

The Relationship Between Body Image and Domains of Sexual Functioning Among Heterosexual, Emerging Adult Women



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ABSTRACT

Introduction: Research suggests that body image affects sexual functioning, but the relationship between specific types of body image (evaluative, affective, and behavioral) and domains of sexual functioning (desire, arousal, and orgasm) has not been investigated.

Aim: To determine whether, and to what degree, body image concerns (evaluative, affective, and behavioral) influence aspects of women's sexual functioning (desire, arousal, and orgasm).

Methods: Eighty-eight sexually active women in heterosexual romantic relationships completed surveys assessing evaluative, affective, and behavioral body image and sexual functioning. Body composition data also were collected using dual energy x-ray absorptiometry.

Main Outcome Measures: Sexual functioning was assessed using the desire, arousal, and orgasm subscales of the Female Sexual Functioning Index.

Results: Hierarchical multiple regression analysis indicated that poor evaluative, affective, and behavioral body image were detrimental to women's sexual functioning. Specifically, dissatisfaction with one's body predicted decrements in desire ($\beta = -0.31, P < .05$) and arousal ($\beta = -0.35, P < .01$). Similarly, feeling that others evaluate one's body negatively predicted decrements in desire ($\beta = 0.22, P < .05$) and arousal ($\beta = 0.35, P < .01$). Feeling negatively about one's appearance predicted decrements in arousal ($\beta = 0.26, P < .05$). Negative thoughts and feelings about one's body during a sexual encounter (body image self-consciousness) predicted decrements in arousal ($\beta = -0.37, P < .01$) and orgasm ($\beta = -0.25, P < .05$).

Conclusion: Findings from this study suggest important linkages between body image and sexual functioning constructs and indicates that interventions to improve body image could have concomitant benefits related to sexual experience.

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Key Words: Sexual Functioning; Body Image; Women's Sexual Health; Young Women

INTRODUCTION

Disruptions to sexual functioning are prevalent, particularly in women. Body dissatisfaction starts young for women; young girls 4 to 11 years old report dissatisfaction with their bodies, expressing the desire for a thinner body.¹ Women also have more distracting thoughts about their bodies during sex than men, and these thoughts are likely to elicit anxiety from women.² Lack of interest in sex and inability to reach orgasm are commonly reported sexual

problems.^{3–5} Body image has emerged as a major factor affecting sexual functioning, especially in women.^{6,7} Body image related disruptions in sexual functioning are associated with psychological distress, decreases in self-esteem, stress, anxiety, and depression.^{8–10}

Research investigating body image in conjunction with sexual functioning demonstrates that body image concerns influence sexual behaviors, attitudes, and cognitions.^{11–15} However, much of this research does not make explicit which elements of sexual response are vulnerable to body image concerns. Literature examining the psychosocial etiology of disrupted sexual functioning has rarely examined all domains of sexual response, focusing instead on sexual desire or sexual functioning overall.^{7,14} For example, Seal et al¹⁴ found that women who had greater body esteem reported more sexual desire with a partner and more sexual desire in response to erotic stimuli in a laboratory setting.

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In addition, Weaver and Byers⁷ found that a positive body image was associated with better overall sexual functioning, even after controlling for body weight. Sanchez and Kiefer⁶ examined specific dimensions of sexual functioning and studied the impact of body shame and sexual self-consciousness on sexual arousability, orgasm, and sexual pleasure. They found that greater body concerns for men and women were associated with less arousability and more orgasm difficulty. However, Sanchez and Kiefer⁶ did not consider body image as multidimensional; instead, they used one global construct of body image. As such, they could not conclude whether affective, evaluative, or behavioral body image is most disruptive of sexual functioning.

