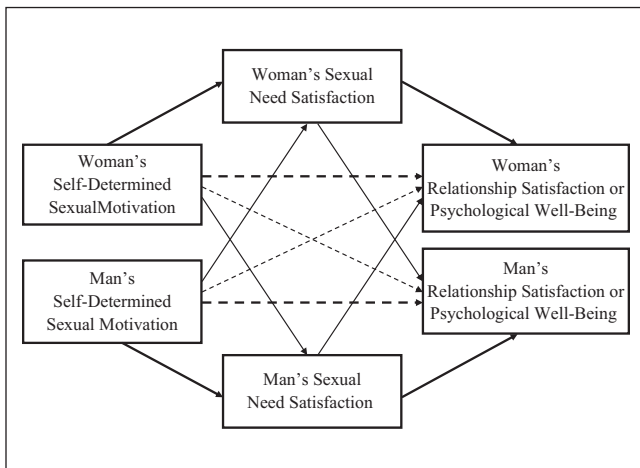


Figure 4. APIM incorporating mediation in the context of a path model.

Note: APIM = actor-partner interdependence model. Thick lines show actor effects. Thin lines show partner effects. Dashed lines show direct effects associated with Step 1 regressions. Solid lines show indirect effects controlling for direct effects associated with Step 2 regressions. Correlations between men's and women's respective measures (e.g., Women's Self-Determination with Men's Self-Determination) were included in the tested models but were omitted here for clarity.

Across these eight variables, the percentages for within-couple variance ranged from 23% to 70%; for the between-couple level, variance ranged from 30% to 77%. Thus, there was sufficient variance to model effects at the within- and between-couple levels. Independent variables were person-mean-centered for all MAPIM analyses. Although model intercepts were free to vary randomly, all slopes were fixed to allow for model convergence given the complexity of the expanded MAPIMs (Figures 5 and 6). Unlike Study 2, we could not test for moderation by sex because the analyses were tested at the couple level ($N = 44$), which includes both sexes.

Mediation Results. We tested hypotheses by running a series of MAPIMs that incorporated mediation (Figures 5b and 6b). In Figures 5a and 6a, we first ran the baseline MAPIM to test direct actor and partner effects, followed by testing their respective indirect effects by adding sexual need satisfaction as a mediator (Figures 5b and 6b). Because partner effects are more difficult to detect than actor effects (Kenny et al., 2006), and because we had no a priori hypotheses about partner effects, our tests of partner effects were exploratory and should be interpreted with caution.

Does sexual need satisfaction mediate the association between self-determined sexual motivation and psychological well-being? Tests of direct effects showed that, of the four possible MAPIM paths in Figure 5a, only the path from women's self-determined sexual motivation to men's psychological well-being was nonsignificant. In other words, men's and women's self-determined sexual motivation predicted their own psychological well-being, and men's self-determined sexual motivation also predicted women's psychological well-being.

We next added sexual need satisfaction to the model (see Figure 5b), which revealed that one of the direct effects was fully mediated. Specifically, the men's actor effect was fully mediated; men's self-determination was positively related to men's sexual need satisfaction, which was in turn positively related to men's psychological well-being. Women's sexual need satisfaction did not mediate the association between women's self-determined sexual motivation and women's psychological well-being.

Does sexual need satisfaction mediate the association between self-determined sexual motivation and relational quality? Tests of direct effects showed that, of the four possible MAPIM paths (Figure 6a), only the path from women's self-determined sexual motivation to men's relational quality was nonsignificant. In other words, men's and women's self-determined sexual motivation predicted

