

The Association Between Sexual Motives and Sexual Satisfaction: Gender Differences and Categorical Comparisons

Kyle R. Stephenson · Tierney K. Ahrold · Cindy M. Meston

Received: 6 August 2009 / Revised: 1 March 2010 / Accepted: 26 June 2010 / Published online: 22 October 2010
© Springer Science+Business Media, LLC 2010

Abstract Past research suggests that sexual satisfaction may be partially dependent on sexual motives (the reasons people have sex). The primary goal of this study was to determine which of a wide range of empirically derived sexual motives were related to sexual satisfaction, and whether gender differences existed in these relationships. Examining data from 544 undergraduate participants (93 men, 451 women), we found that certain types of motives predicted levels of sexual satisfaction for both genders. However, a greater number of motive categories were related to satisfaction for women than for men, and sexual motives were a more consistent predictor of satisfaction in general for women than for men. We also found that empirical categories of motives predicted more variance in satisfaction ratings than did previously used theoretical categories. These findings suggest that a wide range of sexual motives are related to sexual satisfaction, that these connections may be moderated by gender, and that empirically-constructed categories of motives may be the most effective tool for studying this link.

Keywords Sexual satisfaction · Sexual motives · Gender differences

Introduction

Subjective sexual motivation, or the conscious reasons why people engage in sexual activity, has received limited attention in the sexuality literature, with most theories focusing on a universal, biologically based sexual drive (Hill & Preston,

1996). Masters and Johnson (1966) described the sexual response cycle as resulting primarily from a single inherent drive to orgasm and more recent theories have continued to conceptualize “sexual motivation” as a uniform drive which can be triggered by factors like hormone levels and nutrition deficits (Singer & Toates, 1987). While the biological basis of sexual drive is indisputable, such theories have tended to downplay the role of the conscious, subjective reasons why people engage in sexual activity or to frame these reasons as interchangeable types of “input.” We contend, however, that distinguishing between different motives is important because different reasons for having sex may lead to different sexual outcomes.

Researchers have described and measured a broad range of subjective sexual motives. For example, Nelson (1978) described motives of love, pleasure, conformity, recognition, and power, and Regan and Dreyer (1999) proposed personal, other, social environment, physical environment, and interpersonal motives. Even contemporary biologically based theories highlight the importance of complex webs of conscious goals and incentives, such as lowering levels of anxiety (Toates, 2009). However, there is no generally accepted theory of subjective sexual motives, leading to inconsistencies in how these motives are defined and studied. Some researchers have argued for as few as four sexual motives (Impett & Tolman, 2006) and others have described as many as 237 distinct reasons for having sex (Meston & Buss, 2007). And, while some researchers have grouped specific motives into intuitive face-valid categories (e.g., love and affection; Nelson, 1978), others have organized motives along theoretical lines (Cooper, Shapiro, & Powers, 1998) or empirically-derived factors (Meston & Buss, 2007).

Two methods of organizing sexual motives have been validated. The first is theory driven and involves creating categories based on key motivational dimensions of human behavior, selecting sexual motives that characterize these dimensions, and confirming this organizational structure using factor

K. R. Stephenson (✉) · T. K. Ahrold · C. M. Meston
Department of Psychology, University of Texas at Austin,
108 E. Dean Keeton, Austin, TX 78751, USA
e-mail: krstephenson@gmail.com

analysis. This method typically results in relatively heterogeneous categories of motives, each encompassing a diverse range of reasons to have sex. The most extensively validated scale of this type was created by Cooper et al. (1998). Their scale organized motives along two theoretical continua: approach/avoidance and individual/social. Approach motives involve having sex to obtain a positive outcome (e.g., physical pleasure, feelings of intimacy) whereas avoidance motives involve having sex to avoid a negative outcome (e.g., to avoid conflict, to decrease feelings of stress). Either of these types of motives can be individually based (i.e., related to subjective emotions and sensations) or socially based (i.e., related to one's relationship with a romantic partner or a wider peer group).

The second validated method of organizing sexual motives is statistically driven and involves generating a large number of diverse sexual motives and subjecting them to exploratory factor analysis. Categories are thus created atheoretically, based solely upon intercorrelations between specific motives, resulting in relatively homogeneous groups of motives. The YSEX? scale (Meston & Buss, 2007), a 142-item measure of reasons for having sex, was recently created using this method.

This variability between sexual motivation scales, both in the number of sexual motives identified and the manner in which the scales are constructed, makes comparisons across studies difficult. Researchers studying how different sexual motives relate to factors of interest may obtain drastically different results, both conceptually and computationally, depending on their methods of measurement. Although both methods described above have been validated, there has been no research examining which specific method provides the most accurate and effective means of measuring sexual motives. The current study directly compared multiple methods of organizing sexual motives to determine which provided the most accurate prediction of a relevant external factor: sexual satisfaction.

Sexual motives have previously been linked to a number of sexual and relational outcomes, including risky sexual behavior and relational functioning. For example, coping motives have been linked to greater sexual risk-taking (Cooper et al., 1998), enhancement motives are related to number of sexual partners (Grossbard, Lee, Neighbors, Hendershot, & Larimer, 2007; Winifred, Kuyper, & Greunsven, 2003), and pleasure motives predict condom use (Browning, Hatfield, Kessler, & Levine, 2000; Hill & Preston, 1996). Additionally, Impett has conducted a series of studies showing that approach sexual motives positively predicted day-to-day relationship satisfaction, closeness, and fun. These motives also negatively predicted conflict within relationships (Impett, Peplau, & Gable, 2005) and may serve as a buffer against decreases in sexual desire over the course of a relationship (Impett, Strachman, Finkle, & Gable, 2008).

Impett and Tolman (2006) conducted the only study of which we are aware that directly explored the link between sexual motives and sexual satisfaction. They found that endorsement of approach sexual motives was positively associated with

satisfaction regarding the most recent sexual episode in adolescent girls. To our knowledge, there have been no studies to date examining the link between sexual motives and overall sexual satisfaction, and none that examine how this relationship may differ for adult men and women.

Sexual satisfaction is a broad construct closely intertwined with quality of marriage, quality of life, general welfare, and happiness (Davison, Bell, LaChina, Holden, & Davis, 2009; Dunn, Croft, & Hackett, 2000; Sprecher, 2002). A decline in sexual satisfaction has been associated with an increased likelihood of divorce (Edwards & Booth, 1994; Sprecher, 2002), even after controlling for general marital happiness (White & Keith, 1990). Conversely, a satisfying sexual life has been positively associated with general well-being, overall life satisfaction, and happiness (Apt, Hurlbert, Pierce, & White, 1996; Laumann, Palik, & Rosen, 1999; Ventegodt, 1998).

