

Body Image and Female Sexual Functioning and Behavior: A Review

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Knowledge in the research fields of body image and sexuality has significantly increased in the last decade. In this review, data from 57 studies were compiled for a review of empirical evidence regarding the association between sexuality and body image among healthy women. The overall conclusion is that body image issues can affect all domains of sexual functioning. Cognitions and self-consciousness seem to be key factors in understanding the complex relationships between women's body image and sexuality. Body evaluations and cognitions not only interfere with sexual responses and experiences during sexual activity, but also with sexual behavior, sexual avoidance, and risky sexual behavior.

At first sight, sexuality and body image are obviously connected. There is no doubt that physical appearance is a major component of the experiences of women's sexuality (McClintock, 2011). The concept of body image is comprised of cognitive and emotional meaning about the body (Cash, 2002). Having a positive body image is associated with a pleasurable sex life (Satinsky, Reece, Dennis, Sanders, & Bardzell, 2012). Satisfaction with one's body may result in greater confidence when a woman sexually interacts with a partner.

In Western cultures, a woman's appeal as a sexual partner seems to be heavily dependent on her visual stimulus value for her partner. Many women are aware of the gaze of men (Hall, 1984). Feminist theorists have argued that women often adopt an observer's perspective on their physical selves (e.g., Bartky, 1990). This implies that physical attractiveness and body image are relevant for women. According to evolutionary theorists (e.g., Buss & Schmitt, 2011), women's physical attractiveness is important because it gives male sexual partners reliable cues to gauge their health and potential reproductive success. This may have caused women to become—in the course of evolution—increasingly aware of how they appear to others, especially to sexual partners.

Media images of women's bodies often present an unusual, slim-hipped, long-legged, large-breasted ideal. Idealized women all tend to be several inches taller and many pounds lighter than most women (Byrd-Bredbenner & Murray, 2003). Media models are often more than 20% underweight (Dittmar, 2007). Mass media, such as fashion magazines and television, promote, if not establish, a beauty ideal that leads many women to feel badly about

their weight and shape (Groesz, Levine, & Murnen, 2002). Women are labeled the aesthetic sex. It is women's bodies that are gazed at and judged (Bordo, 2003; Wolf, 1991). Men's gazes and unrealistic body ideals seem to work in concert to make it difficult for women to be satisfied with their own bodies.

The main question addressed in this review was, "How is body image related to female sexual functioning and behavior?" A growing literature highlights the importance of the body image construct for various aspects of sexual functioning (Wiederman, 2002). However, most of this research has examined the relationships between body image and sexual functioning among diseased, disabled, or eating-disordered women. In this review, we summarize the empirical findings regarding the relationship between body image and sexuality in healthy women.

Literature Search and Selection

We did not include research on women suffering from cancer or other diseases. Changes in vitality and physical and social functioning that often accompany major illness, such as cancer, impair sexual functioning and, thus, can obscure the direct relationship between body image and sexual functioning (Mock, 1993). For example, in one study, women with breast cancer were more likely than healthy women to experience reduced physical function, role function, vitality, and social function (Michael, Kawachi, Berkman, Holmes, & Colditz, 2000). Young breast cancer survivors were found to be less sexually active and had more body image and sexual problems than healthy women in the same age range (e.g., Fobair et al., 2006). Therefore, the interpretation of an expected relationship between body image and sexual functioning can be complicated by the occurrence of other, related

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factors, such as vitality and physical functioning. Because the focus of this review was on body image and female sexual functioning, we also excluded research on male samples. Although a recent meta-analytic review on gender differences in sexuality suggested that men and women are more similar than they are different in terms of sexuality, men reported slightly more sexual experience and more permissive attitudes than women (Petersen & Hyde, 2010). Men desire more sex partners, and there is evidence for sex differences in extramarital sexual behavior (Buss & Schmitt, 2011). Female sex drive is also more plastic and malleable than that of the male, in response to social, cultural, and situational stimuli (Baumeister, 2000).

Literature was found using PsychInfo[®], MEDLINE[®], Google[™] Scholar, and Social SciSearch[®]. The following search terms were used: *female body image*, *body satisfaction*, *body dissatisfaction*, *body concerns*, *body evaluation*, *body image attitudes*, *appearance concerns*, and *self-objectification*, combined with *sexual behavior*, *sexual functioning*, *sexual attitudes*, *sexual satisfaction*, *sexual dissatisfaction*, and *sexual dysfunction*. Titles and abstracts were examined to see if the articles contained any measure of sexuality linked to an aspect of body image. Specific author searches in Google Scholar were also conducted of various authors who seemed to have empirical or theoretical interest in this topic. The abstracts of all studies associated with these authors were examined. Furthermore, reference sections of all included articles were carefully reviewed, and relevant journals (e.g., *Journal of Sex Research*, *Body Image*, and *Archives of Sexual Behavior*) were searched.

Selection criteria did not include country of origin, ethnicity, or age. However, the 57 studies included in this review (see Table 1) exclusively represented Western nations, except for two studies one conducted in China and one in South Africa. Thirty-seven studies were carried out in the United States, six in Canada, three in Australia, three in the United Kingdom, two in Portugal, one in Finland, one in Germany, one in Norway, one in New Zealand, and one in the Netherlands. In most studies, a large percentage of the participants were Caucasian young women. Only studies published in 1990 or thereafter were included because research on body image and sexuality has, for the most part, been performed in these two decades. Unpublished data were not included. Characteristics of the studies can be found in Table 1.

Conceptualizing Body Image and Sexuality

As noted earlier, the research fields of body image and sexuality have experienced considerable growth in the last two decades. This was paralleled by an increase in the number of assessment instruments that were developed to measure several aspects of both constructs. Therefore, the way in which body image and sexuality were conceptualized in studies varies, and different terms

have been used to refer to some aspects or dimensions of body image or sexuality.

Body image is often described as how one perceives one's own body. Despite the fact that this simple definition is often used, research has shown that there is much more complexity underlying the meaning of this term. Early researchers conceptualized body image as being one-dimensional. Now it is considered to be, and is mostly measured as, a multidimensional construct. Cash (2002) provided a useful multidimensional model. He referred to body image as experience of embodiment and incorporation of the perceptions and attitudes about one's body, especially one's physical appearance. Three specified dimensions are evaluation, investment, and affect. Body image evaluation denotes feelings of satisfaction or dissatisfaction with different aspects of appearance. Body image investment refers to the importance one places on physical appearance and the effort one is willing to make to reach the desired physical appearance. Finally, body image affect refers to emotional experiences that result from body-related evaluations. These three global dimensions, or specific aspects of these dimensions, can be identified in the body image literature. However, the vast majority of studies have focused on the evaluative dimension—specifically, on body dissatisfaction. Another important distinction in the body image literature is between general, dispositional body image evaluations and contextual or state body image evaluations (e.g., during sexual activity; Cash, 2002).

Like body image, female sexuality is a complex phenomenon. Women's bodies are sexual objects of male desire (Blood, 2005). Sexuality is also multidimensional and contains different components, including biologic, psychological, sociocultural, and spiritual aspects. Sexuality is dynamic; it changes with time and place, as well as with different partners. It is individually and socially constructed; that is, sexuality is individually defined and experienced, often in relation to one or more partners, but it is also a part of culture (Bernhard, 2008). Female sexuality includes many different aspects; it encompasses women's sexual knowledge, beliefs, attitudes, values, and behaviors.

Studies in the field of female sexuality have measured and described a variety of variables of this construct. Researchers have suggested that, in comparison with men, women's sexuality may be more influenced by cultural factors. Baumeister (2000) coined the term *erotic plasticity* for this phenomenon. Three signs of plasticity can be observed. The first is that a woman's sexual feelings tend to change more than a man's as she moves through her adult life. The second sign is that particular social and cultural factors (e.g., education and religion) have a larger impact on female sexuality than on male sexuality. A third sign of erotic plasticity is the greater gap between sexual attitudes and actual behaviors among women than among men (Miracle, Miracle, & Baumeister, 2003).

Table 1. Overview of the Literature

Author	Study Design	Body Image Measure	Sexuality Measure (s)	Sample: N, Age, M (SD)	Results (for Female Participants)
Ackard, Kearney-Cooke, & Peterson (2000)	Survey; cross-sectional, correlational design	Degree of satisfaction with the body when looking in the mirror, self-consciousness about appearance, importance of physical attractiveness	Frequency of sex, frequency of initiating sex, comfort undressing, sex with lights on, new things in bed, partner pleasure, orgasm frequency	3,627 Northern American women (81% Caucasian), 14–74, 28.50 (7.37)	Women more satisfied with body image reported more sexual activity, orgasm, and initiating sex; greater comfort undressing in front of their partners, having sex with the lights on; trying new sexual behaviors; and pleasing their partners sexually than those dissatisfied with body image. Body image was predictive of one's comfort undressing in front of partner ($\beta = .50$), having sex with lights on ($\beta = .44$), frequency of initiating sex ($\beta = -.11$), frequency of achieving orgasm during sex ($\beta = .15$), comfort trying new sexual activities ($\beta = .21$), and partner pleasure ($\beta = .13$). Among White girls, there were no significant associations between perceived weight and sexual risk behaviors. Compared with girls with accurate weight perceptions, those with underweight misperceptions had 1.3 times the odds of reporting ever having sex; for sexually active girls, those with underweight misperceptions had 1.9 times the odds of reporting ≥ 4 lifetime partners, whereas those with overweight misperceptions were one-half as likely to report condom use at last sex. Among Black girls, there were significant associations between perceived weight and sexual risk behaviors. Compared with girls who perceived their weight as "about right," those who perceived themselves as overweight had 1.5 times the odds of reporting ≥ 4 lifetime partners.
Akers et al. (2009)	Survey; cross-sectional, correlational design	Perceived weight, weight perception accuracy (comparing BMI with perceived weight)	Having ever had vaginal sex; age at coitarche; number of lifetime sexual partners; alcohol, condom, and oral contraceptive use at last sex	7,173 Northern American female high school girls (62% White, 15% Black, 10% Latina, 13% "other"), ± 12 –18, —	Sexually active Latina girls who perceived themselves as overweight had more than twice the odds of reporting alcohol use at last sex compared with those who perceived their weight as "about right." Girls with underweight misperceptions had > 3 times the odds of reporting coitarche before age 13, but were only one-third as likely to report ≥ 4 lifetime partners compared with those who accurately estimated their weight. 9% of the women reported that watching pornography was likely to make their partners more critical of them.
Albright (2008)	Survey; cross-sectional, correlational design	Impact of sexual activities online on sexual self-image (e.g., partner more critical of me)	Sexual activities online (e.g., intentionally viewing or downloading erotic pictures or films)	15,246 Northern American adults (3,859 women), —, 35.15 (10.78)	