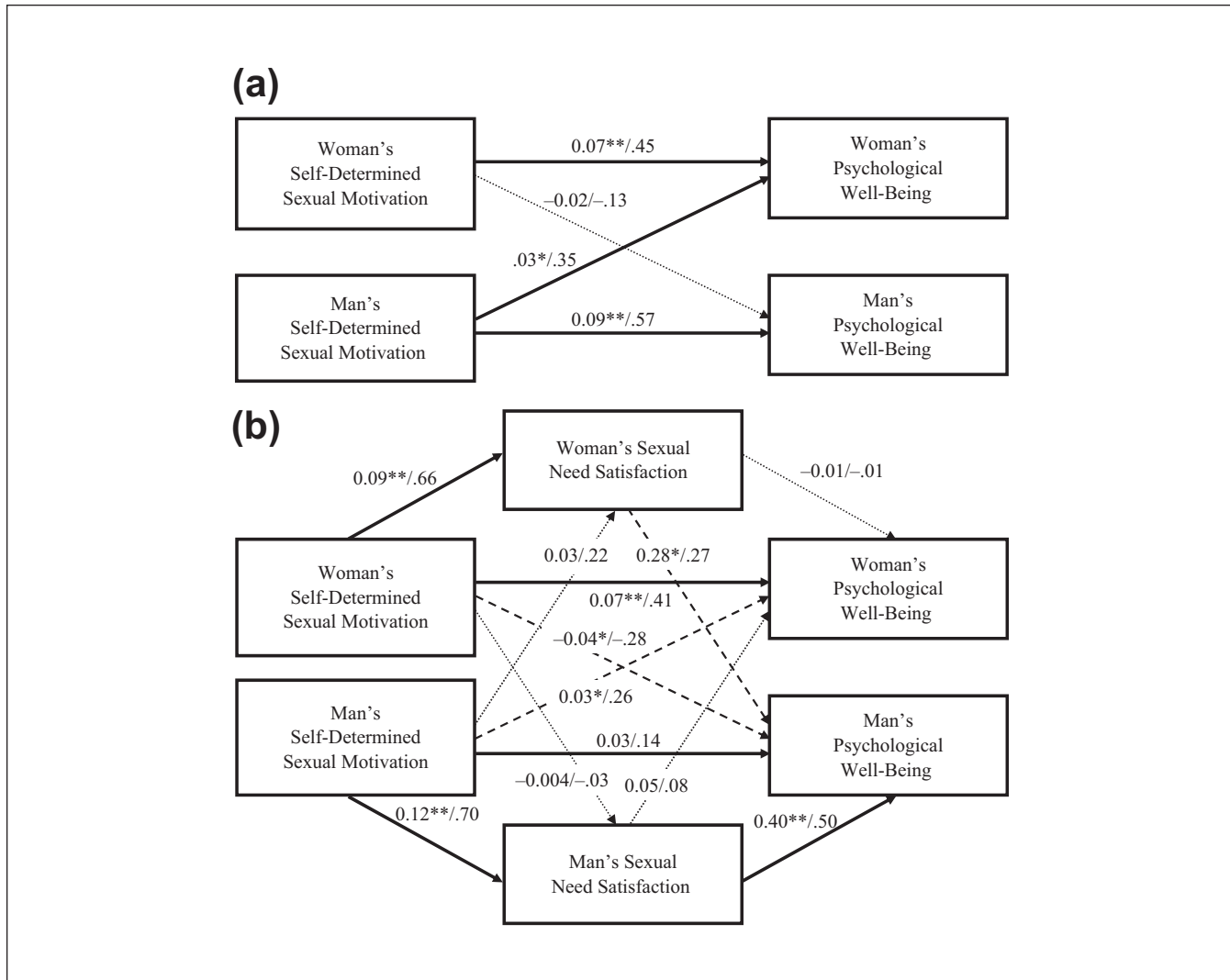


Figure 5. Study 3: APIM testing the association between self-determined sexual motivation and psychological well-being, mediated by sexual need satisfaction.

Note: APIM = actor-partner interdependence model. Figure 5a assesses direct effects; Figure 5b incorporates mediation. Solid lines show significant paths. Path numbers: Unstandardized regression coefficients/partial correlations. Correlations between men's and women's respective measures were estimated but not shown for clarity.

* $p < .10$. ** $p < .05$.

their own relational quality. In addition, the path from men's self-determined sexual motivation to women's relational quality was significant.

We next added sexual need satisfaction to the model (Figure 6b), which revealed that the men's actor effect was fully mediated. That is, men's self-determined sexual motivation was positively related to men's sexual need satisfaction, which was in turn positively related to men's relationship quality.