While a number of sexual variables have been shown to partially predict sexual satisfaction, these have primarily been limited to the “what” of sexual activity (e.g., sexual functioning) (Hurlbert, Apt, & Rabehl, 1993; Morokoff & Gilliland, 1993). However, recent findings suggest that sexual functioning, although important, may be only weakly tied to sexual satisfaction in some cases, especially for women (Ferenidou et al., 2008; Hayes et al., 2008; King, Holt, & Nazareth, 2007), implying the existence of other important factors. One of these factors may be the “why” of sexual activity. In other words, the reasons that individuals engage in sexual activity may play an important role in determining their satisfaction with their sex lives. While there are few studies to date to support this supposition (aside from Impett & Tolman, 2006), it makes intuitive sense that people's satisfaction with their sex lives would be dependent upon whether or not they meet their unique sexual goals. For example, feelings of closeness and love during sex would likely be less important to an individual who has sex primarily for pleasure than to an individual who has sex to experience feelings of intimacy. The first step in testing such hypotheses is establishing the link between sexual motives and sexual satisfaction.

In sum, given the importance of sexual satisfaction and our limited understanding of the factors that contribute to sexual satisfaction, the primary goal of the current study was to determine which of a wide variety of sexual motives was related to satisfaction levels. To do this, we utilized previously collected data using the YSEX? questionnaire (Meston & Buss, 2007). We were able to expand on previous research examining the link between sexual motives and satisfaction by using comprehensive and validated measures of both sexual motives and sexual satisfaction, including men and women in our sample to allow for gender comparisons, and controlling for sexual functioning and other variables known to be related to sexual satisfaction. A secondary aim of the current study was to compare statistically derived and theoretically derived scales of motives to provide initial evidence as to which type of organizational

method allowed for the most powerful and accurate measurement of the relationship between sexual motives and sexual satisfaction.

Method

Participants

We analyzed responses from 544 undergraduates (93 men, 451 women) who volunteered for course credit Fall 2000–Spring 2004.¹ The mean age of participants was 18.9 years ($SD = 1.3$). The majority of participants were Euro-American (63%), with 16% Hispanic, 14% Asian-American, 4% African American, 2% mixed race or “other,” and 1% with ethnicity data missing. Also, the majority of participants reported a heterosexual or mostly heterosexual sexual orientation (91%) and a small minority reported homosexual experience as “some” or more (9%). Most participants (91%) were sexually active at the time of the survey.² The age difference between men ($M = 19.0$ years, $SD = 1.4$) and women ($M = 18.8$ years, $SD = 1.3$) was not significant, $F(1, 539) < 1$.

Measures

Sexual Satisfaction

To measure sexual satisfaction, we used a version of the Sexual Satisfaction Scale–Women (SSS-W; Meston & Trapnell, 2005) modified for use in men and women. The SSS-W is a 30-item questionnaire that includes five domains supported by factor analysis (contentment, communication, compatibility, personal concern, and relational concern). Items have Likert scale response choices between 1 and 5, with higher scores indicating greater satisfaction. Modifications to the scale removed mention of gender (e.g., the item “I’m worried that my partner might view me as less of a woman because of my sexual difficulties” was changed to “I’m worried that my partner may view me as less of a person because of my sexual difficulties”). The original scale has been shown to have excellent reliability (Cronbach’s $\alpha = .94$) and convergent and divergent validity in women with and without sexual dysfunction and relationship dissatisfaction. Though the SSS-W has not yet been validated in men, the reliability in the total sample was excellent (Cronbach’s

$\alpha = .95$). Means and SD s for the current sample are shown in Table 1.

Sexual Motives

Sexual motives were measured using the YSEX? scale (Meston & Buss, 2007), a 142-item measure of reasons for having sex. Participants were instructed to indicate how frequently each reason led them to have sex in the past. If participants had not had sex in the past, they were instructed to indicate the likelihood that each reason would lead them to have sex. This scale has been empirically validated and has been shown to be internally reliable, with individual factor reliability coefficients ranging from .70 to .89. Item responses were summed to generate the 13 subscale scores supported by Meston and Buss’ (2007) factor analysis.

A secondary goal of the current study was to compare two methods of organizing sexual motives—theoretical and empirical. Given our data set, we were unable to include the exact items found in other previously used motives scales. However, because of the broad range of motives included in the YSEX?, it was possible to create scales that approximated the content and structure of previously used theoretically based scales.

Proxy Scales Two PROXY scales were created using items in the YSEX?. The first (2-factor PROXY) was created by drawing items from the YSEX questionnaire that best matched the items used by Impett et al. (2005) to measure approach and avoidance motives. Internal consistencies for the scales in this study were in the acceptable range (approach $\alpha = .66$ and avoid $\alpha = .63$). Items, means, and SD s for the current sample are shown in Table 2.

The second proxy scale (4-factor PROXY) was made to adhere to the original 4-factor structure as proposed by Cooper et al. (1998): approach individual, approach social, avoidance individual, and avoidance social. To create these scales, two graduate student raters independently selected whether each of the 142 YSEX? motives was representative of either the approach or avoidance category and whether each was representative of the individual or social category. Raters could also respond that motives fit into neither category. All motives that were placed in the same category by both raters were included in the relevant scale. Those that were rated as ambiguous or those that were rated differently by the two raters were dropped from the new scales. This is similar to the method used by Regan and Dreyer (1999) to create theoretical categories of motives. Internal consistencies of the resultant scales were acceptable, Cronbach’s $\alpha = .90, .84, .70, \text{ and } .80$ for Approach-Individual, Approach-Social, Avoidance-Individual, and Avoidance-Social, respectively. Means and SD s for the current sample are shown in Table 2. Items are listed in the Appendix. In both PROXY scales, higher scores indicate

¹ Data from 214 participants were excluded due to missing gender information ($n = 5$) or participant report of no current relationship ($n = 209$).

² To address the issue of administering the FSFI to sexually inactive participants (Meyer-Bahlburg & Dolezal, 2007), we conducted an additional set of analyses comparing the results of currently active to inactive individuals and found no differences in direction or significance level of the findings. Thus, all reported findings reflect the full set of participants.

