

# In pursuit of 'good' sex: Self-determination and the sexual experience

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ABSTRACT

Self-determination Theory posits that psychological wellbeing stems from feeling autonomous, competent, and related. Prior research has found that people report that, on days in which they perceive these needs are met, they have good days, as evidenced by both positive mood and fewer physical symptoms. The current research examined the relationship between satisfaction of these needs and sexuality, hypothesizing that having sexual interactions in which these needs are met, will result in more satisfying and positive experiences. For 3 weeks, participants described and rated each of their sexual interactions. Results suggest that greater need satisfaction is related to more positive sexual experience. Differences in general-level needs were also examined as they moderated the above relationship.

KEY WORDS: motivation • need satisfaction • Self-determination Theory • sexual interactions • sexuality

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Research in human sexuality has begun to suggest that engaging in sexual activity can be good for the body. For example, Keesling (1999) reports on studies that have found that arousal and orgasm can produce improvements in our respiratory, immune, circulatory, and cardiovascular systems. Sexual activity can also be beneficial to our bodies more generally, leading

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to better strength, muscle tone, and flexibility. Sex can even make you look better; better circulation leads to better skin and shinier hair. Keesling also states that engaging in sexual behavior can relieve discomfort associated with menstruation and arthritis. Sexual behavior has also been linked to increased testosterone levels and decreased stress in men (Brecher, 1977).

If physical health can be enhanced by sexual activity, can mental health benefit as well? The answer is a little less clear cut. Some research suggests that there are potential psychological benefits of 'good' sexual arousal and behavior, such as decreased anxiety, depression, and increased vitality (Keesling, 1999), and increased life satisfaction (Lewis & Borders, 1995). Other research points out that 'bad' sexual behavior may have detrimental effects, including decreased couple adjustment (Davies, Katz, & Jackson, 1999) and couple communication (Trudel, Fortin, & Matte, 1997). But this begs the question: What is good sex? As Schnarch (1994) points out, 'nobody gets a yardstick that measures "good sex"' (p. 39).

In asking what good sex is, it may be useful to consider the Sheldon, Ryan, and Reis (1996) study based on Self-determination Theory (Deci and Ryan, 1985, 2000). Deci and Ryan's Self-determination Theory (SDT) suggests that people have certain innate psychological needs that must be met in order to experience psychological growth and wellbeing. In attempting to determine what a good day was, Sheldon et al. (1996) hypothesized that a good day was one in which people's basic needs were met. Their results suggested that this was the case. On days in which people's basic needs were met, they reported greater positive affect and vitality as well as less negative affect and fewer physical symptoms. A follow-up study replicated these findings and concluded that having these needs met did result in greater wellbeing (Reis, Sheldon, Gable, Roscoe, & Ryan, 2000). Thus, it stands to reason that if people have 'good' days when their fundamental needs are met, then 'good' sex would occur when these same needs are met.

It seems fruitful to examine SDT more closely as it may pertain to sexual behavior and outcomes. Various studies have examined the theory in romantic relationship contexts (e.g., Blais, Sabourin, Boucher, & Vallerand, 1990; Knee, Patrick, Vietor, Nanayakkara, & Neighbors, 2002), suggesting that SDT may play a role in interpersonal contexts. In addition, recent research examined the relationship between sexual satisfaction and individual aspects of SDT (e.g., Sanchez, Crocker, & Boike, 2005).

### **Self-determination Theory: A brief introduction**

Self-determination Theory attempts to explain how and why people engage in particular behaviors and the effect these processes have on personality growth and wellbeing. The theory is comprised of four mini-theories, one of which seems particularly relevant: *Basic needs theory* focuses on the link between people's need satisfaction and their personal growth and wellbeing. Sexual interactions may serve as one vehicle by which people's needs can be met (or in the case of 'bad' sex, thwarted).

**Basic needs theory**

SDT posits that people must meet three psychological needs in order to attain optimal functioning or ‘ongoing psychological growth, integrity, and wellbeing’: Competence, autonomy, and relatedness (Deci & Ryan, 2000, p. 229). These needs are also thought to be universal, regardless of whether people report having or caring about them (Ryan & Deci, 2000). Moreover, optimal functioning requires that all three needs are met; thwarting of any one of them will lead to suboptimal outcomes.

**Competence.** Competence involves people’s feelings and perceptions of their abilities in performing activities (Ryan & Deci, 2002). People can have their needs for competence met by encountering situations in which they do things that they are able to do. In other words, having met their need for competence, people feel confident in their abilities and tend to seek out situations in which they will have opportunities to try out these abilities.