Summary. Despite a small sample, Study 3 revealed several noteworthy findings. First, several actor effects were significant and consistent with our hypotheses. For men and women, higher self-determined sexual motivation was associated with higher sexual need satisfaction, consistent with

Hypothesis 1. Hypothesis 2 was that interaction-level sexual need satisfaction would be associated with daily psychological well-being and relational quality, which again was supported by the data. Hypothesis 3 was that sexual need satisfaction would mediate the association between self-determined sexual motivation and outcome variables (psychological well-being and relational quality). Although for men and women higher self-determined sexual motivation and higher sexual need satisfaction were associated with greater personal well-being and relational quality, sexual need satisfaction mediated the associations between self-determined sexual motivation and outcomes for men only.

Study 3 also revealed several partner effects. First, men's self-determined motivation was positively associated with

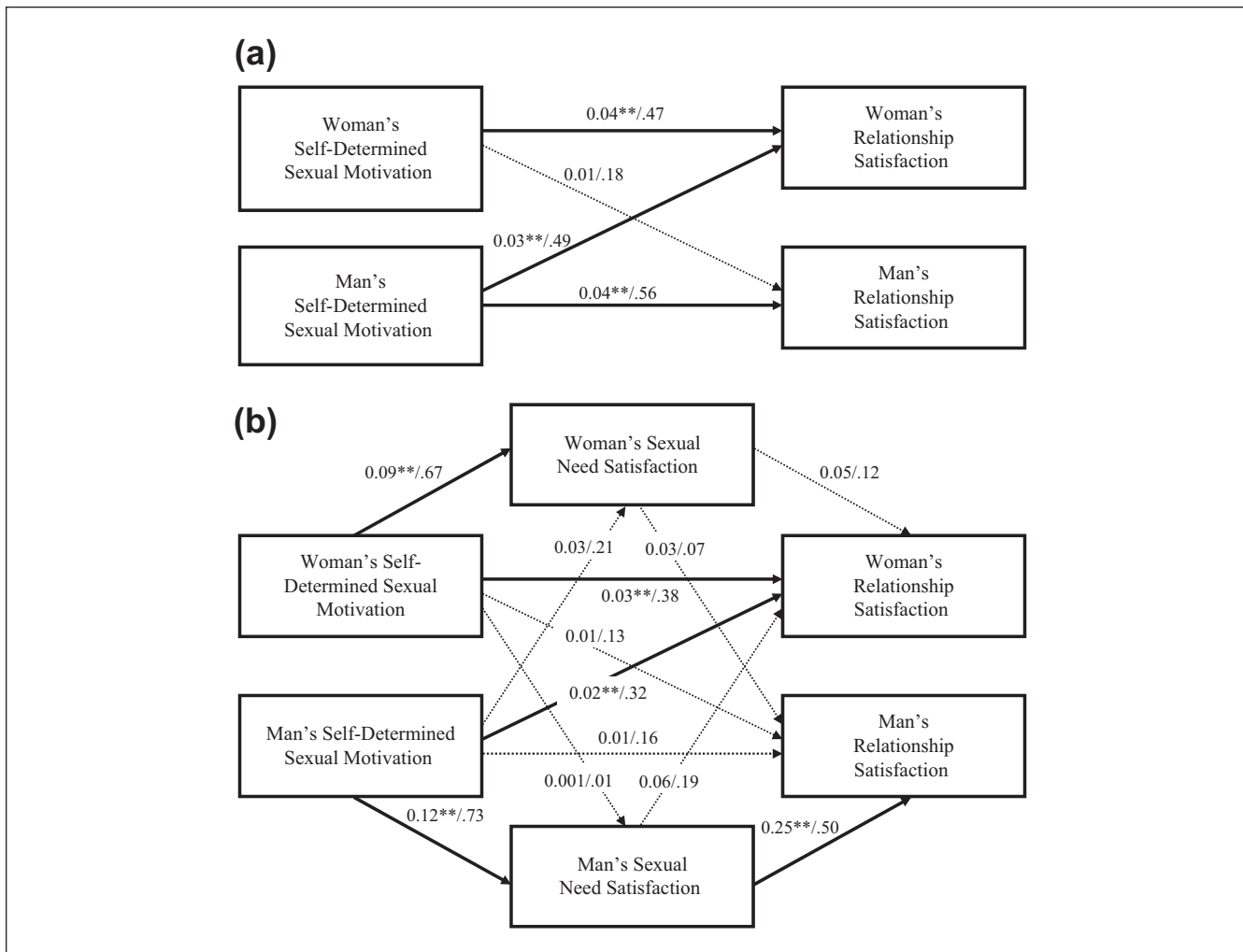


Figure 6. Study 3: APIM testing the association between self-determined sexual motivation and relational quality, mediated by sexual need satisfaction.
 Note: APIM = actor–partner interdependence model. Figure 6a assesses direct effects; Figure 6b incorporates mediation. Solid lines show significant paths. Path numbers: Unstandardized regression coefficients/partial correlations. Correlations between men’s and women’s respective measures were estimated but not shown for clarity.
 ** $p < .05$.

women’s psychological well-being and women’s relational quality. Women’s self-determined motivation was positively associated with men’s sexual need satisfaction. One limitation with the present study was the small sample size, which may have limited our power to detect any additional significant actor and partner effects.

Collectively, Study 3’s results largely corroborated results from Study 2 and showed that self-determined sexual motivation and sexual need satisfaction at the interaction level have direct and indirect effects on one’s daily psychological well-being and relational quality.

General Discussion

The Model of Self-Determined Sexual Motivation bridges the association between sexual motivation with psychological

and relational outcomes by examining the contribution of need satisfaction received through sexual activity. Across three studies, our findings yielded moderate effects in support of this model. Consistent with prior research, our findings showed that self-determined sexual motivation was positively associated with sexual need satisfaction (Jenkins, 2003; Sanchez et al., 2011; Smith, 2007), whether assessed more generally (Study 1) or at the interaction level (Studies 2 and 3). As hypothesized, when people’s sexual needs were met, they reported more positive outcomes, such as higher psychological well-being and relationship quality, even on days that no sexual interaction took place. This pattern of findings expands Smith’s (2007) findings that higher sexual need satisfaction was associated with higher interaction satisfaction and lower guilt and regret to include indices of psychological well-being as well as relationship quality, which in turn is