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Author	Study Design	Body Image Measure	Sexuality Measure (s)	Sample: <i>N</i> , Age, <i>M</i> (<i>SD</i>)	Results (for Female Participants)
Álgars et al. (2011)	Survey; cross-sectional, correlational design	Sexual body image (items: "I have attractive breasts," "I am pleased with the way my vagina looks), BI-DSFI, wish to have larger or smaller breasts	FSFI, modified version of Section 3 of the DSFI	9,532 (<i>n</i> = 6,201 women) Finnish twins and their siblings, —, 26.11 (5.01)	Better sexual function was significantly associated with higher levels of satisfaction with one's vagina (desire, $r = .09$; arousal, $r = .10$; lubrication, $r = .12$; orgasm, $r = .12$; satisfaction, $r = .12$; pain, $r = -.09$), as well as satisfaction with one's breasts (desire, $r = .11$; arousal, $r = .08$; lubrication, $r = .10$; orgasm, $r = .09$; satisfaction, $r = .10$; pain, $r = -.06$). Genital satisfaction was significantly associated with the frequency of sexual fantasies ($r = .05$), kissing and petting ($r = .09$), oral sex ($r = .10$), vaginal intercourse ($r = .09$), and anal intercourse ($r = .04$).
Berman, Berman, Miles, Pollets, & Powell (2003)	Survey; cross-sectional, correlational design	GSIS	FSFI, FSIDS	31 Northern American female health center patients (ethnic composition unknown), —, 38 (—)	Positive genital self-image negatively correlated with amount of sexual distress ($r = -.50$), but not with overall sexual function. However, within the FSFI categories of sexual function, a positive genital self-image was associated with higher desire ($r = .39$), but not with arousal, lubrication, orgasm, satisfaction, or absence of pain.
Calogero & Thompson (2009a)	Survey; cross-sectional, correlational design	IG-SATAQ-3, BSh-OBCS, BSu-OBCS	SSE, SSS	101 English female students (65% self-identified as British), —, 22.13 (3.94)	Internalization of appearance ideals from media sources negatively correlated with sexual self-esteem ($r = -.41$) and sexual satisfaction ($r = -.33$). Body surveillance and body shame negatively correlated with sexual self-esteem ($r = -.48$ and $r = -.50$, respectively) and sexual satisfaction ($r = -.46$ and $r = -.42$, respectively). Path analysis indicated that greater internalization led to more body surveillance ($\beta = .42$), which led to higher body shame ($\beta = .34$) and lower sexual self-esteem ($\beta = -.38$), which, in turn, predicted less sexual satisfaction (body shame $\beta = -.29$). In addition, more body shame led to lower sexual self-esteem directly ($\beta = -.21$), and body surveillance led to less sexual satisfaction directly ($\beta = -.28$).
Calogero & Thompson (2009b)	Survey; cross-sectional, correlational design	Study 1: BD-EDI-2, DT-EDI-2, BS-OBCS Study 2: BD-EDI-2, DT-EDI-2, BS-OBCS	Study 1: SSE Study 2: SSE, SSE-SS	Study 1: 104 Northern American female students (87% European American, 10% African American, 3% Asian American), —, 18.63 (1.14)	Study 1: Sexual self-esteem was negatively correlated with self-objectification ($r = -.56$). Self-objectification predicted sexual self-esteem ($\beta = -.56$). Study 2: Self-objectification was negatively correlated with sexual self-esteem and sexual self-competence ($r = -.38$ and $r = -.36$,

Carvalho & Nobre (2010)	Survey; cross-sectional, correlational design	BIB-SDBQ, LSBIT-SMQ	Sexual desire dimension of the FSFI	Study 2: 111 English female students (64.9% White, 4.5% Black, 14.4% Asian, 12.6% Southern European, 3.6% American), $n = 22.00$ 237 Portuguese women, $n = 35.30$ (10.80)	respectively), and body shame was negatively correlated with sexual self-esteem ($r = -.35$). Self-objectification and body shame were directly linked to sexual self-esteem ($\beta = -.36$ and $\beta = -.21$, respectively). Self-objectification directly predicted sexual self-competence ($\beta = -.35$), and body shame did not. Body image beliefs and self-body image thoughts did not predict of sexual desire.
Cash, Maikkula, & Yamamiya (2004)	Survey; cross-sectional, correlational design	BASS-MBSRQ, OP-MBSRQ, ASI, BESAQ, PSCSQ	CSFQ, SSSS	263 Northern American students (59% White, 26% African American; $n = 145$ women), 18-50 ($Mdn = 21$), —	All three SSSS schema subscales were significantly ($p < .01$) related to women's anxious/avoidant body focus scores (i.e., romantic/passionate, $r = -.24$; open/direct, $r = -.23$; embarrassed/conservative, $r = .26$). Women experiencing more anxious/avoidant body focus during sex had significantly poorer sexual functioning in their current relationship (sexual pleasure, $r = -.39$; frequency of sexual desire, $r = -.33$; arousal, $r = -.27$; orgasmic experiences, $r = -.26$). An anxious/avoidant body focus during sex was more strongly correlated with sexual functioning ($r = -.26$) than were the trait body image measures (body satisfaction, $r = .18$; appearance investment, $r = .17$; overweight preoccupation, $r = ns$). More positive functioning was related to less anxious/avoidant body focus ($\beta = -.25$).
Daniluk (1993)	Qualitative focus group study	Subjective experiences of body image	Subjective experience and expression of sexuality	10 Canadian women (primarily White), $n = 42.20$ (—)	The participants struggled with the perception that they were somehow to blame for the excessive "femaleness" of their bodies or for their bodies' lack of socially valued attributes. It was only later in life when they perceived society as disqualifying the bodies of women as being of worth, or, at times, they were involved in mutually enabling relationships that some of the women in the study began to experience a sense of bodily acceptance. This "experience of integration and wholeness" was viewed by the women as being critical to their healthy sexual functioning. Self-acceptance and self-love were viewed as the road to such integration. The body image variables were unrelated to aspects of sexual functioning.
Davison & McCabe (2005)	Survey; cross-sectional, correlational design	BIS-BIBCO, BII-BIBCO, PAS, BCS-BIBS, BIS-BIBS, SPAS, PACS	SOS-MSSCQ, SSES-MSSCQ, SSS-MSSCQ	437 Australian participants (80% originally from Australia; $n = 226$ women); $n = 42.26$ (17.11)	
Donaghue (2009)	Survey; cross-sectional, correlational design	Overall satisfaction with body, and weight	SSSS	91 Australian female students, $n = 30.16$ (11.11)	Body satisfaction was positively correlated with the passionate/romantic ($r = .33$) and open/

(Continued)

6 **Table 1. Continued**

Author	Study Design	Body Image Measure	Sexuality Measure (s)	Sample: <i>N</i> , Age, <i>M</i> (<i>SD</i>)	Results (for Female Participants)
Dove & Wiederman (2000)	Survey; cross-sectional, correlational design	GBDS, ABDs	SOS, DSD-SDI, short form of the SES, OC, PO, percentage of orgasms pretended, SSE-SS	120 Northern American women (93% Caucasian), —, 18.85 (0.85)	direct dimensions ($r = .36$) of sexual self-schemas, but not significantly related to the embarrassed/conservative dimension ($r = -.18, ns$). For sexual esteem, sexual satisfaction, orgasm consistency, and frequency of pretending orgasm, cognitive distraction explained additional, statistically significant variance above and beyond general affect, sexual desire, general self-focus, sexual attitudes, and body dissatisfaction (change in $R^2 = .05, .10, .07$, and $.08$, respectively). Satisfaction with body image had an inverse association with having a casual partner and a marginal inverse relationship to using no or unreliable contraception during last intercourse. No associations between body image satisfaction and any of the high-risk sexual behaviors were found in multivariate analysis.
Eisenberg, Neumark-Sztainer, & Lust (2005)	Survey; cross-sectional, correlational design	Satisfaction with body image/size during the past 30 days	Casual partners, condom use, contraceptive use, number of sex partners, intoxication	1,168 Northern American students ($n = 593$ women; 86% White), 18–22 (for 70%), —	Worse body image conceptualizations significantly predicted lower frequency of sexual behaviors ($\beta = -.22$), whereas general sexual knowledge and psychological adjustment did not predict sexual behaviors. Sexual attitude scores were the best predictors of sexual approach/avoidance behaviors ($\beta = .36$).
Faith & Share (1993)	Survey; cross-sectional, correlational design	BI-DSFI	SI-DSFI, AS-DSFI, SES-DSFI	248 undergraduate and graduate Northern American psychology students ($n = 140$ women), —, —	Sexually active individuals had more positive views of their appearance and were less dissatisfied with their bodies, but were also more oriented toward their appearance than were sexually abstinent individuals. More positive evaluation of appearance was associated with less risky sexual behavior (lifetime unprotected sex, $r = -.20$; using and buying condoms, $r = .16$; barriers to condom use, $r = -.21$; less self-confidence in communicating with a partner about condom use, $r = -.29$). Body dissatisfaction (i.e., discrepancy between current and ideal body figure) was also related to less risky sexual behavior (lifetime alcohol use before/during sex, $r = .20$; less self-confidence in communicating with a partner about condom use, $r = .22$). Females who evaluated their
Gillen, Lefkowitz, & Shearer (2006)	Survey; cross-sectional, correlational design	CDRS, AE-MBSRQ, AO-MBSRQ	Risky sexual behavior (e.g., lifetime frequency of condom use), SDSS, use and buying and barrier subscales of the SRBBS, CCS	434 Northern American students (52% female, 39% European American, 32% African American, 29% Latino American), —, 18.50 (0.40)	Sexually active individuals had more positive views of their appearance and were less dissatisfied with their bodies, but were also more oriented toward their appearance than were sexually abstinent individuals. More positive evaluation of appearance was associated with less risky sexual behavior (lifetime unprotected sex, $r = -.20$; using and buying condoms, $r = .16$; barriers to condom use, $r = -.21$; less self-confidence in communicating with a partner about condom use, $r = -.29$). Body dissatisfaction (i.e., discrepancy between current and ideal body figure) was also related to less risky sexual behavior (lifetime alcohol use before/during sex, $r = .20$; less self-confidence in communicating with a partner about condom use, $r = .22$). Females who evaluated their

appearance in a more positive way had less unprotected sex in their lifetime and perceived fewer barriers to condom use. Those who were more oriented toward their appearance endorsed the sexual double standard to a greater extent.