**Autonomy.** Autonomy involves people’s perceptions that they choose their own actions. People who feel more autonomous feel that they are the reason, or source, of their actions. In other words, when autonomous, people feel that their behaviors originate from their ‘self.’ By contrast, people who feel less autonomous feel that the origin of their behavior comes from outside their ‘self’; they feel forced or coerced to behave in a particular way (Ryan & Deci, 2002). The need for autonomy is met when people feel that they are able to choose the behaviors in which they engage.

**Relatedness.** Relatedness refers to the need to feel connected to other people. People whose need for relatedness is being met feel that they are attached and joined to others and their community and experience a sense of belongingness (Ryan & Deci, 2002). Feeling related also includes feeling understood by others and that one is cared for.

**SDT and sexuality**

Although no research has specifically linked SDT with sexuality, a past review does suggest that such a relationship might exist. Several studies have examined how aspects of people and their sexual situations influence subsequent sexual outcomes. These studies provide evidence of how sexual activity needs affect perceptions, satisfaction, and wellbeing. Therefore, these studies shed light on how SDT relates to sexuality.

**Competence, autonomy, and relatedness in sexuality.** Research suggests that the needs posited by SDT may be important to positive sexual outcomes such as sexual satisfaction. Schnarch (1994), in his review of what makes for good sex, suggests several factors compatible with SDT. For example, he suggests that being ‘profoundly intimate’ in sexual relationships is one of the ‘pinnacles of personal development,’ thereby suggesting that relatedness, especially in the context of sex, is important for our personal development (p. 40). He also suggests that actively choosing what one wants to do during

sexual interactions (i.e., autonomy) is necessary for true self-understanding. More often than not, people enact scripts rather than consciously and actively selecting sexual behaviors. He also advocates abandoning the idea that sex is biologically wired to be good or not; true sexual satisfaction stems not only from having an orgasm, but from meeting needs such as improving technical skill (competence), asking for and engaging in desired sexual activity (autonomy), and trying to connect with our partners (relatedness).

Several studies have indirectly tested Schnarch's assertions. Apt, Hurlbert, Pierce, and White (1996) examined women's sexual and marital satisfaction and their effect on psychosocial wellbeing. Women who were the most satisfied with both their marriage and their sex lives reported greater life satisfaction and fewer symptoms when compared with those women who were dissatisfied with either one or both dimensions. More importantly, women who reported the most sexual satisfaction reported being more sexually assertive (e.g., expressing one's sexual desires) and having better sexual communication. Sexual assertiveness was the most important factor that distinguished sexually satisfied women from sexually dissatisfied women. This is relevant to SDT as sexually assertive women were fulfilling both their needs for competence (e.g., the ability to discuss their sexual desires and needs) and autonomy (e.g., choosing to discuss these needs). Assertive women also reported being happier in their marriage and having less marital conflict, suggesting that their relatedness needs were also met.

Sexual interactions that are not self-initiated may inhibit good sex. O'Sullivan and Allgier (1998) examined college students' reactions to unwanted sexual activity (i.e., not rape; participants were not interested but not forced). One-quarter of the men and one-half of the women in their sample reported engaging in some form of sexual activity that they were not really interested in pursuing. Of those interactions that were unwanted, approximately half entailed some negative outcome, such as emotional discomfort (e.g., guilt). Thus, it is possible that when people engage in behaviors that they do not actively choose, their autonomy need may be thwarted, thereby leading to more negative outcomes.

Sanchez et al. (2005) focused on the relationship between autonomy and sexual pleasure. Undergraduate participants provided one-time measures of their general sexual autonomy and sexual pleasure. Results indicated that there was a moderately strong positive relationship between sexual autonomy and sexual pleasure for both men and women.

The role of sexual self-esteem in perceptions of sexual interactions is also relevant to SDT. Sexual self-esteem, or 'one's positive regard and capacity to experience one's sexuality in a satisfying and enjoyable way' (Snell & Papini, 1989, p. 256) also represents one's assessments of one's sexual competence and skill. Thus, sexual self-esteem is relevant to competence needs. For example, women's concerns with their body (body image self-consciousness) were negatively related to sexual self-esteem (Wiederman, 2000). More specifically, women who were more concerned with appearing overweight or unattractive reported lower levels of sexual self-esteem. Further, these women reported greater avoidance of sexual activity, suggesting that the sexual arena was not meeting their needs for competence.

Research has also examined the importance of sexual locus of control, or the belief that one's sexual outcomes are under one's control (Catania, McDermott, & Wood, 1984). Those reporting higher internal sexual locus of control also report engaging in more sexual activities, lower anxiety associated with sex, and higher levels of sexual satisfaction. Thus, to the extent that sexual locus of control is relevant to autonomy needs (being in control of their sexual outcomes), it appears that autonomy is an important contributor to people's happiness both during and after their sexual interactions.