likely to have implications for relationship functioning among dating couples as it does in marriage (Bradbury, Fincham, & Beach, 2000). Self-determined sexual motivation enhanced well-being and relational quality, even on days when one did not engage in sexual activity. That sexual need satisfaction was positively related to outcomes is consistent with prior research showing that need satisfaction is linked to well-being (Reis et al., 2000; Sheldon et al., 1996) and relationship quality (La Guardia et al., 2000).

A particular strength of our research was that we were able to examine the extent to which one partner's sexual motivation was associated with the other partner's outcomes. Despite a small sample, we found that men's self-determined sexual motivation was associated with women's daily psychological well-being and relational quality, but the associations between women's sexual motivation and men's outcomes were not statistically significant. Both partners reported higher sexual need satisfaction when the other partner reported greater self-determination. Thus, it seems that when each partner is engaging in sex out of interest or enjoyment to a greater extent than out of pressure or control, they both experience more autonomy, relatedness, and competence from the interaction, which likely brings the couple closer together. Future research should continue to examine couples to better understand how one partner's sexual experiences relate to the other partner's behaviors, feelings, and outcomes.

SDT does not make specific predictions concerning gender differences, but whether or not they emerge may depend on the domain to which the theory has been applied. When the investigation concerns sexuality and intimacy, for example, gender norms might be more salient than they are in other domains (Sanchez et al., 2005; Smith, 2007). In Study 3, when men reported greater self-determined sexual motivation, the women reported higher psychological well-being and relationship quality, but women's self-determined sexual motivation was not significantly associated with men's reports of psychological well-being and relational quality. It could be that when men are more self-determined in their sexual behaviors, their partners view their interest in sex as a sign that their relationship is "on track" and feel good about themselves and their relationships. This process might matter more for women than for men because women tend to monitor their relationships for signs of problems to a greater extent than men do and also experience greater distress than men when problems arise (e.g., Impett & Peplau, 2006). Future research is needed to further understand gender differences in sexuality from a SDT perspective.