Feeling comfortable and positive about one's body was frequently mentioned as a factor that would facilitate sexual arousal.

Positive genital perceptions were associated with more sexual desire ($r = .20$), arousal ($r = .12$), lubrication ($r = .16$), orgasm ($r = .14$), satisfaction ($r = .15$), and pain (indicating less pain, $r = .15$).

There was a significant, positive, linear relationship between both body image (whole MBSRQ, $r = .35$) and reflected appraisal (BASS-MBSRQ, $r = .34$) and sexual satisfaction. Regression analysis showed that appearance evaluation (AE-MBSRQ) and overweight preoccupation (OP-MBSRQ) were significant in predicting sexual satisfaction ($\beta = .29$ and $\beta = .26$, respectively). Appearance evaluation was the only significant predictor of sexual satisfaction, in general ($\beta = .31$), and overweight preoccupation was the only significant predictor of sexual satisfaction with a partner ($\beta = .25$).

Women who were dissatisfied with their sex lives were more dissatisfied with their body appearance than those who were satisfied with their body appearance.

The more a woman perceived herself as less attractive than before, the more likely she was to report a decline in sexual desire or frequency of sexual activity. The more she perceived herself as attractive, the more likely she was to experience an increase in sexual desire, orgasm, enjoyment, or frequency of sexual activity.

There were no significant statistical relationships between a woman's perception of her own attractiveness as she aged and her current sexual satisfaction.

Girls between 14 and 17 years of age (Time 2) without coital experience were significantly

80 Northern American women (mixed ethnic composition), —, 34.30 (16.10)

2,056 Northern American women (66.2% White, 13.1% Black, 13.7% Hispanic), 18–60, —

44 English college students ($n = 130$ women), —, 21.50 (ages 18–21)

288 Northern American college students (95.1% Caucasian; $n = 187$ women), —, 20.71 (3.30)

307 Northern American women (99.2% Caucasian), —, 50, (ages 39–56)

Cues for sexual arousal, relationship between arousal and sexual interest, enhancers/inhibitors of arousal
FSFI

GSS-PSSI, SP-PSSI

Sex life item of the BRSS

Changes in sexual response in the past 10 years (e.g., higher/lower frequency of sexual activity)

Subjective feelings about one's body

FGSIS

AE-MBSRQ, AO-MBSRQ, FE-MBSRQ, FO-MBSRQ, HE-MBSRQ, HO-MBSRQ, IO-MBSRQ, BASS-MBSRQ, SW-MBSRQ

Satisfaction with body parts and global appearance items of the BRSS

Self-attractiveness in comparison to 10 years ago

Qualitative focus group study

Survey; cross-sectional, correlational design

Survey; cross-sectional, correlational design

Survey; cross-sectional, correlational design

Survey; cross-sectional, correlational design

Graham, Sanders, Milhausen, & McBride (2004)

Herbenick et al. (2011)

Holt & Lyness (2007)

Hoyt & Kogan (2001)

Koch, Mansfield, Thureau, & Carey (2005)

Kvaleim, von Soest, Treen, & Singaas

Time 1: 5,055 Norwegian adolescents ($n = 2,535$)

Coital onset

BASS

Survey; prospective, correlational design

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Author	Study Design	Body Image Measure	Sexuality Measure (s)	Sample: N, Age, M (SD)	Results (for Female Participants)
van Lankveld & Bergh (2008)	Laboratory study; cross-sectional, experimental design	SSF-SSCS, SE-SSCS, self-focus on physical appearance (experimental condition)	FSFI, genital measure of sexual responding (vaginal photoplethysmograph), subjective sexual responding (potentiometer)	40 Dutch women, —, 28.70 (10.50)	more satisfied with their bodies, compared with girls who lacked coital experience. There were no cross-sectional differences in body evaluation in relation to coital experience among girls at the other time periods. For early adolescent girls body evaluation did not influence the probability of coital onset during the first 2-year period. In the subsequent 5-year period, body dissatisfaction increased the probability for coital onset (OR = 0.64). Induction of state self-focus <i>per se</i> did not affect genital responses, but an interaction effect of self-focus and participants' level of trait sexual self-focus was revealed. Compared with women with low scores on this trait, women with high scores exhibited smaller genital responses when state self-focus was induced. Both groups did not differ when no self-focus was induced. Increase of state self-focus did not affect subjective sexual arousal, but participants with a high level of trait sexual self-focus reported stronger subjective arousal compared with those with a low trait level.
Larson, Clark, Robinson, & Utter (2011)	Survey; cross-sectional, correlational design	Weight satisfaction, trying to lose weight	Sexual activity, STI prevention communication, condom use, contraception use	9,107 New Zealand students (<i>n</i> = 4,187 females; 55.3% European, 24.7% New Zealand Maori, 8.2% Pacific, 7.2% Asian), 12–18, — 1,547 Northern American women (37% Caucasian, 34% Hispanic, 29% African American), —, 25.00 (7.50)	Weight satisfaction was found to be associated with regular contraception use (OR = 2.06) and discussion of STI prevention with partners (OR = 1.41). Weight-loss attempts were found to be positively associated with female sexual activity (OR = 1.58). Appearance shame was a predictor both of more inconsistent condom use (AOR = 1.28) and having more sexual partners in the past year (AOR = 1.22). Appearance investment was a predictor of more frequent drinking (AOR = 1.21) and substance use (AOR = 1.12) before sex. In addition, the interaction term was associated with more inconsistent condom use (AOR = 0.94). Finally, binge drinking was predicted by surveillance (AOR = 1.47), shame (AOR = 1.68), and the interaction term (AOR = 0.90). Appearance distraction was negatively related to sexual satisfaction (<i>r</i> = -.32), but not related to global sexual functioning, sexual knowledge, sexual attitudes, sexual information,
Littleton, Radecki-Breitkof, & Berenson (2005)	Survey; cross-sectional, correlational design	BC-OBCS, BSh-OBCS, BSu-OBCS	Condom use, sex after alcohol or drug use, binge, number of sexual partners		
Meana & Nummink (2006)	Survey; cross-sectional, correlational design	BI-DSFI, ABDs	Global Sexual Functioning Score of the SHF, SI-DSFI, SES-DSFI, AS-DSFI, PD-DSFI,	457 Northern American college students (56.5% Caucasian, 14% Asian American, 11% African	

Meston (2006)	Laboratory study; cross-sectional, experimental design	BI-DSFI	AIS-DSFI, FS-DSFI, SSS-DSFI	American, 9% Hispanic American), 18-20 (for 78%; <i>n</i> = 237 women), —	experiences, psychological distress, affect, and fantasy. Negative body image was related to psychological distress ($r = .31$) and positive affect ($r = -.42$). Appearance-based distraction was predicted by psychological distress ($\beta = .21$) and negative body image ($\beta = .50$). Sexually dysfunctional women showed a trend toward lower body image than did sexually functional women ($p = .07$).
Nobre & Pinto-Gouveia (2006)	Survey; cross-sectional, correlational design	BIB-SDBQ	FSFI, SSSW, self-report sexual responses to the erotic film, physiological sexual responses to erotic film (vaginal photoplethysmograph) FSFI, other SDBQ domains	32 Northern American women: <i>n</i> = 16 sexually functional women, —, 28.90 (8.40); <i>n</i> = 16 sexually dysfunctional women, —, 32.30 (10.20) 488 Portuguese women: <i>n</i> = 160 without sexual problems, —, 30.40 (11.40); <i>n</i> = 47 with diagnosis of sexual dysfunction, —, 28.70 (6.70)	The discriminant function showed that body image beliefs distinguished sexually dysfunctional from functional women ($r = .58$).
Pauls, Occhino, & Dryfhout (2008)	Survey; prospective, correlational design	BESAQ	Frequency of various sexual practices (e.g., vaginal intercourse), FSFI	107 pregnant, Northern American women (51% African American, 48% Caucasian, 1% Hispanic), —, 24.00 (5.00)	In early pregnancy, low sexual function was associated with impaired body image ($r = -.38$).
Peplau et al. (2008)	Survey; cross-sectional, correlational design	AE-MBSRQ, OP-MBSRQ, BIQLI	Sex life items of the BIQLI	Study 1: 2,512 Northern American adults: <i>n</i> = 1,619 heterosexual women, —, 27.05 (8.85); <i>n</i> = 117 lesbian women, —, 29.59 (9.62)	Nearly one-half of the women, including 48% of heterosexual women and 47% of lesbian women, reported that their body image had positive effects on their sex lives. Over one-fourth of both lesbian women (27%) and heterosexual women (30%) reported that their feelings about their bodies had negative effects on the quality of their sex lives. No significant mean difference was found between lesbian and heterosexual women.
Penhollow & Young (2008)	Survey; cross-sectional, correlational design	BISC, BES	Modified DSFI	408 Northern American students (84% White, 11% Black; <i>n</i> = 290 women), —, —	Sexual satisfaction was significantly correlated with concerns about being nude ($r = -.50$), concerns about partners making negative judgments about their body ($r = -.38$), fitness ($r = .19$), problem areas ($r = .19$), strength and build ($r = .14$), appearance of eyes and face ($r = .14$), and weight ($r = .16$). Body image and fitness variables were significant predictors of sexual satisfaction. The overall regression explained 46% of the variance in sexual satisfaction. Three predictor variables were