AIMS

Cognitions about or evaluations of one's body could influence sexual outcomes differently than affective concerns; further, body concerns specific to a sexual encounter may be the most disruptive of sexual functioning. However, it is not known whether one domain of sexual functioning will be more vulnerable to disruption due to negative body image than another. As such, we sought to determine whether, and to what degree, evaluative body image, affective body image, and behavioral body image predict women's sexual desire, sexual arousal, and experience of orgasm, while controlling for several factors that previous research has related to body image and sexual functioning, including relationship satisfaction, relationship length, and percentage of body fat.^{6,7,15–17} Because women are particularly vulnerable to body image concerns and problems with sexual functioning, we investigated these relations in a sample of women.^{1,5}

METHODS

Participants

Data were collected as a part of a larger study on body image and sexual functioning and satisfaction in 18- to 25-year-old men and women.¹⁸ A homogenous sample was purposefully recruited to rule out extraneous variables that have been associated with body image and sexual functioning. Participants were required to be Caucasian because racial differences have been observed in the amount and distribution of body fat and body image.^{19–21} Age has been shown to affect body image and aspects of sexuality,²² and thus a narrow age range of 18 to 25 years was selected for this investigation. Because of the relations between sexual orientation and body image and satisfaction,^{23,24} participants were required to be heterosexual. Participants had to have engaged in sexual intercourse (penile-vaginal penetration) at least once in the month before participation to facilitate completion of the Female Sexual Functioning Index (FSFI).^{25,26} Participants were ineligible if they were currently taking antidepressant medications, because these can influence sexual function.²⁷ Although efforts were made to recruit individuals varying in body size, only two women who participated were underweight

(body mass index < 18.5 kg/m²). Because this number was not sufficient to make conclusions about the hypothesized relations, these women were excluded from subsequent analyses. In addition, one woman indicated she was Hispanic. The exclusion of these three women resulted in the final dataset of 88 women. This study was approved by the University of Guelph Research Ethics Board, and all participants provided informed consent before completing the online survey.

Procedures

Recruitment and data collection took place from January to June 2009 and from September 2009 to April 2010 as part of a larger study on the relations among body image, body composition, physical activity, and sexual functioning and satisfaction. Participants were recruited through print advertisements posted around the university, through in-class visits, and in community locations. In addition, online advertisements on Kijiji and snowball sampling were used. Recruitment materials encouraged interested individuals to "Participate in a health and sexuality study! Learn about yourself, and how physical activity, body image, body composition, nutrition, and relationship satisfaction may influence your sex life."

Interested individuals were contacted by the research assistant and screened for eligibility. Eligible participants completed the study at the Body Composition and Metabolism Laboratory at the University of Guelph. Before completing any measurements, participants provided their informed signed consent to participate and their consent to undergo dual-energy x-ray absorptiometry to assess body composition. Then, participants completed the questionnaires. Body composition, including whole body fat, regional fat, and bone mineral density, was measured by a dual-energy x-ray absorptiometric scan. Methods are described in full elsewhere.¹⁸ Participants received a \$10 gift card on completion of the study visit.

MEASURES

Demographic Information and Relational Characteristics

A demographic questionnaire containing forced choice and open-ended items was used to collect information such as age, work status, highest level of education obtained, ethnicity, and relationship duration.

Relationship satisfaction was assessed using the Global Measure of Relationship Satisfaction (GMREL).²⁸ The GMREL is a five-item self-report questionnaire assessing satisfaction with overall relationship with a current partner. The item stem was, "In general, how would you describe your overall relationship with your partner?" and responses were given on a seven-point dimension (ie, good-bad, pleasant-unpleasant). Higher scores indicate greater relationship satisfaction. All questions were summed to produce an overall score. Cronbach α for the GMREL was 0.95.

Body Image

Three body image questionnaires were selected to assess evaluative body image (cognitive assessment of one's body), affective body image (feelings about one's appearance), and behavioral body image (extent to which a woman's sexual behaviors are affected by thoughts about her body).

Evaluative body image was measured by the body dissatisfaction subscale of the Eating Disorders Inventory-2 (EDI).²⁹ This scale assesses an individual's evaluation of various body parts (eg, stomach) using items such as, "I think my stomach is too big." Although the aim of this study was not to assess disordered eating, the body dissatisfaction subscale of the EDI is a commonly used measurement assessing evaluative body image. Responses are summed and higher scores indicate greater body dissatisfaction. Cronbach α in the present study was 0.88.