Table 1 Means and *SDs* for YSEX? subscales, sexual functioning, and sexual satisfaction

Variable	Range (absolute)	Men (<i>N</i> = 93) <i>M</i> (<i>SD</i>)	Women (<i>N</i> = 451) <i>M</i> (<i>SD</i>)	<i>F</i>	<i>p</i>
YSEX? subscales					
Stress reduction	12–60	19.20 (7.87)	17.26 (6.49)	25.2	<.001
Pleasure	8–40	25.94 (7.66)	24.35 (7.83)	2.2	ns
Physical desirability	10–50	21.56 (8.94)	18.14 (8.43)	26.2	<.001
Experience-seeking	15–75	29.89 (11.15)	26.79 (10.63)	11.5	<.001
Resources	13–65	14.51 (4.80)	13.70 (1.93)	31.8	<.001
Social status	11–55	13.02 (4.68)	11.70 (2.05)	50.9	<.001
Revenge	9–45	10.70 (3.85)	9.99 (2.25)	21.7	<.001
Utilitarian	10–50	12.26 (4.50)	11.48 (2.81)	25.2	<.001
Love/commitment	13–65	31.54 (11.65)	31.32 (10.66)	<1	ns
Expression	7–35	12.38 (5.49)	12.20 (4.98)	<1	ns
Self-esteem	9–45	12.25 (4.74)	11.86 (4.38)	2.1	ns
Duty/pressure	13–65	18.08 (6.93)	16.87 (5.27)	10.7	<.001
Mate guarding	9–45	12.35 (5.27)	11.49 (4.29)	3.9	ns
Sexual satisfaction (total)	43–150	111.94 (20.04)	117.11 (23.47)	<1	ns
Contentment	6–30	19.13 (6.04)	20.66 (6.22)	<1	ns
Communication	6–30	22.25 (4.50)	23.69 (5.26)	2.5	ns
Compatibility	6–30	22.17 (5.25)	22.32 (5.82)	<1	ns
Concern: personal	6–30	24.34 (5.45)	24.92 (5.61)	<1	ns
Concern: relational	6–30	24.05 (5.60)	24.52 (5.88)	<1	ns
FSFI (w/o satisfaction) ^a	0–30	16.7 (6.9)	19.9 (7.6)	5.0	ns
Drive	0–6	4.2 (.1)	4.0 (1.2)	<1	ns
Arousal	0–6	4.1 (2.0)	4.3 (1.7)	<1	ns
Lubrication (physiological arousal)	0–6	2.7 (2.1)	4.2 (2.1)	34.2	<.001
Orgasm	0–6	3.1 (2.1)	3.2 (2.1)	<1	ns
Pain	0–6	1.3 (1.9)	3.7 (2.3)	32.3	<.001

Note: Means were computed by summing responses for individual items. Scale means were computed by summing subscale score

^a For the FSFI only, in women, subscale *Ns* ranged from 315 to 448 and in men ranged from 32 to 93

Table 2 Means and *SDs* for 2-factor and 4-factor PROXY scales in current sample

Scale	Items	Range (absolute)	Men <i>M</i> (<i>SD</i>)	Women <i>M</i> (<i>SD</i>)
Approach	5	5–25	13.05 (3.87)	12.92 (3.41)
Avoidance	3	3–15	4.38 (2.04)	4.15 (1.69)
Approach-Individual	19	19–95	46.41 (13.84)	42.35 (13.42)
Approach-Social	14	14–70	26.02 (9.05)	24.45 (7.06)
Approach-Individual	3	3–15	4.68 (2.10)	4.32 (2.85)
Avoidance-Social	7	7–35	9.55 (4.02)	8.83 (2.85)

greater endorsement of that reason category as a common reason for having sex.

Although the creation of proxy scales was undertaken out of practical necessity, this method allowed for a relatively efficient comparison of organizational methods. By using the same individual items and changing only the content and number of subscales, we were able to compare theory driven and empirically driven methods of organizing motives without the measurement error that would result from using the differently worded items found in the original theoretical scales. In this

way, we were able to effectively target the effects of differing organizational methods rather than surface-level differences between scales.

Sexual Functioning

As it has been shown that sexual functioning tends to be lower in individuals reporting low sexual and relationship satisfaction and higher in individuals reporting higher satisfaction (Hurlbert et al., 1993; Morokoff & Gilliland, 1993), we controlled for

levels of sexual functioning. Sexual functioning was assessed using a version of the Female Sexual Function Index (FSFI; Rosen, Brown, Leiblum, Meston, & Shabsigh, 2000) modified for use in both genders (e.g., instead of “Over the past 4 weeks, how difficult was it to become lubricated or “wet” during sexual activity or intercourse?” the item read “Over the past 4 weeks, how difficult was it to become aroused (females—lubricated or “wet”; males—erection) during sexual activity or intercourse?”). The FSFI is a 19-item measure with six domains (desire, arousal, lubrication, orgasm, satisfaction, and pain) and has been shown to have excellent reliability (Cronbach’s $\alpha = .97$) and validity in women with and without diagnoses of female arousal dysfunction (Rosen et al., 2000) and female orgasm dysfunction (Meston, 2003). Items have Likert response choices between 0 and 6, with 0 scores reflecting no sexual activity in the past 4 weeks, and 1–6 reflecting increasing levels of sexual functioning. Though this measure was constructed to assess female sexual function, reliability in our mixed-gender sample was excellent (Cronbach’s $\alpha = .95$). In the current study, we used the FSFI total without the satisfaction subscale (as this would overlap conceptually with our outcome variable). Means and SDs for the current sample are shown in Table 1.

Attitudes

Because it has been shown that liberalism of sexual attitudes predicts higher sexual satisfaction (e.g., Haavio-Mannila & Kontula, 1997), we controlled for sexual attitudes using the Attitude Scale of the Derogatis Sexual Functioning Inventory (DSFI-A; Derogatis & Melisaratos, 1979). This scale measured self-reported conservative (15 items) and liberal (15 items) attitudes using a Likert-type response format using a scale of strongly agree (1) to strongly disagree (5). A total conservatism score was obtained by reverse-scoring liberal attitude items and summing all items. This conservatism score reflected a single attitudinal dimension, wherein higher scores denoted more conservative sexual attitudes. Reliability coefficients were .87 and .92 for women and men, respectively.

Neuroticism

The few studies examining the link between personality and sexual satisfaction have consistently suggested that neuroticism is the personality trait most strongly tied to sexual satisfaction (Costa, Fagan, Peidmont, Ponticas, & Wise, 1992; Heaven, Fitzpatrick, Craig, Kelly, & Sebar, 2000; Kelly & Conley, 1987). There is also much work supporting the relationship between neuroticism and mood disorders, both of which have been shown to reduce sexual satisfaction, (e.g., Minnen & Kampman, 2000; Zajecka et al., 2002). Specifically, neuroticism is a predictor of future depression in those who have never been ill (Nystrom & Lindgard, 1975): considering

the age of our population, it would seem neuroticism would be a good general measure of the early stages of psychopathology. Moreover, it was useful to measure neuroticism specifically in the current study (as opposed to other personality factors) because of the trait’s strong connection to self-esteem (Judge, Erez, Bono, & Thoresen, 2002). One of the YSEX? subscales measures sexual motives related to raising or maintaining self-esteem and a relationship between these motives and sexual satisfaction may be due to individuals with low self-esteem being more likely to endorse self-esteem motives and report lower sexual satisfaction. By controlling for a closely related correlate of self-esteem known to be related to satisfaction, we would be able to partially rule out this extraneous third variable. Given this connection, we controlled for this trait with the Neuroticism factor of the NEO Personality Inventory (Costa et al., 1992). This scale had good reliability in this sample, Cronbach’s $\alpha = .82$. Higher scores on this measure indicate greater neuroticism.