(Continued)

Author	Study Design	Body Image Measure	Sexuality Measure (s)	Sample: <i>N</i> , Age, <i>M</i> (<i>SD</i>)	Results (for Female Participants)
Pinquart (2009)	Survey; cross-sectional, correlational design	AS-BIQ	AS, love attitude, initiative to have intercourse, postponing the decision	687 German adolescents (<i>n</i> = 405 women), —, 15.80 (1.19)	identified in the best-fit model for women: concerns about being nude, fitness, and exercise frequency. Lower body satisfaction was associated with higher decisional ambivalence ($\beta = -.13$), and not associated with delayed first sexual intercourse.
Pujols, Meston, & Seal (2010)	Survey; cross-sectional, correlational design	Weight concern, physical condition and sexual attractiveness subscales of the BES, ABDs	FSFI, SSSW	154 Northern American women (79% Caucasian, 4% African Americans, 7% Asians, 6% Hispanics/Latinas), —, 26.03 (6.60)	Body esteem and appearance-based thoughts during sexual activity were significantly correlated with sexual satisfaction ($r = .44$ and $r = .39$, respectively). Sexual satisfaction was predicted by high body esteem ($\beta = .20$) and low frequency of appearance-based distracting thoughts during sexual activity ($\beta = .15$), after controlling for sexual functioning status. Post hoc testing revealed that the sexual was attractiveness subscale of the BES the only significant predictor of sexual satisfaction. Greater frequency of and anxiety evoked by thoughts (e.g., body image thoughts) were associated with lower sexual satisfaction; 13 of 41 women reported body image concerns as the first or second most frequent non-erotic thoughts experienced during typical sexual activities with a partner.
Purdon & Holdaway (2006)	Survey; cross-sectional, correlational design	NETCQ	SFQ, GMSEX, SOS	97 Canadian psychology students (almost exclusively Caucasian; <i>n</i> = 50 females), —, 20.00 (1.50)	Body attitudes were significantly associated with sexual aversion ($r = -.33$), but not associated with low sexual self-efficacy, negative sexual adjustment, and negative sexual self-schema. Negative body attitudes were not predictive of lower sexual self-efficacy ($\beta = .15$). A more negative body attitude was associated with an increase in sexual aversion ($\beta = -.33$), which, in turn, was associated with negative sexual adjustment ($\beta = .38$).
Reissing, Laliberté, & Davis (2005)	Survey; cross-sectional, correlational design	BAQ	SAS, SSSS, SSES-F, FSFI	107 Canadian women (94% identified themselves as Canadian), 18–29, —	Women's ratings of the appeal of physical sex were significantly higher in the body competence condition than in the self-objectification condition.
Roberts & Gettman (2004)	Laboratory study; cross-sectional, experimental design	AAS, self-objectification or body competence condition (priming condition)	Appeal of Sex Scale	160 Northern American undergraduate students (82% European American, 15% Hispanic, 3% African American; <i>n</i> = 90 women), 17–30, 19.00 (—)	A relationship between negative body image and a greater tendency to avoid sexual activity was found ($\beta = -.35$). Sexual esteem, sexual satisfaction, and sexual desire appeared to
La Rocque & Cioe (2010)	Survey; cross-sectional, correlational design	AE-MBSRQ, AO-MBSRQ, BASS-MBSRQ, BESAQ	Sexual avoidance dimension of the SAS, SSE-SS, SS-ESLS, DSD-SDI	362 Canadian students (<i>n</i> = 264 women; 86.5% White), —, 19.41 (1.42)	

Sanchez & Kiefer (2007)	Survey; cross-sectional, correlational design	BSh-OBCS, BISC	OG-SAI, SI-SAI, difficulty with reaching orgasm, sexual pleasure	320 Northern American participants (85% Caucasian, 4% Asian, 4% Hispanic, 1% African American; $n = 198$ women), —, 31.01 (12.96)	mediate this relationship (body image significantly predicted these mediators, $\beta = .62$, $\beta = .48$, and $\beta = .17$, respectively). In turn, these variables were associated with greater sexual avoidance ($\beta = -.42$, $\beta = -.12$, and $\beta = -.18$, respectively). The direct relationship between body image and sexual avoidance was not significant in the mediation model. Body shame was related to arousability ($r = -.14$) and sexual pleasure ($r = -.31$), but not related to orgasm difficulty. Sexual self-consciousness was associated with arousability ($r = -.34$), sexual pleasure ($r = -.46$), and orgasm difficulty ($r = .27$). The relationship between body shame and sexual pleasure and problems was mediated by sexual self-consciousness during physical intimacy. Body shame was related to greater sexual self-consciousness ($\beta = .53$), which, in turn, predicted lower sexual pleasure ($\beta = .28$) and sexual arousability ($\beta = -.29$). Results persisted, controlling for relationship status and age. Being in a relationship was associated with less sexual self-consciousness ($\beta = .27$) and less orgasm difficulty ($\beta = .29$). Body appreciation was associated with sexual arousal ($r = .19$), sexual satisfaction ($r = .35$), and general sexual functioning (full FSFI; $r = .28$). Body appreciation was not associated with desire, lubrication, orgasm, and pain. After controlling for sexual orientation, partner status, and age, body appreciation predicted the arousal ($\beta = .27$), orgasm ($\beta = .24$), and satisfaction aspects ($\beta = .37$) of sexual function. Vulva appearance dissatisfaction and genital image self-consciousness were associated with sexual esteem ($r = -.21$ and $r = -.28$, respectively) and sexual satisfaction ($r = -.22$ and $r = -.34$, respectively), but not associated with motivation to avoid risky sex. Path analyses indicated that dissatisfaction with genital appearance was associated with higher genital image self-consciousness during physical intimacy, which, in turn, was associated with lower sexual esteem, sexual satisfaction, and motivation to avoid risky sexual behavior.
Satinsky, Reece, Dennis, Sanders, & Bardzell (2012)	Survey; cross-sectional, correlational design	BAS	FSFI	247 Northern American women (66.8% White), —, 29.90 (7.77)	
Schick, Calabrese, Rima, & Zucker (2010)	Survey; cross-sectional, correlational design	VAS, GISC	MRS-MSSCQ, SE-MSSCQ, SSS-MSSCQ	188 Northern American female undergraduate students (80% White), —, 19.39 (1.41)	

(Continued)

Author	Study Design	Body Image Measure	Sexuality Measure (s)	Sample: N, Age, M (SD)	Results (for Female Participants)
Schooler, Ward, Merriwether, & Caruthers (2005)	Survey; cross-sectional, correlational design	BCBM, BISC	HISA, SE, PS-SSE, actual condom and contraceptive use during vaginal intercourse	199 Northern American female undergraduate psychology students (67% White, 19% Asian, 7% multiracial, 5% Black, 3% Latina), 17–23, 19.70 (—)	Greater body comfort was associated with higher levels of sexual assertiveness ($r = .55$), higher levels of sexual experience ($r = .20$), lower levels of risky sexual behavior ($r = -.19$), and greater condom use self-efficacy ($r = .51$). Greater body image self-consciousness was associated with lower levels of sexual assertiveness, ($r = -.55$), lower levels of sexual experience, ($r = -.18$), and lower condom use self-efficacy ($r = -.48$). Sexual assertiveness and sexual risk were each directly predicted by body shame (BCBM and BISQ; $\beta = -.67$ and $\beta = .42$, respectively). There was a significant mediating role of sexual assertiveness in the relation between body shame and sexual experience, and the relation between body shame and sexual risk.
Seal, Bradford, & Meston (2009)	Laboratory study; cross-sectional, correlational design	BES	Desire, arousal, and lubrication dimensions of the FSFI, SSAS	85 Northern American female students (54% White, 21% Hispanic/Latina, 12% African American, 11% Asian), —, 18.90 (0.90)	There was a significant correlation between body esteem and sexual desire post erotica ($r = .35$). Mental sexual arousal and physical sexual arousal did not correlate with body esteem. The FSFI desire domain score was correlated with the weight concern ($r = .27$) and sexual attractiveness ($r = .25$) subscales of the BES, but not with the physical condition subscale. Similarly, the composite score of items assessing sexual desire responses to the erotic story was significantly correlated with the BES weight concern ($r = .31$) and sexual attractiveness ($r = .33$) subscales, but not with the BES physical condition subscale.
Seal & Meston (2007)	Laboratory study; cross-sectional, experimental design	Body awareness (experimental condition), BES	Self-reported mental arousal, perceptions of physical arousal, autonomic arousal, physiological sexual arousal (VPA responses), cognitive distraction, FSFI	21 Northern American sexually dysfunctional women (71.4% White, 9.5% Asian, 4.8% Black, 14.3% Hispanic), —, 24.40 (7.10)	Women's self-reported mental sexual arousal to the erotic audiotapes significantly increased in both the No Body Awareness condition and the Body Awareness condition, as did perception of physical sexual arousal and autonomic arousal. Self-reported mental sexual arousal, perceptions of physical sexual arousal, and autonomic arousal were all significantly higher in the Body Awareness condition than in the No Body Awareness condition. There was no difference in VPA difference scores between the conditions. Women with low and average body esteem (BES) scores responded equally in both the Body Awareness and the No Body Awareness conditions. There were positive relationships between the sexual

attractiveness subscale of the BES and FSFI total score ($r = .62$), sexual arousal, ($r = .67$), orgasm ($r = .44$), and satisfaction ($r = .51$). There was also a trend for the BES sexual attractiveness subscale was positively related to FSFI lubrication ($r = .31$, $p = .07$). The weight concern subscale of the BES was positively related to the FSFI total score ($r = .50$) and lubrication ($r = .47$), and marginally related to arousal ($r = .44$, $p = .06$). The BES total score was significantly and positively correlated with the FSFI total score ($r = .53$), arousal ($r = .56$), and orgasm ($r = .48$).