Affective body image was assessed by the Body Esteem Scale for Adolescents and Adults (BESAA), a 23-item self-report questionnaire that assesses respondents' feelings about their appearance (10 items), weight (eight items), and evaluations attributed to others about one's body and appearance (attribution; five items).³⁰ Responses are on a five-point Likert scale ranging from 1 (never) to 5 (always). For this study, the appearance ("I like what I look like in pictures") and attribution ("People my own age like my looks") subscales were used. Each subscale score is the mean of the responses that comprise that subscale; higher scores indicate more positive affective body image. The BESAA has shown strong test-retest reliability, good internal consistency (Cronbach $\alpha = 0.75$ – 0.91), and strong convergent and discriminate validity.^{30,31} In the present sample, the Cronbach α values for the three subscales were 0.77 for attribution and 0.90 for appearance.

Body image specific to sexual encounters was measured by the Body Image Self-Consciousness Scale (BISC), a 15-item self-report questionnaire that assesses the extent to which a woman's sexual behaviors are affected by thoughts about her body.³² This scale is used as a measurement of behavioral body image because it assesses individuals' desire to avoid certain sexual or intimate behaviors because of concerns about the appearance of their body during those encounters.³² Participants responded to statements such as, "While having sex I am (would be) concerned that my hips and thighs would flatten out and appear larger than they actually are," on a six-point Likert scale ranging from 1 (never) to 6 (always). Total summed scores range from 0 to 75; higher scores indicate greater body image self-consciousness. The BISC has shown strong internal consistency (Cronbach $\alpha = 0.93$) and strong discriminant and convergent validity.³² The Cronbach α for the present sample was 0.96.

MAIN OUTCOME MEASURES

Sexual Functioning

Female sexual functioning during the previous 4 weeks was assessed by the FSFI, a 19-item self-report questionnaire assessing

six domains of sexual functioning: sexual desire (two items), sexual arousal (four items), lubrication (four items), orgasm (three items), satisfaction (three items), and pain (three items).²⁶ For this study, only the sexual desire, sexual arousal, and orgasm domains were used as outcome variables. A higher score on each domain was indicative of a higher level of sexual functioning. Domain scores are based on a summation of the questions in each domain multiplied by the domain factor.²⁶ The subscales of the measurement have been demonstrated to be reliable (Cronbach $\alpha \geq 0.82$) and valid.²⁶ The Cronbach α values were 0.80 for the FSFI total, 0.83 for the desire subscale, 0.79 for the arousal subscale, and 0.95 for the orgasm subscale.

Analysis

After conducting the descriptive analyses, 12 hierarchical multiple regression analyses were performed. Each of the four independent variables (EDI, BESAA attribution, BESAA appearance, and BISC) were regressed separately onto each of the three dependent variables (desire, arousal, and orgasm) after controlling for relationship length, relationship satisfaction, and percentage of body fat in the first step. Minimum required sample size, taking into account an anticipated effect size ($f^2 = 0.15$), desired statistical power level (0.80) with four predictors (three control variables and one independent variable), and a probability level of 0.05, was 84. Effect size calculations were made using f^2 according to the method of Cohen³³ (small effect $f^2 = 0.02$, medium = 0.15, large = 0.35).

RESULTS

Sample Description

The analytic sample was comprised of 88 Caucasian women, primarily university students (96%). On average, participants were 20.8 years of age (SD = 1.8), had 31.3% body fat (SD = 7.5) on average, and had an average body mass index of 25.0 kg/m² (SD = 5.0). Most participants (77.3%) were seriously dating one person, 20.4% were living with their partner or

Table 1. Mean, SD, and range of independent and dependent variables

Variable	Mean (SD)	Range
Independent variables		
EDI	8.75 (6.33)	0–24
BESAA appearance subscale	2.48 (0.80)	0.10–3.80
BESAA attribution subscale	2.27 (0.64)	0.80–3.60
BISC	14.21 (15.78)	0–72
Dependent variables		
Desire	4.49 (1.03)	1.8–6
Arousal	5.03 (0.72)	3–6
Orgasm	4.25 (1.60)	1.2–6.0

BESAA = Body Esteem Scale for Adolescents and Adults; BISC = Body Image Consciousness Scale; EDI = Eating Disorders Inventory.