## Hypotheses

Using an event-contingent diary methodology, the current study examines the extent to which SDT facilitates understanding of reactions to intimate interactions. Specifically, variables associated with both the interaction and the person are predicted to be related to people's sexual interactions. The following hypotheses are proposed:

- *H1*: Sexual interactions in which people report feeling more autonomous, competent, and related will be associated with better outcomes (e.g., higher satisfaction, lower guilt);
- *H2*: Individual differences in people's sexual need satisfaction will also be related to people's perceptions of their sexual interactions, such that:
  - (a) People who typically feel competent and autonomous in their sexual lives will report feeling more autonomous, competent and related in their sexual interactions;
  - (b) People who typically feel competent and autonomous in their sexual lives will report better outcomes for their sexual interactions (e.g., higher satisfaction, lower guilt).

## Method

### Participants

All participants were undergraduate students from a large, diverse urban university in the Southwest US. To be chosen for the study, participants had to consider themselves 'intimately active,' defined as currently being receptive to intimate interactions with another person (ranging from heavy petting to sexual intercourse).

Initially, 273 participants (196 females, 77 males) completed one-time questionnaires at orientation sessions. Eighty-one participants were removed from this original sample due to an insufficient number of intimate interactions (Multilevel Random Coefficient Modeling (MRCM) analyses require two or more observations at Level 1). These 81 participants differed from those who had two or more observations only on sexual satisfaction, with those excluded reporting lower satisfaction,  $F(1, 268) = 7.72, p = .01, \eta^2 = .03$ . In addition, 28 participants were removed for failing to completely or correctly complete the one-time measures or diary measures.

The final sample consisted of 164 participants (33 males, 131 females). Participants' average age was 21.78 years (range = 17 to 49). The sample was racially diverse with 32.9% Caucasian, 17.1% Asian, 25.6% African American, 21.3% Hispanic, and 3.1% reporting 'Other.' The sample consisted of 130 nonvirgins and 34 virgins. Of the nonvirgins, average age at first intercourse was 16.45 years (ranging from 9 to 23). Over the 3-week data collection period, participants described 909 intimate interactions. The average number of interactions per person was 5.6 (range = 2–24). Although instructed to record only those interactions lasting 10 minutes or more, participants recorded interactions ranging in length from less than 5 minutes to 11 hours (660 minutes) (average = 54.43 minutes). Most interactions involved vaginal intercourse (61.9%) and 81% of these interactions involved contraceptive use. A majority of interaction partners were described as 'boyfriend/girlfriend' (75.1%) and were with partners with whom participants had intimately interacted with '10 or more times' (81.3%). Only 1.6% of the interactions were with people described as 'strangers.'

### **Procedure**

Participants were recruited from several psychology classes. Participants were informed that the study involved keeping records of all of their intimate interactions over 3 weeks and completing personality questionnaires. Potential participants were informed that they did not have to be sexually active (currently engaging in sexual intercourse) or nonvirgins, nor did they currently have to be in a relationship; anyone who considered themselves likely to be receptive to physically intimate contact in the following 3 weeks would be eligible. Participants were informed that they would receive extra credit in their classes in return for their participation, and that they would be entered into a raffle for five \$25 prizes for timely completion and submission of all materials. Interested students received information about the time, date, and location of 1-hour, same-sex, orientation sessions.

At the orientation sessions, participants were provided with a random six-digit identification number and were told to use that number for all study forms. Participants were asked to not provide their name, ensuring complete anonymity. Participants were informed that they would be providing information about their intimate interactions for 3 weeks through a diary form. In addition, each day, they would be asked to complete a form reporting how their day was in general. To receive study credit, participants had to return daily report forms and sexual diary forms 5 times over the course of the study. They were reminded that even if they engaged in no sexual interactions over the course of the study, they should complete and return all daily forms. Participants were also instructed that credit would be given for returning all forms and not for having a certain number of intimate interactions. Participants were again assured of complete anonymity and encouraged to be candid and honest on all aspects of the study. Participants completed several personality measures and were dismissed.

Participants completed the forms and followed the drop-off procedure as described above for 3 weeks. Winners of the five cash prizes were drawn before the debriefing sessions from the names submitted at each drop-off session. Debriefing sessions consisted of mixed gender groups. The study's hypotheses were explained and participants were asked if they had questions. The researcher then gave extra credit slips to those who had satisfactorily completed the study and awarded the prizes.

## Measures

**Intimate interaction diary form.** Participants' intimate interactions were recorded on an adapted version of the Rochester Interaction Record (RIR; Wheeler & Nezlek, 1977). Participants were instructed to record every intimate 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 to include interactions that involved physical contact in addition to sexual intercourse. Further, participants were instructed to complete the form as soon as possible after the event occurred (preferably within 8 hours) but not to let the recording interfere with the interaction.