The set of studies reported here were designed to assess sexual experiences specifically, yet the question remains as to whether the questionnaires were also assessing motivation to be in the relationship and relational need satisfaction more generally. In other words, participants may have been taking aspects of their relationship into account when responding to

the questionnaires about their sexual interactions. This might be why sexual behavior one day was associated with outcomes several days later. Alternatively, it might be that the outcomes associated with one's sexual motivation are simply not fleeting, and might possibly be symptomatic of the relationship or one's feelings of self-worth.

Although we examined sexual need satisfaction, we did not examine the extent to which people felt satisfied with the sexual experience itself. Was the sex itself "good?" Did the individual feel the partner was a good sex partner? Future research should incorporate the distinction between sexual need satisfaction and sexual gratification when examining sexual motivation among relationship partners.

Our studies are not without limitations. First, our participants were obtained through convenience samples. People who choose to participate in sex research may hold more liberal attitudes about sex and sharing their sexual experiences. Despite this possible limitation, the experiences people reported in our studies are likely similar to experiences among young adult dating couples in general. Second, our samples only generalize to young adult heterosexual dating relationships. Future research is needed to replicate the present studies with older, married, or nonheterosexual samples to determine whether sexual motivation operates similarly or differently in these relationships. Third, we obtained unbalanced gender composition in two of our samples, which were skewed toward sampling college women. As women's reports may not generalize to men, future research should obtain more data from men to make the appropriate gender comparisons. Finally, given the correlational nature of our data, it is possible to propose a model that suggests that people who have higher relational quality or psychological well-being are more likely to behave in more self-determined ways in the bedroom.

Future research should also investigate individual differences in sexual motivation in relationships. For example, partner autonomy support (encouraging partners to be choiceful) might predict sexual motivation. Research on friendships found that receiving autonomy support predicted getting one's needs met in the friendship, improved relational quality, and was associated with higher psychological well-being (Deci, La Guardia, Moller, Scheiner, & Ryan, 2006). Giving autonomy support was also associated with higher relational quality. Thus, it appears likely that autonomy support would also have implications for sexual relationships.

Attachment style may also play a key role in sexual behavior. For example, Birnbaum (2007) showed that attachment anxiety in women was related to increased guilt about sex, lower satisfaction and intimacy during sex, and feeling that their partner was less caring and responsive to their needs during sex. Women who reported higher attachment avoidance, in contrast, reported less intimacy during sex, felt that sex was less likely to promote closeness and intimacy, and felt that their partners were less caring and responsive to

their needs. People's motives for having sex may explain these findings. For example, anxious-ambivalent lovers may have sex out of fear of losing their partners, whereas secure lovers may have sex to connect with their partners. Avoidant lovers may have sex for self-gratification rather than for closeness and intimacy. The Model of Self-Determined Sexual Motivation may be useful for understanding romantic attachment in sexual functioning.

Our findings have possible implications for sexuality education programs. Educational curricula could emphasize questioning, exploring, and assessing sexual attitudes to develop personal values, assertiveness, and the ability to resist sexual pressure rather than societal expectations, fear, and shame (Sexuality Information and Education Council of the United States, 2004). The present studies suggest that sexuality could be integrated into social psychological research and theory. Sexual behavior is central to human functioning and many social interactions involve sexual activity. Nevertheless, sex remains an underrepresented area of study in social psychology. We hope our research demonstrates the value and efficacy of researching human sexual behavior.

The present studies support sexuality as a central aspect of romantic relationships. When people were self-determined while having sex with their partners, they also experienced activity more positively, which had consequences for their personal and relational outcomes. We studied sexual behaviors using interaction diary techniques, which allowed for the investigation of the quantity and quality of specific interactions, and how these interactions were associated with outcomes. Such investigations are needed to better understand day-to-day sexual experiences. Finally, sexuality research has been criticized as lacking a theoretical context (Baumeister & Tice, 2001; Weis, 1998). A key advantage of the present studies was that they applied a rich theoretical context to understand how sexual motivation can be linked to psychological and relational outcomes.

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