No differences in body image, as measured either by the BIA or the BASS, were found across four different levels of masturbation frequency. For African American women, no relationship was found between both the BIA and the BASS and masturbation frequency. Among the European American women, no relationship was found between the BIA and masturbation frequency. However, there was a significant, positive relationship between the BASS and masturbation frequency, with women who reported masturbating 7–10 times per month having significantly higher rates of body satisfaction on the BASS than those women who reported masturbating 1–3 times and 4–6 times per month.

Self-objectification and self-surveillance were not related to sexual functioning, either when measured in general terms or in current terms. For sexual functioning, body shame and appearance anxiety (AAS) were negatively correlated with the general measure ($r = -.26$ and $r = -.32$, respectively), but were not related to current sexual functioning among the sexually active participants. Self-consciousness (BISQ) during sexual activity was negatively correlated with sexual functioning, both among the broader group of participants ($r = -.44$) and among the smaller group of currently sexually active participants ($r = -.32$). Self-consciousness during sexual activity fully mediated the relationships between body shame and appearance anxiety, on the one hand, and general sexual functioning, on the

96 Northern American women ($n = 51$ African American, $n = 45$ European American), 18–49, —

Presence and frequency of masturbation

BIA, BASS–MBSRQ

Survey; cross-sectional, correlational design

Shulman & Horne (2003)

116 Australian female students (>90% Caucasian), —, 22.74 (8.44)

Desire, arousal, orgasm, and satisfaction dimensions of the FSFI

SOQ, BSu–OBCS, BSh–OBCS, AAS, BISQ

Survey; cross-sectional, correlational design

Steer & Tiggemann (2008)

(Continued)

Author	Study Design	Body Image Measure	Sexuality Measure (s)	Sample: N, Age, M (SD)	Results (for Female Participants)
Tang, Lai, & Chung (1997)	Survey; cross-sectional, correlational design	BI-DSFI	SES-DSFI, SI-DSFI, AS-DSFI, FS-DSFI, SSS-DSFI, DS-DSFI	305 Chinese college students ($n = 145$ females), —, 20.50 (1.40)	other hand. Path analysis showed that self-objectification led to self-surveillance ($\beta = .69$), which led to body shame ($\beta = .41$) and appearance anxiety ($\beta = .42$), which, in turn, led to self-consciousness during sex ($\beta = .21$ and $\beta = .47$, respectively) and, finally, to sexual dysfunction ($\beta = -.41$). There was just one additional, direct pathway from self-surveillance to self-consciousness during sex ($\beta = .21$). There were no direct pathways from self-objectification, self-surveillance, body shame, or appearance anxiety to sexual functioning. Relationship satisfaction was a unique predictor of general sexual functioning ($\beta = .41$) and current sexual activity ($\beta = .44$). Positive body image was associated with a higher score on the sex-related variables experience ($r = -.24$), drive ($r = -.25$), liberal attitudes ($r = -.22$), affects ($r = -.29$), satisfaction ($r = .30$), and a feminine gender role definition ($r = .37$). Sexually active students had a more positive, better body image compared to students who had no sexual intercourse experiences.
Trapnell, Messton, & Gorzalka (1997)	Survey study; cross-sectional, correlational design	BI-DSFI	SES-DSFI, SI-DSFI, AS-DSFI	722 Canadian psychology students (51% East or Southeast Asian ancestry; $n = 437$ women), 17–55 ($Mdn = 19$), — Time 4: 100 Northern American college students (49% European American, 26% Latino American, 25% African American; 45% female), —, 23.00 (5.40)	Poor body image was associated with less sexual experience ($r = -.31$), more conservative sexual attitudes ($r = -.31$), and less sexual knowledge ($r = -.17$). Body image was a unique predictor of sexual experience.
Vasilenko, Ram, & Lefkowitz (2011)	Survey; prospective, correlational design	AE-MBSRQ	Age of first intercourse	241 Canadian female university students, —, 20.64 (5.37)	Transitioning to first intercourse was associated with an average 0.57-point decrease in satisfaction with appearance. On average, female students became more satisfied with their appearance over time, but were somewhat less satisfied after first intercourse.
Weaver & Byers (2006)	Survey study; cross-sectional, correlational design	BD-EDI-2, BIAQ, SIBID	HISA, SAISAI, SSE-SS, SFQ, GMSEX	241 Canadian female university students, —, 20.64 (5.37)	Situational body image dysphoria was associated with all four sexuality variables (sexual anxiety, $r = .28$; sexual assertiveness, $r = -.22$; sexual esteem, $r = -.32$; and sexual problems, $r = .28$). Body dissatisfaction was associated with sexual assertiveness ($r = -.16$) and sexual esteem ($r = -.18$). Only situational body image dysphoria was uniquely associated with sexual assertiveness ($sr = -.15$), sexual problems, and sexual esteem ($sr = -.27$). Both body

dissatisfaction and situational body image dysphoria were uniquely associated with sexual anxiety ($r = -.17$ and $r = .32$, respectively). Women with higher situational body image dysphoria reported lower sexual assertiveness, more sexual problems, lower sexual esteem, and higher sexual anxiety than those with lower situational body image dysphoria.

Higher self-rated attractiveness was associated with sex prior to age 18 ($r = .23$), a higher number of intercourse partners ($r = .31$), a higher number of non-intercourse sexual partners ($r = .45$), and sociosexuality ($r = .21$).

CSA survivors evaluated their health more negatively than comparison individuals, indicating that they were feeling less healthy or experienced more bodily symptoms of illness or vulnerability to illness. Childhood physical abuse did not significantly predict sexual functioning. A more positive evaluation of physical fitness or being "in shape" ($\beta = -.37$), less investment in being physically fit ($\beta = .31$), and lower body esteem regarding sexual attractiveness were associated with a lower level of sexual functioning ($\beta = .43$).

53% of the women felt that their sexual behaviors had changed since they had lost weight. The most frequently endorsed explanations for sexual changes were "because I feel better about my body" (72%) and "because I feel less depressed/down about my weight" (74%).

Study 1: Higher body image self-consciousness during sexual activity is associated with less sexual esteem ($r = -.45$). Body image self-consciousness during sexual activity significantly added to the prediction of the experience of vaginal intercourse, fellatio, and cunnilingus. Study 2: Higher body image self-consciousness during sexual activity is associated with less sexual esteem ($r = -.52$), frequency of heterosexual experience ($r = -.56$), higher sexual anxiety ($r = .48$), lower sexual assertiveness ($r = -.56$), and higher sexual avoidance ($r = .46$), and significantly added to

Sexual behaviors (e.g., number of lifetime intercourse partners) and attitudes (e.g., number of intercourse partners expected over the next 5 years)
BSFQ

456 Northern American students (71% non-Hispanic European descent, 15% Asian descent, 3% African descent; $n = 238$ women),
—, 19.02 (1.14)
104 Northern American women ($n = 57$ CSA survivors: 79% White, 5% African American, 2% Asian American, 4% Hispanic, 5% American Indian; $n = 47$ women without a history of CSA; 75% White, 15% Asian American), —, 31.00 (9.80)

32 Northern American obese women (91% White), —, 47.00 (—)

DS-DSFI, SSS-DSFI, GSSI-DSFI, importance of the various factors in perceived changes in sexual functioning (e.g., being more attractive to others)

Study 1: 232 Northern American heterosexual female psychology students (89.9% White, 7.6% Black, 2.5% Latina),
—, 18.89 (0.09)
Study 2: 227 Northern American heterosexual female psychology students (90.9% White, 7.7% Black, 1.5% "other"), —, 18.36 (0.65)

Self-ratings of overall physical attractiveness

AE-MBSRQ, AO-MBSRQ, FE-MBSRQ, FO-MBSRQ, HE-MBSRQ, HO-MBSRQ, IO-MBSRQ

AE-MBSRQ, BASS-MBSRQ

Study 1: SSE-SS, heterosexual experiences
Study 2: SSE-SS, SAI, HISA, SAS, extent and frequency of heterosexual experiences

Study 1: BD-EDI-2, self-rated bodily attractiveness, BISQ
Study 2: BD-EDI-2, self-rated bodily attractiveness, BISQ

Survey study; cross-sectional, correlational design

Survey study; cross-sectional, correlational design

Survey study; retrospective, correlational design

Survey study; cross-sectional, correlational design

Weeden & Sabini (2007)

Wenniger & Heiman (1998)

Werlinger, King, Clark, Pera, & Wineze (1997)

Wiederman (2000)

(Continued)