For each interaction, participants provided situational information (e.g., interaction location, type of partner, activities engaged in, and protection used) and information about their reactions to the interaction. Reactions were rated using a 9-point rating scale ('Not at all' to 'Very much'). Participants indicated how they felt *during* the interaction on 10 dimensions and *after* the interaction on 9 dimensions. The dimensions, their definitions, means, standard deviations, and reliabilities, are provided in Table 1. Table 1 also includes composite scores of the three needs, which were constructed by averaging scores on the relevant dimensions.

**TABLE 1**  
**Interaction-level dimensions, definitions means, standard deviations, and reliability estimates**

Dimension	Definition	<i>M</i>	<i>SD</i>	Reliability
<b>Ratings of feelings/thoughts experienced <i>during</i> the interaction</b>				
Intimate	A measure of how close you felt to the other person during the interaction	7.23	2.02	.72
Desirable	A measure of how desirable you felt, or how much your partner wanted you during the interaction	7.67	1.61	.68
In control	A measure of the degree to which you felt in control during the interaction	6.98	1.98	.75
Respected	A measure of how respected and valued by your partner you felt during the interaction	7.91	1.63	.82
Loved	A measure of the degree to which you felt your partner had romantic feelings toward you during the interaction	7.58	2.25	.91
Pressured	A measure of how pressured you felt by your partner during the interaction	1.97	1.88	.71
Competent/able	A measure of how good you thought you were in terms of skill and ability during the interaction	7.01	2.11	.85
Choiceful	A measure of how able you were to do the things you wanted to do during the interaction	7.46	1.77	.77
Capable	A measure of the degree to which you felt you had the ability to do the things you wanted to do during the interaction	7.74	1.58	.78

Continued over

**TABLE 1**  
*Continued*

<b>Dimension</b>	<b>Definition</b>	<b><i>M</i></b>	<b><i>SD</i></b>	<b>Reliability</b>
<b>Ratings of feelings/thoughts experienced during the interaction</b>				
Genuine	A measure of how true to yourself you thought you were during the interaction	7.72	1.79	.80
Autonomy	A composite measure constructed from the average of pressured, choiceful, in control, and genuine	7.55	1.36	.82
Competence	A composite measure constructed from the average of competence and capable	7.38	1.62	.84
Relatedness	A composite measure constructed from the average of intimate, desired, loved, and respected	7.57	1.64	.85
<b>Ratings of feelings/thoughts experienced after the interaction</b>				
Satisfaction	A measure of how satisfied you were with the interaction after it was over	7.50	2.00	.68
Regretful	A measure of how regretful you felt after the interaction. Regret is a feeling you have after you have done something you wish you had not done.	1.89	1.71	.73
Guilty	A measure of how guilty you felt after the interaction. Guilt is a feeling you have after you have done something that goes against what you believe in.	1.82	1.71	.75
Relaxed	A measure of how comfortable or relaxed you felt after the interaction	7.31	2.07	.70
Content	A measure of the degree to which you got out of the interaction what you wanted	7.25	1.98	.77
Good	A measure of how the interaction measured up to what you expected	7.58	1.84	.75
Pleasant	A measure of how pleasurable or enjoyable the interaction was	7.62	1.81	.76
Positive	A measure of how the entire interaction made you feel	7.61	1.91	.76
Valuable	A measure of how worthwhile you think the interaction was	7.56	1.95	.78
GMSEX	A composite measure constructed from the average of content, good, pleasant, positive, and valuable	7.53	1.73	.78

*Notes.* Ratings were made on a 1–9 point scale, with 1 indicating ‘Not at all’ and 9 indicating ‘Very much’.

Reliability estimates were calculated using the HLM program, with  $N = 909$ . For a discussion of how these estimates are calculated using MRCM, please see Bryk and Raudenbush (1992, pp. 39–40).



**Dyadic Sexual Regulation Scale (DSR; Catania et al., 1984).** This 11-item scale measures the extent to which people believe that their sexual autonomy needs are being met. (e.g., ‘When I am not interested in sexual activity, I feel free to reject sexual advances made by my partner(s)’). Items tapped whether sexual outcomes are under their control (internal locus of control) or some other factor (e.g., the situation; external locus of control). Participants responded using a 7-point Likert-type scale (strongly disagree to strongly agree) ( $\alpha = .50$ ). Although locus of control has not traditionally been associated with autonomy, this scale does appear to measure autonomy as it focuses on the extent to which individuals feel able to choose whether or not to engage in sexual behaviors. This scale will be referred to as *general sexual autonomy*.