Procedure

Participants registered online for testing sessions to fulfill research requirements for an introductory psychology course. To make participants aware of the sexual nature of the research, the experiment was advertised as a “Sexuality Survey” and examples of potential questions were included in the advertisement. To maximize privacy and ensure confidentiality, participants completed questionnaires in groups of 5–10 males or females in large testing rooms with adequate space and were randomly assigned numbers to associate with their data. Researchers of the same gender as the participant in each room obtained informed consent, gave instructions, and answered any questions during the testing sessions. Volunteers who felt uncomfortable with the sensitive nature of the questionnaires were provided neutral reading material and received full credit for attending the testing session (two of 1,555 participants chose this option). Participants were informed that they could terminate participation at any time with no penalty. Completed questionnaire packets were placed in a large “drop box” as they left the testing room. Consent forms were stored separately from the questionnaires. These procedures were approved annually by the University of Texas at Austin Institutional Review Board.

Statistical Analyses

To examine which subsets of motive predictors were related to sexual satisfaction, we conducted stepwise regressions, separately by gender. This identified several empirical factors, each explaining a certain amount of variance in sexual satisfaction. We then compared this variance to that explained by the theoretical methods of organizing motives (i.e., the PROXY scales).

Results

Identification of YSEX Predictors of Sexual Satisfaction

In the men, the strongest regression model included love/commitment, self-esteem, and resource categories of motives, $R^2 = .25$, $F(3, 92) = 9.74$, $p < .001$. As with men, for women the strongest model also included love/commitment, self-esteem, and resource motives; unlike men, the model also included experience seeking, pleasure, and expression motives, $R^2 = .22$, $F(6, 450) = 21.23$, $p < .001$ (see Table 3). These categories of motives all retained significance when controlling for sexual functioning, sexual attitudes, and neuroticism.

As our sample was non-clinical, sexual satisfaction was negatively skewed; that is, the majority of our participants reported high sexual satisfaction. Thus, some of the assumptions of a linear regression, most notably that of normal distribution of criterion variables, were not met. To confirm that these assumption violations did not affect our identified variables, we conducted a series of multinomial logistical regressions for each gender. This procedure treats the criterion as an ordinal, rather than interval, variable, which can combat the ceiling effect on sexual satisfaction. In both cases, these tests confirmed the previously found models. In the men, the model that contained the love/commitment, self-esteem, and resources variables was significant, $\chi^2(150) = 332.2$, $p < .001$, Cox and Snell's Pseudo $R^2 = .97$. For the women, the model that contained love/commitment, self-esteem, resources, pleasure, expression, and experience seeking was significant, $\chi^2(264) = 434.8$, $p < .001$, Cox and Snell's Pseudo $R^2 = .62$.

Comparison of Empirical and Theoretical Models of Sexual Motives

To compare empirical and theoretical methods of organizing motives, we conducted a series of linear regressions separately by gender to compare the amount of variance in sexual

satisfaction explained by the identified YSEX? categories, the 2-factor PROXY scales, and the 4-factor PROXY scales, respectively, after controlling for our covariates (sexual functioning, attitudes, and neuroticism). From a visual inspection of the data, it appeared that the 4-factor PROXY scales had a non-linear, quadratic relationship to the sexual satisfaction variable; thus, we included squared terms for these scales to model this curvilinear relationship with a linear solution. For women, both sets of proxy scales significantly predicted satisfaction, but the YSEX? categories predicted more variance than either proxy scale (25% vs. 8% and 15%). For men, neither of the PROXY scales significantly predicted satisfaction.

Next, we conducted linear regressions with the covariates (sexual functioning and attitudes, as well as neuroticism) in the first step, the 2-factor PROXY scales in the second step, and the identified empirical categories in the final step. This approach allows us to consider the effects of the empirical categories above and beyond that of the 2-factor PROXY scale. The empirical variables previously identified as significant for men (i.e., love/commitment, self-esteem, and resources) were no longer significant after controlling for the PROXY scales. For the women, four of the previously identified variables (self-esteem, pleasure, expression, and experience-seeking) remained significant after controlling for the PROXY scales (Table 4).

Finally, to test the identified empirical categories against the 4-factor PROXY scales, we conducted linear regressions with the covariates (sexual functioning, attitudes, and Neuroticism) in the first step, 4-factor PROXY scales in the second step, and the identified empirical categories in the final step. Similar to the 2-PROXY scale analyses, for women three of the previously identified empirical variables (self-esteem, expression and experience-seeking) remained significant even after controlling for the 4-factor Proxy scales (Table 5), but for the men, the empirical categories (love/commitment and self-esteem) were no longer significant after controlling for the 4-factor PROXY scales (Table 5).

Table 3 Identification of YSEX? motives sub-categories predicting sexual satisfaction

Motives	Men			Women		
	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>
Love/commitment	.38	.67	.19**	.16	.37	.13**
Self-esteem	-.32	-1.2	.49**	-.33	-1.77	.33***
Resources	-.26	-.71	.34*	-.11	-1.33	.54**
Expression				.20	.95	.27***
Pleasure				.25	.80	.20***
Experience seeking				-.29	-.67	.17***
<i>F</i>	9.7		*	21.2		***
R^2	.25			.22		

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

Discussion

The goals of this study were to determine which of a wide range of sexual motives was associated with levels of sexual satisfaction, whether there were gender differences in the association between motives and satisfaction, and whether it was more effective to use empirically- or theoretically-derived categories of sexual motives. We have provided initial answers to all of these questions.