Table 1. *Continued*

Author	Study Design	Body Image Measure	Sexuality Measure (s)	Sample: <i>N</i> , Age, <i>M</i> (<i>SD</i>)	Results (for Female Participants)
Wiederman & Hurst (1998)	Survey study; cross-sectional, correlational design	BD-EDI-2, self-rated bodily attractiveness, AO-MBSRQ	Sexual experience (e.g., experience of sexual intercourse with a male), short form of the SSE-SS, brief form of the SOS, three items from the SOI	192 Northern American female psychology students (89.6 White, 7.8% Black, 2.6% Latina), —, 18.91 (0.90)	the prediction of the experience of vaginal intercourse, fellatio, and cunnilingus. There were no differences in self-rated facial attractiveness, self-rated bodily attractiveness, body dissatisfaction, and appearance orientation between women who had experienced sexual intercourse and those who had not and between women who had performed oral sex and those who had not. Women who had ever received oral sex perceived their bodies as more attractive compared to women without such experience. Sexual attitudes were unrelated to any of the attractiveness or body image variables. For lifetime number of sexual partners among non-virgins, only the relationship with self-rated facial attractiveness was significant ($r = .27$). Sexual esteem scores were positively related to self-rated facial ($r = .47$) and bodily attractiveness ($r = .35$). Affective orientation toward erotic stimuli and attitudinal acceptance of casual sex were unrelated to self-rated facial and bodily attractiveness. Low self-esteem with respect to body image was significantly associated with risky sexual behavior, after controlling for the clustering according to school, grade, and race (OR = 1.82). After controlling for the other self-esteem scales, the association between sexual self-esteem and risky sexual behavior was no longer significant.
Wild, Fisher, Bhana, & Lombard (2004)	Survey; cross-sectional, correlational design	BI-SEQ	SR-RB	939 South African students (56% female)—Grade 8: $n = 480$ (51%), —, 14.10 (1.22); Grade 11: $n = 457$, —, 17.40 (1.70)	Women who were more dissatisfied with their body image were more likely to fear abandonment as a result of negotiating condom use (AOR = 3.30), perceive that they had fewer options for sexual partners (AOR = 2.40), perceive themselves as having limited control in their sexual relationships (AOR = 2.00), and to worry about acquiring HIV (AOR = 1.50). There was an association between body dissatisfaction and never using condoms during sexual intercourse in the past 30 days (AOR = 1.60) and engaging in unprotected vaginal sex in the prior 6 months (AOR = 1.60).
Wingood, DiClemente, Harrington, & Davies (2002)	Survey study; cross-sectional, correlational design	A modified version of the BAQ	Personal interview assessed sexual behaviors (e.g., age of adolescent's initial sexual intercourse), HIV-A, POS, CRUS	522 Northern American females (100% African American), 14–18, 16.00 (—)	Women who were more dissatisfied with their body image were more likely to fear abandonment as a result of negotiating condom use (AOR = 3.30), perceive that they had fewer options for sexual partners (AOR = 2.40), perceive themselves as having limited control in their sexual relationships (AOR = 2.00), and to worry about acquiring HIV (AOR = 1.50). There was an association between body dissatisfaction and never using condoms during sexual intercourse in the past 30 days (AOR = 1.60) and engaging in unprotected vaginal sex in the prior 6 months (AOR = 1.60).

Yamamiya, Cash, & Thompson (2006)	Survey study; cross-sectional, correlational design	BIQ, BESAQ	Self-efficacy in refusing sex subscale from the SRBBS; SSES-F, SA-SAQ, FTSEQ	384 Northern American female students (58.1% European American, 18.2% African American, 10.9% Hispanic Latina, 5.5% Asian), —, 20.00 (1.96)	Higher physical self-ideal discrepancies (BIQ) were significantly and negatively correlated with self-efficacy to refuse sex ($r = -.20$), confidence in sexual functioning ($r = -.28$), sexual assertiveness ($r = -.20$), ambivalence in sexual decision-making ($r = .11$), and higher emotional engagement during sex ($r = .13$). Higher body consciousness and exposure avoidance in sexual contexts (i.e., BESAQ) was significantly correlated with confidence in sexual functioning ($r = -.54$), sexual assertiveness ($r = -.37$), ambivalence in sexual decision-making ($r = .34$), and higher emotional engagement during sex ($r = .41$), but not with sexual self-efficacy to refuse sex. Only BIQ scores significantly accounted for general self-efficacy to refuse sex ($\beta = -.19$). BESAQ scores accounted for initial ambivalence about having sex with a partner ($\beta = .26$) and degree of emotional disengagement during sex ($\beta = .29$). Associations between dispositional body image and sexual assertiveness, as well as dispositional body image and confidence level in sexual functioning, were fully mediated by body consciousness during sexual activity.
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Note. For both the modified version of Section 3 of the Derogatis Sexual Functioning Inventory (DSFI) and the modified version of the DSFI (Column 4), see Derogatis and Melisaratos (1979). AOR = Adjusted Odds Ratio; BISQ = Body Image Self-consciousness Questionnaire; BMI = body mass index; CSA = childhood sexual abuse; OR = odds ratio; STI = sexually transmitted infection; VPA = vaginal pulse amplitude. Body image measures: AAS = Appearance Anxiety Scale (Dion, Dion, & Keelan, 1990); ABDs = Appearance-Based Distraction subscale of the Cognitive Distraction During Sexual Activity Scale (Dove & Wiederman, 2000); AE-MBSRQ = Appearance Evaluation subscale of the Multidimensional Body-Self Relations Questionnaire (Cash, 1994a, 2000); AO-MBSRQ = Appearance Orientation subscale of the Multidimensional Body-Self Relations Questionnaire (Cash, 1994a, 2000); ASI = Appearance Schemas Inventory (Cash & Labarge, 1996); AS-BIQ = Attractiveness Scale of the Body Image Questionnaire (Strauss & Richter-Appelt, 1996); BWBAQ = Ben-Tovim Walker Body Attitudes Questionnaire (Ben-Tovim & Walker, 1991); BAQ = Body Attitude Questionnaire (Story, 1998); BAS = Body Appreciation Scale (Avalos, Tylka, & Wood-Barcalow, 2005); BASS = Body Areas Satisfaction Scale (Brown, Cash, & Lewis, 1989); BASS-MBSRQ = Body Areas Satisfaction Scale of the Multidimensional Body-Self Relations Questionnaire (Story, 1998); BCBM = Body Comfort/Body Modesty Measure (Merrithew & Ward, 2002); BCS-BIBS = Body Concealment Scale of the Body Image Behavior Scales (Davison & McCabe, 2005); BC-OBCS = Body Control subscale of the Objectified Body Consciousness Scale (McKinley & Hyde, 1996); BD-EDI-2 = Body Dissatisfaction subscale of the Eating Disorder Inventory-Second Edition (Garner, 1991); BES = Body Esteem Scale (weight concern, physical condition, and sexual attractiveness dimensions; Franzoi & Shields, 1984); BESAQ = Body Exposure during Sexual Activities Questionnaire (Cash, 2004); BIA = Body Image Assessment (Williamson, Davis, Bennett, Goreczny, & Gleaves, 1989); BIAQ = Body Image Avoidance Questionnaire (Rosen, Srebnik, Saltzberg, & Wendt, 1991); BIB-SDBQ = Body Image Beliefs Dimension of the Sexual Dysfunctional Beliefs Questionnaire (Nobre, Pinto-Gouveia, & Gomes, 2003); BI-DSFI = Body Image subscale of the Derogatis Sexual Functioning Inventory (Derogatis, 1975); BIQ = Body Image Ideals Questionnaire (Szymanski & Cash, 1995); BII-BIBCQ = Body Image Importance subscale of the Body Image and Body Change Questionnaire (Ricciardelli & McCabe, 2001); BIQLI = Body Image Quality of Life Inventory (Cash & Fleming, 2002); BIS-BIBCQ = Body Image Satisfaction subscale of the Body Image and Body Change Questionnaire (Ricciardelli & McCabe, 2001); BISC = Body Image Self-Consciousness scale (Wiederman, 2000); BI-SEQ = Body Image subscale of the Self-Esteem Questionnaire (Dubois, Felner, Brand, Phillips, & Lease, 1996); BIS-BIBS = Body Improvement Scale of the Body Image Behavior Scales (Davison & McCabe, 2005); BRSS = Body and Relationship Satisfaction Survey (Hoyt & Kogan, 2001; based on the Body Satisfaction Scale: Berscheid, Walster, & Bohrnstedt, 1973); BSH-OBCS = Body Shame subscale of the Objectified Body Consciousness Scale (McKinley & Hyde, 1996); BSU-OBCS = Body Surveillance subscale of the Objectified Body Consciousness Scale (McKinley & Hyde, 1996); CDRS = Contour Drawing Rating Scale (Thompson & Gray, 1995); DT-EDI-2 = Drive for Thinness subscale of the Eating Disorder Inventory-Second Edition (Garner, 1991); FGSIS = Female Genital Self-Image Scale (Herbenick et al., 2011); FE-MBSRQ = Fitness Evaluation subscale of the Multidimensional Body-Self Relations Questionnaire (Cash, 1994a, 2000); GBDS = General Body Dissatisfaction subscale of the Multidimensional Body-Self Relations Questionnaire (Cash, 1994a, 2000); GBSIS = Female Genital Self-Image Scale (1995); GSS-PSSI = General Sexual Satisfaction and Satisfaction with Partner subscales of the Pinney Sexual Satisfaction Inventory (Pinney, Gerrard, & Denney, 1987); GISC = Genital Image Self-Consciousness scale (Schick et al., 2010; modified version of the BISC scale; Wiederman, 2000); GSI = Genital Self-Image Scale (Berman et al., 2003); HE-MBSRQ = Health Evaluation subscale of the Multidimensional Body-Self Relations Questionnaire (Cash, 1994a, 2000); HO-MBSRQ = Health Orientation Subscale of the Multidimensional Body-Self Relations Questionnaire (Cash, 1994a, 2000); IO-MBSRQ = Illness Orientation subscale of the Multidimensional Body-Self Relations Questionnaire (Cash, 1994a, 2000); IG-SATAQ-3 = Internalization-General subscale of the Social Attitudes