Table 2. Bivariate correlations among predictor variables and dependent variables

Predictor variable	Dependent variable		
	Desire	Arousal	Orgasm
EDI	-0.20	-0.24*	-0.24*
BESAA appearance subscale	0.15	0.23*	0.19
BESAA attribution subscale	0.25*	0.38 [†]	0.17
BISC	-0.04	-0.23*	-0.27*

BESAA = Body Esteem Scale for Adolescents and Adults; BISC = Body Image Consciousness Scale; EDI = Eating Disorders Inventory. **P* < .05; [†]*P* < .001.

married, and the remaining participants (2.3%) were casually dating at least one partner. The mean relationship length was 25.7 months (SD = 18.1).

Descriptive Findings

Means and SDs are presented in Table 1, and correlations between predictor and dependent variables are presented in Table 2. Bivariate correlations between the independent and control variables are presented in Table 3. All measurements of evaluative, affective, and behavioral body image were associated with one another in the expected directions. In addition, women who evaluated their body more negatively expressed feelings that were more negative about their appearance and those whose behaviors were more influenced by their body image had a larger percentage of total body fat.

Regression Analyses

A summary of the results from the 12 regression models is presented in Table 4. Taken together, these regression analyses suggest that, after controlling for relationship length, relationship satisfaction, and body fat percentage, women who evaluated their bodies more harshly (as assessed by the EDI; *R*² = 17%, *f*² = 0.20) and believed that others did not think they looked attractive (as assessed by the BESAA attribution; *R*² = 14%,

*f*² = 0.16) reported lower levels of sexual desire during the past 4 weeks. In addition, after controlling for relationship length, relationship satisfaction, and body fat percentage, women who evaluated their bodies more severely (*R*² = 13%, *f*² = 0.15), reported feeling worse about their appearance (*R*² = 7%, *f*² = 0.08), believed that others thought they did not look good (*R*² = 13%, *f*² = 0.15), and reported that their sexual behaviors were more influenced by body image concerns specific to a sexual encounter (*R*² = 15%, *f*² = 0.18) reported lower levels of arousal during the past 4 weeks. After controlling for the same variables, women who reported a higher degree of body image self-consciousness during a sexual encounter (*R*² = 14%, *f*² = 0.16) reported more difficulty with orgasm during the past 4 weeks.

Overall, the domain of arousal was affected most by body image concerns; all three domains of body image were significant predictors. Evaluative body image, measured by the EDI, and body image self-consciousness specific to sexual encounters, measured by the BISC, were most predictive of sexual problems. Comparing the standardized β weights, the EDI had the strongest relation with desire problems (β = -0.31) and the second strongest relation with arousal problems (β = -0.35; after BISC β = -0.37). Of note, the BISC was the strongest predictor of arousal difficulties (β = -0.37) and the only significant predictor of orgasm (β = -0.25).

DISCUSSION

Studies have identified an association between body image and aspects of women’s sexuality and have explored the connection between women’s body image and their sexual functioning.^{6,7,14,34,35} However, none to date have assessed the relation between multiple domains of body image and domains of sexual functioning, which allows for inferences to be made about which aspects of body image are most affecting and which domains of sexual functioning are most vulnerable to body-related concerns. Previous research has suggested that body dissatisfaction (a cognitive-evaluative aspect of body image) is