Using a comprehensive taxonomy of sexual motives, we found that a number of empirically constructed categories of motives were significantly related to sexual satisfaction. For women, identified categories were love/commitment, self-esteem, expression, pleasure, resources, and experience seeking, while for men they were love/commitment, self-esteem, and resources. We arrived at these models while controlling

Table 4 Prediction of satisfaction by YSEX? scales controlling for 2-factor PROXY scales (final model)

Motives	Men			Women		
	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>
Step 2						
Proxy scales						
Approach motives	.34	1.66	.95	.12	.592	.45*
Avoidance motives	-.46	-4.94	2.36*	-.28	-3.91	.86***
<i>F</i> change	3.15		*	10.48		***
<i>R</i> ² change	.092			.07		
Step 3						
YSEX? scales						
Love/commitment	.19	.43	.20*	.13	.29	.21
Self-esteem	-.41	2.31	.41***	-.33	-1.85	.50***
Expression				.24	1.05	.31***
Resources	-.08	-.97	.73	-.07	.82	.73
Pleasure				.16	.50	.26
Experience seeking				-.26	-.58	.21**
<i>F</i> change	.57			11.0		***
<i>R</i> ² change	.05			.19		

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

for all other motive categories in the YSEX? questionnaire and the identified predictors remained significant while controlling for additional factors related to satisfaction: sexual functioning, sexual attitudes, and neuroticism. By taking these additional factors into consideration, these models provide a relatively accurate idea as to the influence of sexual motives in the context of other important sexual variables. These findings suggest that the measurement of sexual motives may provide unique information regarding sexual satisfaction not captured by measures of sexual functioning alone. In addition, our findings suggest that current theories of sexual motivation that view subjective reasons for engaging in sex as interchangeable excitatory stimuli (e.g., Toates, 2009) may benefit from considering that different reasons for having sex are related to differences in sexual outcomes, including sexual satisfaction.

Our findings suggested that love/commitment motives were positively associated with satisfaction for both men and women. One explanation for the positive association between love/commitment motives and sexual satisfaction is that individuals who have sex to augment these aspects of their relationship may attach more importance and invest more effort into their overall relationship. This, in turn, may result in higher relational satisfaction, which is closely related to sexual satisfaction (Byers, 2005; Perrone & Worthington, 2001).

Self-esteem motives were negatively related to satisfaction for both men and women. It is possible that people who frequently have sex to raise their self-esteem may have lower esteem in general. Low self-esteem has been linked to low

sexual satisfaction (Larson, Anderson, Holman, & Niemann, 1998; Song, Bergen, & Schumm, 1995) and may be indicative of depressive symptoms, which also have a detrimental effect on sexual functioning and satisfaction. An alternative is that raising one's feelings of self-worth may be a difficult goal to accomplish through sexual activity. As such, those who have sex for this reason may find themselves unable to attain their sexual goals, resulting in frustration and lowered satisfaction.

Having sex to gain resources was also negatively related to satisfaction for men and women, possibly due to the fact that many of the items within the resources subscale were indicative of wider problems in a person's life (e.g., "I wanted to get a job;" "A person offered me drugs for doing it,"). If an individual often has sex for these reasons, it implies that he or she is often unemployed, a drug user, or in unsatisfying relationships, each of which contributes to lower sexual satisfaction (Colson, Lemaire, Pinton, Hamidi, & Klein, 2006; Davison et al., 2009; Lam, Donaldson, Brown, & Malliaris, 2005; Song et al., 1995).

Our data revealed a number of gender differences in the association between sexual motives and satisfaction. As noted above, six categories of YSEX? motives were significant predictors of women's sexual satisfaction, whereas only three categories were predictors for men. In addition, sexual motives were more consistent and often stronger predictors of satisfaction for women than for men. These findings imply that other factors that are unrelated to motives for sex may play a larger role in determining men's satisfaction and/or that sexual motives in general may be more closely tied to sexual satisfaction for women than for men.

One possible explanation for this difference is that women frequently play the role of sexual "gate-keeper" in sexual relationships. Sexual economics theory (Baumeister & Vohs, 2004) characterizes sexual activity as a commodity within relationships and posits that, in general, women are the suppliers of sexual activity while men are the consumers. This conceptualization suggests that, in heterosexual relationships, it is most often the woman who ultimately decides when and how sexual activity will take place. Given women's relative power over the sexual aspects of most heterosexual relationships, it is logical to assume that their specific sexual motives play a larger role in determining the timing, quantity, and quality of sex that is being experienced by both partners. Put another way, the effect of a man's particular motives for sex on his sexual life may be far overshadowed by his female partner's reasons for having sex. Thus, the stronger link between women's sexual motives and their satisfaction may result from a closer connection between specific motives and sexual outcomes that directly influence satisfaction levels.

Gender also moderated the effect of individual categories of motives on satisfaction. For example, love and commitment motives had a stronger relationship with sexual satisfaction for men than for women. One possible reason for this difference is that women exhibited a restricted range of responses for these

Table 5 Prediction of satisfaction by YSEX? scales controlling for 4-factor PROXY scales (final model)

Motives	Men			Women		
	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>
Step 2						
Proxy scales						
Approach-Individual motives	4.14	4.64	1.76*	.41	.72	.64
Approach-Social motives	-1.81	-3.36	3.15	1.27	4.29	1.45**
Avoidance-Individual motives	-.53	-5.23	16.70	-.01	-.07	4.22
Avoidance-Social motives	-.97	-5.09	9.40	-.42	-3.45	2.81
Approach-Social squared	2.67	.08	.05	-1.03	-.06	.03*
Approach-Individual squared	-4.43	-.05	.02*	-.63	-.01	.01
Avoid-Social squared	.48	.09	.32	.11	.04	.11
Avoid-Individual squared	.20	.16	1.38	.12	.13	.34
<i>F</i> change	1.67			5.58		***
<i>R</i> ² change	.37			.14		
Step 3						
YSEX? scales						
Love/commitment	-.09	-.15	1.25	.07	.15	.32
Self-esteem	-.40	-1.33	3.44	-.44	-2.46	.56***
Resources	-.35	-1.34	2.45	-.08	-1.04	.77
Expression				.19	.82	.33*
Pleasure				-.10	-.31	.56
Experience seeking				-.56	-1.25	.32***
<i>F</i> change	.10			16.82		***
<i>R</i> ² change	.01			.14		

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

motives, with a majority of women reporting that they often or always had sex to increase feelings of love and commitment while men had a more normally distributed response set to these items and were more likely to report rarely having sex to increase feelings of love and commitment. Thus, the stronger relationship between these motives and satisfaction for men may reflect the fact that, for women, both variables are generally restricted to high levels whereas for men the relationship between rarely having sex to increase feelings of love and commitment and lower levels of sexual satisfaction is also present.

Pleasure motives were related to satisfaction for women but not men. One reason for this link in women may be that those who expect only pleasure from sex may be more likely to have their expectations met than those who engage in sex for more complex reasons (e.g., increasing feelings of self worth, exacting revenge), resulting in higher levels of sexual satisfaction. The fact that pleasure motives were not associated with satisfaction for men may be the result of a restricted range of responses. In our sample, the majority of men listed physical pleasure as a common motive for sex, whereas women exhibited a more normally distributed response set.