Toward Appearance Questionnaire—Third Edition (Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004); LSBIT-SMQ = Low Self Body Image Thoughts Dimension of the Sexual Modes Questionnaire (Nobre & Pinto-Gouveia, 2003); NETCQ = Non-Erotic Thought Content Questionnaire (Purdon & Holdaway, 2006); OP-MBSRQ = Overweight Preoccupation subscale of the Multidimensional Body-Self Relations Questionnaire (Cash, 1994a, 2000); PACS = Physical Appearance Comparison Scale (Thompson, Heinberg, & Tantleff, 1991); PAS = Physical Attractiveness Scale (Davison & McCabe, 2005); PSCSQ = Physical Self-Consciousness during Sex Questionnaire (Cash et al., 2004); SP-PSSI = Satisfaction with Partner subscale of the Pinney Sexual Satisfaction Inventory (Pinney et al., 1987); SW-MBSRQ = Self-classified Weight subscale of the Multidimensional Body-Self Relations Questionnaire (Cash, 1994a, 2000); SE-SSCS = Sexual Embarrassment Dimension of the Sexual Self-Consciousness Scale (van Lankveld, Geijen, & Sykora, 2007); SR-RB = sexual risk behavior items of a self-report risk questionnaire (Wild et al., 2004); SSF-SSCS = sexual self-focus dimension of the Sexual Self-Consciousness Scale (van Lankveld et al., 2007); SIBID = Situational Inventory of Body Image Dysphoria (Cash, 1994b); SPAS = Social Physique Anxiety Scale (Hart, Leary, & Rejeski, 1989); VAS = Vulva Appearance Satisfaction Scale (Schick et al., 2010; modified version of the Body Satisfaction Scale: Rapport, Clark, & Wardle, 2000). Sexuality measures: AIS-DSFI = Affect Scale of the Derogatis Sexual Functioning Inventory (Derogatis, 1975); AS = Ambivalence Scale (Pinquart, 2009); AS-DSFI = Attitude Scale of the Derogatis Sexual Functioning Inventory (Derogatis, 1975); BIQLI; BRSS; BSFQ = Brief Sexual Functioning Questionnaire (Weninger & Heiman, 1998); CSFQ = Changes in Sexual Functioning Questionnaire (Clayton, McGarvey, & Clavet, 1997); CCS = Communication about Condoms Scale (Barkley & Burns, 2000); CRUS = Confidence in Refusing an Unsafe Sexual Encounter (Wingood et al., 2002); DS-DSFI = Drive Scale of the Derogatis Sexual Functioning Inventory (Derogatis, 1975); DSD-SDI = Dyadic Sexual Desire Factor of the Sexual Desire Inventory—Second Edition (Spector, Carey, & Steinberg, 1996); FS-DSFI = Fantasy Scale of the Derogatis Sexual Functioning Inventory (Derogatis, 1975); FSDS = Female Sexual Distress Scale (Derogatis, 2001); FSFI = Female Sexual Functioning Index (desire, arousal, lubrication, orgasm, satisfaction, and pain dimensions; Rosen et al., 2000); FTSEQ = First-Time Sexual Experience Questionnaire (Yamamiya et al., 2006); GMSEX = Global Measure of Sexual Satisfaction—Revised (Lawrance & Byers, 1995); GSSI-DSFI = Global Sexual Satisfaction Index of the Derogatis Sexual Functioning Inventory (Derogatis, 1975); HISA = Hurlbert Index of Sexual Assertiveness (Hurlbert, 1991); HIV-A = HIV Anxiety (Wingood et al., 2002); MRS-MSSCQ = Motivation to Avoid Risky Sex subscale of the Multi Dimensional Sexual Self-Concept Questionnaire (Snell, 1995); OC = Orgasm Consistency (Dove & Wiederman, 2000); OG-SAI = Oral/Genital subscale of the Sexual Arousalability Index (Andersen, Broffitt, Karlsson, & Turnquist, 1989); PD-DSFI = Psychological Distress Scale of the Derogatis Sexual Functioning Inventory (Derogatis, 1975); POS = Perceived control Over Sexuality (Wingood et al., 2002); SSE = Precautions subscale of the Sexual Self-Efficacy scale (Rosenthal, Moore, & Flynn, 1991); SAI = Sex Anxiety Inventory (Janda & O’Grady, 1980); SAISAI = Sexual Arousalability Inventory and Sexual Anxiety Inventory (Hoon, Hoon, & Wincze, 1976); SA-SAQ = Sexual Assertiveness subscale of the Sexual Awareness Questionnaire (Snell, Fisher, & Miller, 1991); SAS = Sexual Aversion Scale (sexual avoidance, sexual anxiety, self-consciousness, sexual inadequacy, fear of sexually transmitted infections, and childhood sexual trauma dimensions; Katz, Gipson, Kearn, & Kriskovich, 1989); SDBQ = Sexual Dysfunctional Beliefs Questionnaire (sexual conservatism, sexual desire and pleasure as a sin, age-related beliefs, body image beliefs, motherhood primacy, and denying affection primacy domains; Nobre et al., 2003); SDSS = Sexual Double Standard Scale (Muehlenhard & Quackenbush, 1996); SE = Sexual Experience (Kissing and Petting experience, Oral Sex experience, and Vaginal Intercourse Experience subscales; Schooler et al., 2005); SE-MSSCQ = Sexual Esteem Scale of the Multidimensional Sexual Self-Concept Questionnaire (Snell, 1995); SES-DSFI = Sexual Experience Scale of the Derogatis Sexual Functioning Inventory (Derogatis, 1975); SFQ = Sexual Functioning Questionnaire (Lawrance & Byers, 1992); SI-DSFI = Sexual Information subscale of the Derogatis Sexual Functioning Inventory (Derogatis, 1975); SI-SAI = Sexual Intercourse subscale of the Sexual Arousalability Index (Andersen et al., 1989); SHF = Sexual History Form (Creti et al., 1998); SOS = Sexual Opinion Survey (Fisher, Byrne, White, & Kelley, 1988); SOS-MSSCQ = Sexual Optimism Scale of the Multidimensional Sexual Self-Concept Questionnaire (Snell, 1995); SOQ = Self-Objectification Questionnaire (Noll & Fredrickson, 1998); SRBBS = Sexual Risk Behavior Beliefs and Self-efficacy scales (Basen-Engquist et al., 1996); SSES-F = Sexual Self-Efficacy Scale for Female functioning (Bailes et al., 1998); SSS = Sexual Satisfaction Scale (Dove & Wiederman, 2000); SS-EELS = Sexual Satisfaction subscale of the Extended Satisfaction with Life Scale (Alfonso, Allison, Rader, & Gorman, 1996); SSSW = Sexual Satisfaction Scale for Women (contentment, communication, compatibility, interpersonal concern, and personal concern dimensions; Meston & Trapnell, 2005); SSS-DSFI = Sexual Satisfaction Scale of the Derogatis Sexual Functioning Inventory (Derogatis, 1975); SSS-MSSCQ = Sexual Satisfaction Scale of the Multidimensional Sexual Self-Concept Questionnaire (Snell, 1995); SSSS = Sexual Self-Schema Scale (Andersen & Cyranowski, 1994); SSES-MSSCQ = Sexual Self-Efficacy Scale of the Multidimensional Sexual Self-Concept Questionnaire (Snell, 1995); SSe = sexual self-esteem (measured by a modified version of Rosenberg’s Global Self-Esteem Scale; Calogero & Thompson, 2009a); SSE-SS = sexual Self-Esteem subscale of the Sexuality Scale (Snell & Papini, 1989); SOI = Sociosexual Orientation Inventory (Simpson & Gangestad, 1991); SSAS = Subjective Sexual Arousal Scale (mental sexual arousal, physical sexual arousal, and sexual desire dimensions; Heiman & Rowland, 1983).

Research has linked body image to various, important aspects of female sexuality—specifically, to sexual functioning, sexual schemas sexual esteem, and sexual behavior.

Body Image and Sexual Functioning

Female sexual functioning can be described in biological, psychological, and social terms. Masters and Johnson's (1966) sexual response cycle characterized sexual response as a four-phase physiological process, including excitement, plateau, orgasm, and resolution. Sexual response begins with excitement or arousal. With continued and sufficient stimulation, excitement builds to a plateau followed by the orgasm phase. During resolution, the body returns to its normal state. In later refinements of this model, a preliminary appetitive phase was added to the sexual response cycle, which refers to sexual desire. A difficulty with this sexual response cycle is that a successful sexual response seems to be synonymous with achieving an orgasm. However, experiencing physical pleasure and well-being during sexual activity might be independent of reaching an orgasm for many women. Therefore, we used a broader definition of *female sexual functioning* than a purely physical one, in which domains of female sexual functioning were sexual desire, subjective arousal, lubrication, orgasm, satisfaction, and pain (Rosen et al., 2000). Research assessing these domains has successfully discriminated women with and without sexual complaints and dysfunctions (Meston, 2003; ter Kuile, Brauer, & Laan, 2006; Wiegel, Meston, & Rosen, 2005). Several studies have focused on direct relationships between body image and the different domains of sexual functioning. Other researchers have studied a mechanism that might underlie this relationship (e.g., using the objectification theory as a theoretical framework). Objectification theory places female bodies in a sociocultural context, with the aim of illuminating the lived experiences and mental health risks of girls and women who encounter sexual objectification. The common thread of sexual objectification is the experience of being treated *as a body* (or collection of body parts), predominantly valued for one's usefulness to others. Women can become preoccupied with their own physical appearance as a way of anticipating and controlling their treatment (i.e., "self-objectification"). Chronic attentiveness to one's own body may interfere with sexual activity and hinder women's sexual functioning (Fredrickson & Roberts, 1997). In one experimental study, a state of self-objectification led to a decrease in the appeal of the physical aspects of sex (Roberts & Gettman, 2004). The experience of self-objectification is also referred to as self-focus, spectating, or self-consciousness during sexual activity. Barlow's (1986) model of sexual functioning also suggests that inspecting, monitoring, and evaluating oneself during sexual activity interrupts sexual responses,

with cognitions directed toward one's own sexual performance, rather than toward sensory aspects of the sexual experience. Although this model originally focused on the effects of concerns about erectile function in men, it has been suggested that self-focus during sexual activity may cause cognitive distraction and have a negative influence on sexual function in women as well. A study by Meana and Nunnink (2006) focused on gender differences in the content of cognitive distraction during sex. They found that women reported higher levels of overall and appearance-based distraction. In the following section, we review the findings of studies in which the relationship of body image and the different domains of sexual functioning were investigated.