**Sexual Esteem Scale (Snell & Papini, 1989).** The Sexual Esteem Scale, a subscale of the Sexuality Scale, measures the degree to which people have positive regard for, and confidence in, their capacity to experience their sexuality in a satisfying and enjoyable way (e.g., ‘I would rate my sexual skill quite highly’). This 5-item scale uses a 5-point rating scale (‘Agree’ to ‘Disagree’) ( $\alpha = .88$ ). This scale was used as a measure of sexual trait competence and will be referred to as *general sexual competence*.

**Global Measure of Sexual Satisfaction (GMSEX; Lawrance & Byers, 1998).** To measure general satisfaction with their sexual relationships, participants considered the question: ‘Overall, how would you describe your sexual relationships?’ Participants responded on five 7-point semantic differential scales (e.g., ‘good–bad’, ‘pleasant–unpleasant’). Lower scores indicate higher sexual satisfaction ( $\alpha = .89$ ). To avoid confusion, the trait-level measure of GMSEX will be called ‘general sexual satisfaction’ and the interaction-level measure will still be called GMSEX.

In addition, the same items appeared on the interaction diary form as a measure of satisfaction with the intimate interaction. Given the diary form’s format, participants rated the five positive poles of the GMSEX scale (e.g., good and pleasant) on a 9-point scale (‘Not at all’ to ‘Very much’). The validity of the GMSEX interaction composite score was estimated by comparing the interaction-level measure with the trait-level measure. The interaction-level GMSEX was modeled as a function of trait-level GMSEX, indicating that the latter was predictive of the former,  $t(160) = 5.03, p < .01$ . Further, the addition of the trait-level measure to the model resulted in a 23% reduction in person-level variance (from 1.39 to 1.09) and a shared variance of .77. Taking the square root of this variance results in a correlation between interaction-level GMSEX and trait-level GMSEX of .48, suggesting an acceptable level of agreement.

## Results

### Individual difference correlations

Correlations were calculated to examine the relations between the various individual difference measures (all  $dfs = 164$ ). Measures of general sexual autonomy ( $r = .59, p < .01$ ) and sexual competence ( $r = .31, p < .01$ ) are both positively correlated with sexual satisfaction. General sexual autonomy was also significantly related to number of interactions experienced during the course of the study ( $r = .19, p < .05$ ). Thus, it does appear that individual differences in need satisfaction are associated with people’s sexual experiences.

### **Multilevel analyses**

The present data have a multilevel data structure in that events at one level of analysis (i.e., sexual interaction) were nested in another level of analysis (i.e., people). The data were analyzed with multilevel random coefficient models (MRCM) using the student edition of HLM Version 5.00 (Raudenbush, Bryk, & Congdon, 2000). Analyses were conducted at both the situation (Level 1) and person level (Level 2). To test hypotheses, the interaction level variables were divided into predictor variables and outcome variables. The predictor variables were the composite measures of interaction-level need satisfaction (competence, autonomy, and relatedness) while the outcome variables were satisfied, guilty, regretful, relaxed, and the GMSEX (see Nezlek, 2001, for a discussion of this analytic technique).

### **Need satisfaction and sexual outcomes**

The first hypothesis, that interactions in which people felt autonomous, competent, and related would be associated with better outcomes, was tested using a series of models that were unconditional at Level 2 and included the measures of interaction competence, autonomy, and relatedness at Level 1 (see Table 2).

**Satisfaction.** When entered separately, all three need composites were significantly related to reported satisfaction. This was true of both the one item measure of satisfaction and the GMSEX composite. Further, each composite measure of interaction need satisfaction significantly predicted satisfaction when they were included simultaneously. For the one-item measure of satisfaction the coefficients are autonomy ( $\gamma_{10} = .47, t = 3.91$ ), competence ( $\gamma_{20} = .23, t = 3.16$ ), and relatedness ( $\gamma_{30} = .38, t = 4.39$ ). For GMSEX, the coefficients are autonomy ( $\gamma_{10} = .39, t = 5.67$ ), competence ( $\gamma_{20} = .16, t = 2.99$ ), and relatedness ( $\gamma_{30} = .43, t = 7.25$ ). In sum, people who felt autonomous, competent, and related in their sexual interactions reported more satisfaction in those sexual interactions.

**Regret.** All three composite interaction measures were significantly and inversely related to feelings of regret. When composite measures of need satisfaction were entered simultaneously, only autonomy ( $\gamma_{10} = -.23, t = -2.45$ ) and relatedness ( $\gamma_{30} = -.20, t = -3.06$ ) remained significant.