Expression motives were also associated with satisfaction for women but not men. Women who have sex to express themselves may be more sexually confident than those who rarely have sex for this reason. As such, they may be more likely

to express their sexual needs, resulting in greater sexual satisfaction (MacNeil & Byers, 1997; Schiavi & Mandeli, 1994; Socher, 1999). The fact that this relationship was not present in men may suggest that men fulfill their sexual needs more easily than women, making expression of sexual needs less important in determining satisfaction.

Lastly, experience-seeking motives were negatively related to satisfaction in women only. One possible explanation is that women who have sex to experience something new may be less likely to be in stable, long-lasting romantic relationships. Lacking a committed relationship has been tied to lower levels of sexual satisfaction (Barrientos & Páez, 2006) and married or cohabitating individuals typically have higher sexual satisfaction (Larson et al., 1998; Waite & Joyner, 2001). It is not clear why this finding was not apparent for men as well.

The current study was the first to directly compare empirically and theoretically derived categories of sexual motives in predicting sexual satisfaction. Using two different proxy scales, we compared approach, avoidance, individual, and social motives to the atheoretical categories presented in the YSEX? questionnaire (Meston & Buss, 2007) to determine which provided a stronger prediction of sexual satisfaction. We found that the YSEX? categories accounted for more variance in satisfaction ratings than the theoretical scales (22% and 25% for women and men respectively vs. 14% and 9%). Additionally, we found that

YSEX? categories predicted variance in satisfaction even when controlling for theoretical categories of motives in women. This finding suggests that empirical categories of motives may provide us with unique information not captured by theory-based categories of motives, and that they may constitute more effective tools for measuring the effects of sexual motives on sexual satisfaction and, potentially, a wide variety of important outcomes.

One possible reason for the finding that empirical categories were better predictors of satisfaction than were theoretically grouped categories is that the YSEX? scale was constructed using factor analysis with categories and subcategories created on the basis of high intercorrelation. As such, we would expect these scales to have higher internal reliability than the theoretical scales used, each of which included a more heterogeneous mix of motives. Higher internal reliability tends to increase the chances of finding a significant relationship between a scale and another factor of interest. This difference between the types of scales should be taken into account by researchers choosing between measures of sexual motives.

In using our theoretical scales, we noted significant non-linear trends between approach motives and satisfaction. Given that these scales have not been validated, findings must be interpreted with caution. However, the curvilinear relationship in our sample suggests that the highest levels of satisfaction may be found among individuals who endorse approach motives as moderately frequent motives for sex, with lower satisfaction being reported by those who either rarely or always have sex for these reasons. One possible reason for this may be that both those who never have sex for approach reasons and who always have sex for approach reasons have a relatively restricted range of sexual motives, which may result in a relative lack of sexual diversity. Past research has shown that variety of sexual experience is positively related to sexual satisfaction (Hally & Pollack, 1993) and, as such, a lack of such variety may be leading to lower satisfaction.

Insofar as sexual satisfaction is an end goal of marital and sex therapy, there are a number of clinical implications of these findings. For example, several prominent marital approaches such as Gottman's (2008) Sound Relationship House and Greenberg and Johnson's (1988) Emotion Focused Couples Therapy emphasize the importance of differences in meaning of the sexual relationship for men and women in heterosexual relationships. These authors argue that men use sex to become more intimate and committed to the relationship, while women use sex as the culmination of intimacy; thus, part of the therapy work is educating individuals about this divide and finding a bridge between these motives. However, our findings indicate that both men and women who have sex to feel love and commitment towards their partner have greater sexual satisfaction, suggesting a possible limitation of these methods.

The current study had a number of limitations. Like prior studies of sexual satisfaction and motives, our study relied on self-report data, which has the potential for response biases

(Schwartz, 1999). However, given that our variables of interest were inherently subjective, it would be difficult to utilize any method that did not involve self-report. Additionally, our sample consisted mainly of college students below the age of 21, limiting our ability to generalize findings beyond this age group. Our sample also contained more women than men. This disparity may have impacted our analyses somewhat (e.g., partially accounting for the non-significant relationship between theoretical scales and satisfaction for men). Moreover, it reflects a growing trend in undergraduate populations towards higher numbers of women relative to men (Peter & Horn, 2005) especially in the social sciences (Steele, James, & Barnett, 2002). Future research on gender differences in sexuality variables will need to account for these trends and make special efforts to target male participants. Another study limitation is that our sexual satisfaction scores were not normally distributed, as is common with measures of sexual satisfaction (e.g., Colson et al., 2006), which violates one of the assumptions of traditional regression analyses. While we utilized multinomial logistical regressions (which lacks the assumption to outcome normality) to confirm our findings, it is important to highlight the fact that samples with more normally distributed distribution of sexual satisfaction scores (i.e., one including individuals with sexual dysfunction), may exhibit different relationships between sexual motives and sexual satisfaction.

An additional limitation inherent in the data set used is that the measures of sexual satisfaction and functioning have not yet been validated in men. While this is a common limitation of sexuality research (Ahrold, Stephenson, & Meston, in press), it necessarily limits our confidence in the gender comparisons. For example, the presence of some sexual pain in men ($M = .92$) is unusual given a lack of such complaints in earlier studies (e.g., Laumann et al., 1999) and suggests that our modified FSFI, while face valid for men, may not be a perfect measure of sexual functioning in this group. Lastly, one of the aims of this study was to directly compare the use of empirical and theoretical scales of motives. While developing approximations of theoretical scales used in the past was advantageous in that it was more efficient and allowed for a direct comparison of organizational differences, the fact that we could not include the actual validated scales makes it impossible to draw definitive conclusions regarding the comparative strengths of these specific scales. Though we feel that this more specific comparison is of less importance than the wider question of which method of scale construction is more effective, it would be helpful to include the full version of both scales in a future study.

In summary, we have provided initial evidence that a number of distinct motives are associated with overall satisfaction, that these relationships differ between men and women, and that these relationships may best be measured using empirically constructed taxonomies of motives. In order to establish a causative relationship, longitudinal and/or experimental research is necessary. To determine how sexual motives may affect sexual

satisfaction, examining possible mediators of sexual satisfaction including sexual frequency, relationship quality, and the attainment of sexual goals would provide a more complete understanding of the practical importance of subjective sexual motivation.

Acknowledgments This research was supported, in part, by Grant Number R01 HD51676-3 from the National Institute for Child Health and Human Development to Cindy Meston. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the National Institute for Child Health and Human Development.