Table 3. Bivariate correlations among predictor and control variables

Variable	EDI	BESAA		BISC	GMREL	RL
		Appearance	Attribution			
EDI						
BESAA appearance	-0.79 [‡]					
BESAA attribution	-0.59 [‡]	0.58 [‡]				
BISC	0.69 [†]	0.71 [‡]	-0.40 [‡]			
RS	-0.14	0.28 [†]	0.12	-0.23*		
RL	0.10	-0.14	-0.08	-0.12	0.08	
Body fat percentage	0.53 [‡]	-0.43 [‡]	-0.35 [†]	0.19	-0.23*	0.02

BESAA = Body Esteem Scale for Adolescents and Adults; BISC = Body Image Consciousness Scale; EDI = Eating Disorders Inventory; GMREL = Global Measure of Relationship Satisfaction; RL = relationship length; RS = relationship satisfaction. **P* < .05; [†]*P* < .01; [‡]*P* < .001.

Table 4. Summary of 12 hierarchical multiple regression models with EDI, BESAA appearance and attribution, and BISC as predictors and desire, arousal, and orgasm as dependent variables*

Predictor	Desire			Arousal			Orgasm								
	R ² change	B	β	R ² change	B	β	R ² change	B	β						
		SE			SE			SE							
EDI body dissatisfaction subscale	0.06 [†]	-0.05	0.02	-0.31 [†]	0.17	0.08 [†]	-0.04	0.02	-0.35 [†]	0.11	0.04	-0.06	0.03	-0.24	0.13
BESAA appearance subscale	0.02	0.22	0.16	0.17 [†]	0.11	0.05 [†]	0.24	0.11	0.26 [†]	0.7	0.02	0.32	0.24	0.16	0.9
BESAA attribution subscale	0.04 [†]	0.35	0.18	0.22 [†]	0.14	0.11 [†]	0.39	0.12	0.35 [†]	0.13	0.02	0.34	0.28	0.14	0.9
BISC	0.04	-0.01	0.01	-0.19	0.13	0.13 [†]	-0.02	0.01	-0.37 [†]	0.15	0.06 [†]	-0.03	0.01	-0.25 [†]	0.14

BESAA = Body Esteem Scale for Adolescents and Adults; BISC = Body Image Consciousness Scale; EDI = Eating Disorders Inventory.

*For each hierarchical multiple regression model, relationship satisfaction, relationship length, and percentage of total fat were entered at step 1 as control variables. Then, the predictor of interest was entered in step 2. In total, 12 multiple regression models were examined, one for each predictor.

† $p < .05$; [‡] $p < .01$.

detrimental to sexual feelings, sexual attitudes, and sexual behaviors.^{7,36,37} The present findings extend previous research, in that body dissatisfaction was predictive of decrements in women's sexual desire and arousal. Because desire and arousal are connected, it is notable that negative evaluations about one's body can intervene to disrupt sexual functioning at multiple points in the sexual response cycle.^{38,39} Body dissatisfaction can decrease desire and potentially lead to avoidance of sexual activity. Further, body dissatisfaction can distract a woman from perceiving cues necessary for sexual arousal (by way of cognitive distraction) or make it difficult for a woman to sustain arousal. Decreasing negative body-related self-talk during and before a sexual encounter can facilitate sexual desire and arousal.

Affective body image refers to one's feelings about one's body and appearance.⁴⁰ Published research has indicated that negative feelings about one's appearance is linked with increased sexual anxiety and lower sexual esteem in women.^{7,14} Negative feelings about one's appearance (as assessed by the BESAA appearance subscale) were predictive of arousal difficulties. However, the feeling that others evaluate one's body negatively (BESAA attribution subscale) was predictive of decreased desire and arousal. Research assessing the role romantic partners play in shaping body image is limited.⁴¹ However, women's perception of their partners' perceived opinion of their bodies was a strong predictor of body appearance cognitive distraction during sexual activity in a sample of Portuguese women.⁴² Moreover, qualitative research has suggested that women's sexual desire can be triggered when a woman perceives her partner's desire for her.⁴³ This fits with Basson's⁴⁴ conceptualization of responsive desire.⁴⁵ It would be valuable to adapt the BESAA attribution subscale to refer specifically to perceptions of a partner's feelings about one's body (rather than "others" generally); this approach has been used successfully with other appearance-related measurements.⁴⁶ Nonetheless, the present findings indicate that internalized attitudes of others can be as important to sexual functioning as one's own feelings or evaluations.