**Guilt.** When entered separately, all three of the composites needs significantly predicted guilt. When all the composite need measures were included simultaneously, only relatedness ( $\gamma_{30} = -.21, t = -2.63$ ) remained a significant predictor of guilt.

**Relaxed.** When entered separately, all three of the predictors significantly predicted relaxed. In addition, when entered simultaneously, all three composite needs remained significant in the prediction of relaxed. The coefficients are autonomy ( $\gamma_{10} = .33, t = 2.87$ ), competence ( $\gamma_{20} = .17, t = 2.34$ ), and relatedness ( $\gamma_{30} = .45, t = 4.71$ ).

In sum, ratings of individual components of autonomy, competence, and relatedness as well as composite measures are significantly linked to both positive and negative intimate interaction outcomes. Specifically, consistent with Hypothesis 1, greater need satisfaction is related to experiencing more positive and fewer negative outcomes from sexual interactions.

**TABLE 2**  
**Within-person differences in the outcome measures as a function of**  
**interaction-level need satisfaction**

Predictor	Satisfy		GMSEX		Guilt		Regret		Relax	
	$\gamma_{10}$	<i>t</i> -ratio	$\gamma_{10}$	<i>t</i> -ratio	$\gamma_{10}$	<i>t</i> -ratio	$\gamma_{10}$	<i>t</i> -ratio	$\gamma_{10}$	<i>t</i> -ratio
Autonomy	.80	8.93	.68	10.58	-.27	-3.72	-.37	-5.18	.63	6.66
Competence	.64	7.95	.54	8.65	-.17	-2.54	-.21	-2.91	.56	6.96
Relatedness	.76	9.49	.71	11.68	-.33	-5.03	-.35	-5.96	.75	8.12

*Note.* All *t*-ratios > 1.98 are significant at  $p \leq .05$ .

The coefficients listed here are from models in which each predictor variable was entered individually.

### Individual differences, need satisfaction, and sexual outcomes

Hypothesis 2a predicted that individual differences in general competence and autonomy will positively predict feeling more autonomous, competent and related in sexual interactions. Hypothesis 2b predicted that individual differences in competence and autonomy will predict better sexual interactions outcomes. To test these predictions, analyses were performed in which the interaction level (Level 1) was unconditional (no variables were added). Individual difference variables (general sexual competence and general sexual autonomy) were added at the person level (Level 2). In addition, a gender contrast-coded variable (1 female, -1 male) and an interaction term were added at Level 2. None of the interaction terms were significant, however, and will not be discussed further.

**Competence.** As predicted, general sexual competence was significantly related to interaction competence, such that those who had higher general sexual competence reported higher competence in their sexual interactions,  $\gamma_{02} = .34$ ,  $t = 3.11$ . As was expected, general sexual competence was not predictive of autonomy or relatedness.

Analyses were also conducted to determine the relation between general sexual competence and the five sexual outcomes. The only significant finding was with GMSEX, such that those who report having high general sexual competence also report more satisfying sexual interactions,  $\gamma_{02} = .26$ ,  $t = 2.14$ . The satisfaction outcome approached conventional levels of significance,  $\gamma_{02} = .29$ ,  $t = 1.86$ ,  $p = .06$ . An additional model was run that added the composite measure of competence at Level 1 to examine the relationship between general sexual competence, interaction-level competence, and GMSEX. However, none of these coefficients were significant.

**Autonomy.** General sexual autonomy was a significant predictor of all three interaction composite need measures: Competence ( $\gamma_{02} = .24$ ,  $t = 2.33$ ), autonomy ( $\gamma_{02} = .25$ ,  $t = 2.21$ ), and relatedness ( $\gamma_{02} = .28$ ,  $t = 2.18$ ). Further, general sexual autonomy was a significant predictor of four of the five outcome variables: Satisfy ( $\gamma_{02} = .36$ ,  $t = 2.18$ ), regret ( $\gamma_{02} = -.27$ ,  $t = -2.94$ ), guilty ( $\gamma_{02} = -.21$ ,  $t = -2.97$ ), and GMSEX ( $\gamma_{02} = .30$ ,  $t = 2.37$ ). In sum, feeling that one has influence over their sexual outcomes is associated with increased need satisfaction and more positive sexual interactions.

Models incorporating each need composite measure and general sexual autonomy with each of the four outcomes measures provided mixed results. None of the composite need–satisfaction slopes (satisfy and GMSEX) were significantly affected by general sexual autonomy. The regret–competence relationship was affected ( $\gamma_{12} = .15, t = 2.14$ ), such that people with high general sexual autonomy exhibit a stronger positive relationship between competence and regret.

## **Discussion**

The present study was conducted to examine the relationship between the tenets of Self-Determination Theory (SDT) and sexual behavior. In general, the results are consistent with the hypotheses.