Appendix Items of 4-factor PROXY subscales

Subscale	Items
Approach-Individual	1. To relax 2. To make me feel healthy 3. For physical pleasure 4. It feels good 5. For fun 6. To have an orgasm 7. I wanted excitement 8. I wanted the experience 9. I wanted to act out a fantasy, 10. I wanted to try a new technique 11. To improve my sex skills 12. To get the most out of life 13. To fall asleep 14. To keep warm 15. To burn calories 16. I wanted to feel attractive 17. I wanted to feel powerful 18. I wanted to boost my self esteem 19. I wanted to feel better about myself
Approach-Social	1. I wanted to get the person 2. I wanted to be popular 3. I wanted to enhance my reputation 4. I wanted to impress my friends 5. I wanted to boost my social status, 6. I wanted increased emotional closeness 7. I wanted to intensify the relationship 8. I wanted to feel connected 9. I wanted my partner to feel good 10. I wanted to communicate on a deeper level 11. I wanted to become one, I wanted to say “I missed you” 12. I wanted to lift my partner’s spirits 13. I wanted my partner to notice me 14. I wanted to gain access to my partner’s friend
Avoidance-Individual	1. I wanted to release anxiety 2. I wanted to release tension 3. I wanted to get rid of a headache
Avoidance-Social	1. It would have damaged my reputation if I hadn’t 2. To have my partner stop bugging me 3. To not disappoint my partner 4. I didn’t want to lose the person 5. I was afraid of my partner having an affair 6. To keep my partner from straying 7. To prevent a breakup

References

- Ahrold, T., Stephenson, K., & Meston, C. M. (in press). Validated questionnaires in female sexual function assessment. In J. Mulhall, I. Goldstein, L. Incrocci, & R. Rosen (Eds.), *Cancer & sexuality*. New York: Springer.
- Apt, C., Hurlbert, D., Pierce, A., & White, C. (1996). Relationship satisfaction, sexual characteristics and the psychosocial well-being of women. *Canadian Journal of Human Sexuality, 5*, 195–210.
- Barrientos, J., & Páez, D. (2006). Psychosocial variables of sexual satisfaction in Chile. *Journal of Sex and Marital Therapy, 32*, 351–368.
- Baumeister, R., & Vohs, K. (2004). Sexual economics: Sex as female resource for social exchange in heterosexual interactions. *Personality and Social Psychology Review, 8*, 339–363.
- Browning, J., Hatfield, E., Kessler, D., & Levine, T. (2000). Sexual motives, gender, and sexual behavior. *Archives of Sexual Behavior, 29*, 135–153.
- Byers, E. (2005). Relationship satisfaction and sexual satisfaction: A longitudinal study of individuals in long-term relationships. *Journal of Sex Research, 42*, 113–118.
- Colson, M., Lemaire, A., Pinton, P., Hamidi, K., & Klein, P. (2006). Sexual behaviors and mental perception, satisfaction and expectations of sex life in men and women in France. *Journal of Sexual Medicine, 3*, 121–131.
- Cooper, M., Shapiro, C., & Powers, A. (1998). Motivations for sex and risky sexual behavior among adolescents and young adults: A functional perspective. *Journal of Personality and Social Psychology, 75*, 1528–1558.
- Costa, J., Fagan, P., Peidmont, R., Ponticas, Y., & Wise, T. (1992). The five-factor model of personality and sexual functioning in outpatient men and women. *Psychiatric Medicine, 10*, 199–215.
- Davison, S. L., Bell, R. J., LaChina, M., Holden, S. M., & Davis, S. R. (2009). The relationship between self-reported sexual satisfaction and general well-being in women. *Journal of Sexual Medicine, 6*, 2690–2697.
- Derogatis, L., & Melisaratos, N. (1979). The DSFI: A multidimensional measure of sexual functioning. *Journal of Sex and Marital Therapy, 5*, 244–281.
- Dunn, K., Croft, P., & Hackett, G. (2000). Satisfaction in the sex life of a general population sample. *Journal of Sex and Marital Therapy, 26*, 141–151.