Body image concerns specific to sexual encounters can have the most proximal impact on sexual experience. The BISC assesses an individual's desire to avoid certain sexual or intimate behaviors because of body image concerns. The BISC was the strongest predictor of arousal difficulties and the only predictor of problems with orgasm in the present sample. Indeed, Yamamiya et al³⁵ proposed that contextual body image (ie, specific to a sexual encounter) has a greater impact on sexual experience than trait-level evaluations (evaluative or affective measurements). Previous findings have indicated that the BISC is associated with body shame, appearance anxiety, and overall sexual functioning.^{6,17} In the present sample, BISC was associated with problems with orgasm. Similarly, distracting thoughts related to appearance and performance were strongly associated with orgasmic dysfunction as assessed by the FSFI in a community sample of adult women in Portugal.⁴⁷ Interestingly, Sanchez and Kiefer⁶ found that orgasm was not influenced by

body image self-consciousness. Differences in these findings are likely the result of differences in sample characteristics. Sanchez and Kiefer's sample included partnered and single men and women. Thus, the influence of body image self-consciousness on orgasm might have been attenuated by differences in gender and relationship status that were unaccounted for in the analysis. In contrast, measurements of evaluative and affective body image were not significant predictors of orgasm difficulties in the present study. These aspects of body image might be too distal to have an impact on the experience of orgasm, in contrast to concerns that are present "in the moment."

Findings from this study suggest important linkages between the body image and sexual functioning constructs and indicates that interventions to improve body image could have concomitant benefits related to sexual experience. Nonetheless, there are some limitations to the present work. Hormonal birth control was widely used in the sample (approximately 74% of participants who responded to the contraceptive use question reported it), and as a result it was not possible to exclude participants based on its use. The relation between body image and sexual functioning can change as a function of age, race, ethnicity, and sexual orientation.^{19–24} For this reason, these variables were held constant through purposeful sampling (ie, young adult, Caucasian, heterosexual). However, the homogeneity of the sample limits generalizability beyond the demographic characteristics of this sample. It is our hope that this research can serve as a foundation for future inquiry involving samples diverse or varying in gender, ethnicity, and sexual orientation. Future studies should replicate these findings using larger and more diverse samples. Further, the present sample, similar to others in the body composition literature, is likely biased toward individuals with more positive body image. Individuals with negative body image might choose to avoid participation in studies in which body composition is measured. Furthermore, recruitment posters indicated that the research was focused on physical activity, nutrition, and sexuality, which could have biased the sample toward a more physically fit and health-conscious group. Individuals with serious body image concerns might avoid sexual situations, and these individuals would have been ineligible to participate in this study because of the requirement for recent sexual activity. In addition, no measurement of distress was included in the present study. Because the number of women reporting that sexual problems are personally distressing could be smaller than the number reporting problems overall, perceived distress is an important variable to consider when evaluating the significance of sexual dysfunction.⁸ The cross-sectional and correlational nature of the data, as with all such studies, does not permit conclusions about causation.

CONCLUSION

This study is the first to investigate systematically the influence of multiple domains of body image (evaluative, affective, and contextual) on desire, arousal, and orgasm experiences in a sample

of young adult women. Arousal was the aspect of sexual functioning most affected by negative body image; all three domains of body image were associated with decrements in arousal. Evaluative body image was strongly associated with desire and arousal, and body image self-consciousness specific to sexual encounters (contextual body image) was associated with arousal and orgasm. Women who present with sexual problems should be assessed for the severity and specificity of body image concerns.⁴² Potential treatments might include cognitive-behavioral therapy to challenge a woman's assumptions about her lack of attractiveness and encourage her to attend to signs that she is desirable to her partner (and others).⁴⁵ Mindfulness interventions might be effective in decreasing body-related cognitive distraction with the aim of enhancing sexual experience.⁴⁸

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