### **Need fulfillment and sexual interaction outcomes**

The first hypothesis stated that interactions characterized by feeling autonomous, competent, and related would be associated with more positive outcomes. Consistent with this prediction, composite scores of interaction autonomy, competence, and relatedness needs were significant predictors of all five outcome variables in the hypothesized direction. Specifically, greater need satisfaction was associated with more positive and less negative outcomes. Of particular interest, when entered simultaneously, all three need composites significantly predicted satisfaction, relaxation, and Global Sexual Satisfaction (GMSEX). Each need is uniquely related to these positive outcomes.

When entered simultaneously, however, the three composite need measures did not uniquely predict negative outcomes of guilt and regret. For regret, only autonomy and relatedness were significant predictors; for guilt, only relatedness remained significant. It is possible that when one feels related to the partner, there may be less of a sense that certain activities are forbidden or are off-limits. Perhaps participants feel less like they have done something they should not have done in general (regret) or their behavior went against their beliefs (guilt). If this is true, then higher feelings of relatedness should be linked to feeling less guilty and regretful. Since neither guilt nor regret is related to how well someone performs a behavior but is related to the choice of behavior, it is not surprising that competence was unrelated to either of these outcomes.

It is less clear, however, why autonomy predicted regret but not guilt. Perhaps regret stems only from an evaluation of one's actions whereas guilt stems from a comparison between behavior and one's character. Therefore, people who feel autonomous may feel greater regret because they realize they made the decision to behave as they did. However, having more interaction autonomy may not lead one to compare that behavior to one's own moral code. Therefore autonomy may not be related to guilt. It is possible that regret stems from negatively evaluating one's own behavior, whereas guilt results from negatively judging one's character.

**Individual differences and interaction need satisfaction**

Hypothesis 2a predicted that people who have higher trait sexual competence and autonomy would report interactions in which they felt greater need satisfaction. Hypothesis 2b also predicted that people who have higher trait sexual competence and autonomy would report interactions characterized by more positive and less negative outcomes.

**General sexual competence.** As predicted, individuals with greater general sexual competence reported greater feelings of competence in their sexual interactions. General sexual competence, however, was related to only one interaction outcome measures, GMSEX. This general measure does not appear to be as predictive of sexual outcomes as it is of need satisfaction.

**General sexual autonomy.** As hypothesized, general sexual autonomy significantly predicted interaction autonomy. In addition, it positively related to composite relatedness and competence. Perhaps those who feel that sexual outcomes are under their control and direction also feel more connected with their partner because sexual outcomes are seen as a interaction outcome (i.e., ‘it takes two to tango’). Further, people who feel sexually autonomous may feel more competent generally, as reflected in the interaction-level competence. Consistent with this supposition, general sexual autonomy correlated positively with general sexual competence.

People with greater general sexual autonomy reported more positive sexual interactions (e.g., reduced guilt and regret as well as increased satisfaction). This is consistent with research indicating that general sexual autonomy is positively related to sexual satisfaction and decreased anxiety (Catania et al., 1984; Sanchez et al., 2005). Moreover, as general sexual autonomy increases, the relationship between regret and competence increases as well. Perhaps sexually autonomous individuals realize that they are in control of their sexual outcomes (i.e., positive sexual outcomes do not just happen by chance). If they do not feel competent to engage in certain activities in a given interaction, then they may wish they had engaged in another behavior or avoided a behavior that did not work.

In sum, there were significant relationships between general need satisfaction, interaction need satisfaction and sexual outcomes. Readers should remember that measurement of the individual differences and the interactions were separated in time. This procedure decreases the likelihood that the relationship between the trait and interaction measures occurred because of people’s attempt to be consistent across measures (i.e., a priming effect or shared method variance). Thus, these results indicate that chronic need satisfaction is related to how people evaluate their sexual interactions. This is an important result and speaks to the predictive ability of SDT’s needs concept. Along with other research on need satisfaction and daily outcomes (e.g., Reis et al., 2000; Sheldon et al., 1996), this is the first research that directly examines how general need satisfaction relates to interaction-level need satisfaction specifically, and further, how those individual differences between people moderate the relationship between their interaction-level need satisfaction and interaction outcomes.

**Limitations and future directions**

Although this study advances knowledge concerning human sexuality in relationships generally and SDT more specifically, there are several limitations that should be considered. It was not possible to randomly sample participants for the study. Further, participants agreed to participate in a study they knew focused on human sexuality involving the description of sexual interactions. These factors may limit this study's generalizability. It may be the case that participants may have more sexually liberal attitudes or were more comfortable with their sexuality than nonparticipants. The distributions of the general measures were all normal, suggesting that this sample was not different from what would be expected in a more random sample.