- Edwards, J., & Booth, A. (1994). Sexuality, marriage, and well-being: The middle years. In A. S. Rossi (Ed.), *Sexuality across the life course* (pp. 233–259). Chicago: University of Chicago Press.
- Ferenidou, F., Kapoteli, V., Moisisidis, K., Koutsogiannis, I., Giakoumelous, A., & Hatzichristou, D. (2008). Presence of a sexual problem may not affect women's satisfaction from their sexual function. *Journal of Sexual Medicine*, 5, 631–639.
- Gottman, J., & Gottman, J. (2008). Gottman method couple therapy. In A. Gurman (Ed.), *Clinical handbook of couple therapy* (pp. 138–164). New York: Guilford Press.
- Greenberg, L., & Johnson, S. (1988). *Emotionally focused therapy for couples*. New York: Guilford Press.
- Grossbard, J., Lee, C., Neighbors, C., Hendershot, C., & Larimer, M. (2007). Alcohol and risky sex in athletes and nonathletes: What roles do sex motives play? *Journal of Studies on Alcohol and Drugs*, 68, 566–574.
- Haavio-Mannila, E., & Kontula, O. (1997). Correlates of increased sexual satisfaction. *Archives of Sexual Behavior*, 26, 399–419.
- Hally, C., & Pollack, R. (1993). The effects of self-esteem, variety of sexual experience, and erotophilia on sexual satisfaction in sexually active heterosexuals. *Journal of Sex Education and Therapy*, 19, 183–192.
- Hayes, R., Dennerstein, L., Bennet, C., Sidat, M., Gurrin, L., & Fairley, C. (2008). Risk factors for female sexual dysfunction in the general population: Exploring factors associated with low sexual function and sexual distress. *Journal of Sexual Medicine*, 5, 1681–1693.
- Heaven, P., Fitzpatrick, J., Craig, F., Kelly, P., & Sebar, G. (2000). Five personality factors and sex: Preliminary findings. *Personality and Individual Differences*, 28, 1133–1141.
- Hill, C., & Preston, L. (1996). Individual differences in the experience of sexual motivation: Theory and measurement of dispositional sexual motives. *Journal of Sex Research*, 33, 27–45.
- Hurlbert, D., Apt, C., & Rabehl, S. (1993). Key variables to understanding female sexual satisfaction: An examination of women in nondistressed marriages. *Journal of Sex and Marital Therapy*, 19, 154–165.
- Impett, E., Peplau, L., & Gable, S. (2005). Approach and avoidance sexual motives: Implications for personal and interpersonal well-being. *Personal Relationships*, 12, 465–482.
- Impett, E., Strachman, A., Finkle, E., & Gable, S. (2008). Maintaining sexual desire in intimate relationships: The importance of approach goals. *Journal of Personality and Social Psychology*, 94, 808–823.
- Impett, E., & Tolman, D. (2006). Late adolescent girls' sexual experiences and sexual satisfaction. *Journal of Adolescent Research*, 21, 628–646.
- Judge, T., Erez, A., Bono, J., & Thoresen, C. (2002). Are measures of self-esteem, neuroticism, locus of control, and generalized self-efficacy indicators of a common core construct? *Journal of Personality and Social Psychology*, 83, 693–710.
- Kelly, E., & Conley, J. (1987). Personality and compatibility: A prospective analysis of marital stability and marital satisfaction. *Journal of Personality and Social Psychology*, 52, 27–40.
- King, M., Holt, V., & Nazareth, I. (2007). Women's views of their sexual difficulties: Agreement and disagreement with clinical diagnoses. *Archives of Sexual Behavior*, 36, 281–288.
- Lam, D., Donaldson, C., Brown, Y., & Malliaris, Y. (2005). Burden and marital and sexual satisfaction in the partners of bipolar patients. *Bipolar Disorders*, 7, 431–440.
- Larson, J., Anderson, S., Holman, T., & Niemann, B. (1998). A longitudinal study of the effects of premarital communication, relationship stability, and self-esteem on sexual satisfaction in the first year of marriage. *Journal of Sex and Marital Therapy*, 24, 193–206.
- Laumann, E., Palik, A., & Rosen, R. (1999). Sexual dysfunction in the United States: Prevalence and predictors. *Journal of the American Medical Association*, 281, 537–544.
- MacNeil, S., & Byers, E. (1997). The relationships between sexual problems, communication, and sexual satisfaction. *Canadian Journal of Human Sexuality*, 6, 277–283.
- Masters, W., & Johnson, V. (1966). *Human sexual response*. Boston, MA: Little & Brown.
- Meston, C. M. (2003). Validation of the Female Sexual Function Index (FSFI) in women with female orgasmic disorder and in women with hypoactive sexual desire disorder. *Journal of Sex and Marital Therapy*, 29, 39–46.
- Meston, C. M., & Buss, D. (2007). Why humans have sex. *Archives of Sexual Behavior*, 36, 477–507.
- Meston, C. M., & Trapnell, P. (2005). Development and validation of a five-factor Sexual Satisfaction and Distress Scale for Women: The Sexual Satisfaction Scale for Women (SSS-W). *Journal of Sexual Medicine*, 2, 66–81.
- Meyer-Bahlburg, H., & Dolezal, C. (2007). The Female Sexual Function Index: A methodological critique and suggestions for improvement. *Journal of Sex and Marital Therapy*, 33, 217–224.
- Minnen, A., & Kampman, M. (2000). The interaction between anxiety and sexual functioning: A controlled study of sexual functioning in women with anxiety disorders. *Sexual and Relationship Therapy*, 15, 47–57.
- Morokoff, P., & Gilliland, R. (1993). Stress, sexual functioning, and marital satisfaction. *Journal of Sex Research*, 30, 43–53.
- Nelson, P. A. (1978). *Personality, sexual functions, and sexual behavior: An experiment in methodology*. Unpublished doctoral dissertation, University of Florida.
- Nystrom, S., & Lindegard, B. (1975). Depression: Predisposing factors. *Acta Psychiatrica Scandinavica*, 51, 77–87.
- Perrone, K. M., & Worthington, E. L. (2001). Factors influencing ratings of marital quality by individuals within dual-career marriages: A conceptual model. *Journal of Counseling Psychology*, 48, 3–9.
- Peter, K., & Horn, L. (2005). *Gender differences in participation and completion of undergraduate education and how they have changed over time*. Washington, DC: U.S. Department of Education, National Center for Education Statistics (NCES 2005–169).
- Regan, P., & Dreyer, C. (1999). Lust? Love? Status? Young adults' motives for engaging in casual sex. *Journal of Psychology and Human Sexuality*, 11, 1–24.
- Rosen, R., Brown, C., Leiblum, S., Meston, C. M., & Shabsigh, R. (2000). The Female Sexual Function Index (FSFI): A multidimensional self-report instrument for the assessment of female sexual function. *Journal of Sex and Marital Therapy*, 26, 191–208.
- Schiavi, R. C., & Mandeli, J. S. (1994). Sexual satisfaction in healthy aging men. *Journal of Sex and Marital Therapy*, 20, 3–13.
- Schwartz, N. (1999). Self reports: How the questions shape the answers. *American Psychologist*, 54, 93–105.
- Singer, B., & Toates, F. (1987). Sexual motivation. *Journal of Sex Research*, 23, 481–501.
- Socher, S. (1999). Correlates of sexual satisfaction in women. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 60, 250.
- Song, J., Bergen, M., & Schumm, W. (1995). Sexual satisfaction among Korean–American couples in the midwestern United States. *Journal of Sex and Marital Therapy*, 21, 147–158.
- Sprecher, S. (2002). Sexual satisfaction in premarital relationships: Associations with satisfaction, love, commitment, and stability. *Journal of Sex Research*, 39, 190–196.
- Steele, J., James, J., & Barnett, R. (2002). Learning in a man's world: Examining the perceptions of undergraduate women in male-dominated academic areas. *Psychology of Women Quarterly*, 26, 46–50.
- Toates, F. (2009). An integrative theoretical framework for understanding sexual motivation, arousal, and behavior. *Journal of Sex Research*, 46, 168–193.

- Ventegodt, S. (1998). Sex and the quality of life in Denmark. *Archives of Sexual Behavior*, 27, 295–307.
- Waite, L. J., & Joyner, K. (2001). Emotional satisfaction and physical pleasure in sexual unions: Time horizon, sexual behavior, and sexual exclusivity. *Journal of Marriage & the Family*, 63, 247–264.
- White, L., & Keith, B. (1990). The effect of shift work on the quality and stability of marital relations. *Journal of Marriage & the Family*, 52, 453–462.
- Winifred, A., Kuyper, L., & Greunsven, G. (2003). Need for intimacy in relationships and motives for sex as determinants of adolescent condom use. *Journal of Adolescent Health*, 33, 154–164.
- Zajecka, J., Dunner, D. L., Gelenberg, A. J., Hirschfeld, R. M., Kornstein, S. G., Ninan, P. T., et al. (2002). Sexual function and satisfaction in the treatment of chronic major depression with nefazodone, psychotherapy, and their combination. *Journal of Clinical Psychiatry*, 63, 709–716.