In addition, participants did not indicate if the study period was typical of their sexual lives. Diaries were maintained for 3 weeks, and this period is assumed to be randomly sampled from the participant's population of weeks (and thus should not differ from other similar periods). Therefore, the omission of a typicality measure may not be of great concern. The college students, however, may have been separated from their regular sexual partner for some reason (e.g., illness or midterms) and did not engage in the full range of sexual activities typical for that period of time. Therefore, future research should ask about any factors that may have influenced their sexual interactions (either positively or negatively) during the study period.

Participants' demographic characteristics may also affect this study's generalizability. Despite a wide age range, most participants were in their early 20s. Therefore, the picture of human sexuality drawn by these data may not generalize to other stages of life. For example, participants that are either younger (e.g., high school students) or older (i.e., middle aged, elderly) may have different sexual experiences and reactions to these experiences.

Finally, the small proportion of men is potentially problematic. Gender differences in need satisfaction or in the relationship between need satisfaction and sexual outcomes are possible, however, the small sample of men did not allow for their detection. Although SDT does not predict gender differences, sexual activity may polarize the sexes to a greater extent than other domains where SDT has been examined (e.g., academics, job satisfaction) because gender norms for sexual behavior are salient, even from an early age (e.g., Sanchez et al., 2005). Moreover, gender differences are 'contextually specific' (Acitelli & Young, 1996, p. 149) and are more likely to emerge in situations that differentially affect and influence women and men. Thus future research should focus on gender differences in the need satisfaction and their outcomes, especially in a highly gender-salient context like sex.

Because very few examinations of SDT and sexuality exist, many other research avenues could be pursued. Without question, future research should include other SDT components or mini-theories. For example, Organismic Integration Theory suggests that behaviors enacted from intrinsic motivation will result in different psychological outcomes than behaviors enacted

from extrinsic motivation (Kasser & Ryan, 2001). Thus, individuals with intrinsic sexual motivations (e.g., for enjoyment of the activity) may differ from people with extrinsic sexual motives (e.g., to validate feelings for their partner) in terms of both need satisfaction and sexual outcomes.

It is also very important to extend this research from an individual perspective to a dyadic one. Using dyads could enhance our understanding of how need satisfaction is influenced by both partners' characteristics and the context. For example, does interaction need satisfaction among two sexually autonomous partners differ when compared with couples where only one partner is sexually autonomous? Further, the relationship between differences in need satisfaction between partners could be examined, possibly as it relates to overall sexual satisfaction and relationship satisfaction.

## **Conclusion**

Sex is a very important part of lives and relationships. Sex no longer serves a solely procreative function, and is seen as a vehicle through which people can enhance relationships, cope with stress, affirm themselves, and even receive approval from their partners and peers (Cooper, Shapiro, & Powers, 1998). Sexual satisfaction is also related to general psychosocial wellbeing and life satisfaction (Apt et al., 1996). Thus, it is important that researchers examine what makes for 'good' sexual interactions rather than looking at sexual satisfaction as a product of luck or just a given. Moreover, research should adopt both Ryan and Deci's (2000) eudaimonic (psychological) and hedonic (physical) views of 'good' when examining sexual (dis)satisfaction. Eudaimonic wellbeing is a deeper, more comprehensive and psychological sense of good than hedonic wellbeing. Certainly, good sex should lead to positive mood and physical satisfaction (hedonic wellbeing). However, to the extent that sexuality is tied to one's self as well as the body, it should also lead to eudaimonic (psychological) wellbeing (e.g., Anderson & Cyranowski, 1995; McCabe & Cummins, 1998). The current study represents a first step in examining what makes for good sex of both types.

This study provides general support for SDT. Deci and Ryan's (2000) conceptualization of needs appears to be applicable to sexual outcomes, both in terms of fostering positive and avoiding negative outcomes. The present study speaks to the generalizability of SDT theory in its ability to explain human behavior in a variety of contexts.

Finally, the current study also attempts to explain and link a variety of findings in the sexuality literature by placing them under a single theoretical framework. Sexuality research is often criticized as being too atheoretical. This may or may not be true, but this study provides an example of how personality and social psychological methods and theories can be used to examine sexual behavior. Social and personality psychology seem logical and obvious perspectives for examining how personality, environment, and social context affect sexual experiences, attitudes, behaviors and relationships

(Byrne, 1977). Certainly, the study of relationships in general has benefited from the use of these perspectives. In this study, both person-level (personality) and interaction-level (situational) variables were integral in explaining the outcomes of sexual behavior. It is hoped that this type of research becomes more common as the merging of sexuality and social psychology becomes a very fruitful union.

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