Sexual Desire

Problems with sexual desire are the most common sexual problems presented in therapy (Hock, 2007). We found few relevant studies on the topic of body image and female sexual desire. Seal, Bradford, and Meston (2009) examined the relationships between body image and self-reported sexual desire responses to erotica in a sample of college women. It was found that having positive feelings about one's body (i.e., high body esteem) was related to sexual desire in response to erotica. Similarly, having positive feelings about one's body was positively related to self-reported measures of sexual desire. Sexual attractiveness and weight concerns related to body characteristics that are most likely to be under public scrutiny, such as the face and appearance of weight, were particularly linked to sexual desire (Seal et al., 2009). Perceived attractiveness was also found to be related to sexual desire in midlife women. Although aging or menopausal status may change sexual feelings and responses, feelings of subjective attractiveness were still found to be important in the experience of sexual desire among older women. It was shown that the more a woman perceived herself as attractive, the more likely she was to experience an increase in sexual desire over the past decade. Decline in sexual desire was more likely to be reported when a woman perceived herself as less attractive than 10 years earlier (Koch, Mansfield, Thureau, & Carey, 2005). One Portuguese study found that sexual desire was predicted by various dysfunctional beliefs regarding sexual issues (i.e., failure disengagement, passivity and control, and lack of erotic thoughts), but not by body image beliefs (Carvalho & Nobre, 2010). Although there is still limited empirical data about the relationship between body image and sexual desire, the overall results indicate that positive body image experiences are associated with higher levels of sexual desire.

Subjective Sexual Arousal and Lubrication

Sexual arousal refers to the physiological response to sexual stimuli, and can follow sexual desire. The

relationship between sexual interest and sexual arousal, however, is complex. According to Basson (2000), a circular model of female sexual responding may more adequately represent women for whom desire is a response to arousal, instead of a precursor of arousal. Qualitative data analysis in a sample of adult women also showed that many women did not clearly differentiate between arousal and desire. Sexual desire (Graham, Sanders, Milhausen, & McPride, 2004) was reported as sometimes preceding arousal, but at other times following it. Feeling comfortable and positive about one's body was frequently mentioned by women as a factor that would facilitate sexual arousal (Graham, et al., 2004). Sanchez and Kiefer (2007) found, in a sample of mainly adult women, that body shame was related to greater sexual self-consciousness during sexual activity, which, in turn, predicted lower sexual arousability. The relationship between body shame and sexual arousal was mediated by sexual self-consciousness. These results support the notion that inspecting, monitoring, and evaluating oneself during sexual activity (Barlow, 1986) interrupts sexual responses. In their laboratory study, van Lankveld and Bergh (2008) found that genital response to induction of self-focus produced lower genital response in women with high levels of dispositional sexual self-consciousness, but not in women with low sexual self-consciousness. Subjective arousal was not affected. Another laboratory study found that genital response, but not subjective arousal, was impaired in women with different levels of dispositional self-consciousness (Meston, 2006; Seal & Meston, 2007). The fact that subjective arousal was not affected in these studies may be explained by the absence of a partner in laboratory settings. It might be that women do not experience a state of anxious apprehension that they typically experience in sexual situations, and that they are less likely to experience the characteristics of narrowed attentional focus to non-erotic thoughts, including high body awareness (Wiegel, Scepkowski, & Barlow, 2006) **in non-laboratory settings.**

Orgasm

Due to continued sexual arousal, physical changes, such as relaxation of the vaginal muscles and swelling of the labia and the clitoris, can occur and result in orgasm. When reaching an orgasm, the muscles of the vagina and uterus contract and create a strong feeling of pleasure for many women. As described earlier, body image issues may negatively influence sexual arousal in women. Sanchez and Kiefer (2007) found that body shame was indirectly related to orgasm difficulty through reduced arousal. Orgasm is more frequently reported by women who are satisfied with their bodies (Ackard, Kearney-Cooke, & Peterson, 2000) and perceive themselves as attractive (Koch et al., 2005). Moreover, cognitive distraction due to body concerns during

sexual activity with a partner was associated with less consistent orgasms (Dove & Wiederman, 2000).

Satisfaction

It is reasonable to expect that a woman who feels positively about her own body experiences more satisfaction during sexual activity. Indeed, several studies have found associations between body image variables and sexual satisfaction. Hoyt and Kogan (2001) found that women who were dissatisfied with their sex lives were more dissatisfied with their body appearance than those who were satisfied. Other studies have revealed that sexual satisfaction was positively related to appearance evaluation (Holt & Lyness, 2007), general body image (Meana & Nunnink, 2006; Tang, Lai, & Chung, 1997), general body esteem (Penhollow & Young, 2008), and self-perceived sexual attractiveness (Pujols, Meston, & Seal, 2010), and negatively related to body shame (Calogero & Thompson, 2009a). Self-perceived attractiveness has also been found to be positively related to sexual enjoyment (Koch et al., 2005). Although these results cannot confirm whether a causal relationship exists, there are findings suggesting that body image issues can harmfully affect sexual satisfaction. In a large online study ($N = 1,736$), heterosexual and lesbian women were asked if they believed that their feelings about their bodies affected their sex lives (Peplau et al., 2008). Nearly one-half of the women, including 48% of heterosexual women and 47% of lesbian women, reported that their body image had a positive effect on the enjoyment of their sex lives and feelings of acceptability as a sexual partner. Further, over one-fourth of both lesbian and heterosexual women reported that their feelings about their bodies had a negative effect on the enjoyment of their sex lives and feelings of acceptability as a sexual partner. Other studies have reported that women who were concerned about their bodily appearance *during* sexual activity with a partner reported relatively less sexual satisfaction (Dove & Wiederman, 2000; Meana & Nunnink, 2006; Purdon & Holdaway, 2006). How could this mechanism work?

A study exploring the role of sexual self-consciousness during physical intimacy in the relationship between body shame and sexual problems found that the relationship between body shame and sexual pleasure was mediated by sexual self-consciousness during physical intimacy (Sanchez & Kiefer, 2007). Women's body shame was related to greater sexual self-consciousness, which, in turn, predicted lower sexual pleasure. These patterns remained robust, even when controlling for relationship status and age. Another study that has focused on a specific aspect of body evaluation—namely, genital satisfaction—showed that greater dissatisfaction with genital appearance was associated with greater genital image self-consciousness during physical intimacy, which, in turn, was associated

with lower sexual satisfaction (Schick, Calabrese, Rima, & Zucker, 2010). Although most studies found a correlation between aspects of positive body image or a lack of self-consciousness of one's physical appearance and sexual satisfaction, some studies did not (Davison & McCabe, 2005).

Pain

Lack of a physical sexual response (i.e., incomplete or absence of lubrication) can lead to discomfort and pain, and may contribute to the etiology of sexual pain in women (e.g., van Lunsen & Laan, 2004). To our knowledge, pain has mostly been included as part of general sexual functioning, but has not been separately studied and discussed in relation to body image in healthy women. Some studies have specifically focused on genital satisfaction. Among large samples of adult women, it has been found that higher levels of genital satisfaction were associated with less pain (Ålgars et al., 2011; Herbenick et al., 2011). Another study, which included only 31 female health center patients, found that women's feelings about their genitals were **unrelated** (Berman, Berman, Miles, Pollets, & Powell, 2003).

Sexual Functioning in General

As described earlier, most aspects of sexual functioning were separately studied in relation to body image. Sexual dysfunction in any of the domains may occur due to body image issues. Problems related to any of the stages of sexual response may interfere with sexual pleasure and satisfaction, or may lead to painful experiences. The sexual response cycle may not be linear for women (Basson, 2000). Several studies in this field have assessed over all sexual functioning instead of differentiating between dimensions or stages of sexual functioning. General sexual functioning has been found to be related to aspects of body image, such as body esteem (Wenniger & Heiman, 1998). In a large sample of 3,800 adult women, Herbenick et al. (2011) found that positive feelings and beliefs about their own genitals were related to better sexual functioning (higher arousal, desire, lubricant, orgasm, satisfaction, and less pain). With regard to general body image, qualitative research in adult women has indicated that experiencing a sense of bodily acceptance is critical to healthy sexual functioning (Daniluk, 1993). Recent quantitative research has confirmed a relationship between body image and sexual functioning. Weaver and Byers (2006) found that women who experienced negative feelings about their physical appearance and body dissatisfaction were more likely to have problems with regard to their sexual functioning. A study that investigated sexual beliefs in women with and without the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; American Psychiatric Association, 1994) diagnosis of a sexual dysfunction showed that sexually

dysfunctional females also presented more negative body image beliefs (Nobre & Pinto-Gouveia, 2009). On the other hand, positive body image was significantly associated with better sexual functioning, even after controlling for body mass index. Although related to body image, body mass index did not predict sexual functioning. This demonstrates, as many studies have done in the field, that it is women's *perceptions* of their bodies, rather than any objective measures of their bodies, that predict of their feelings and behaviors.

With regard to sexual functioning, associations with contextual body image (i.e., body image during sexual activity) are stronger than those with general body image. In a sample of female students, Cash, Maikkula, & Yamamiya (2004) found that higher sexual functioning was more strongly related to less anxious/avoidant body focus during sexual activity than to global body satisfaction, overweight preoccupation, and appearance investment. Other studies have confirmed that contextual body image is a better predictor of women's sexuality than general body image (Steer & Tiggemann, 2008; Yamamiya, Cash, & Thompson, 2006). Contextual body image during sex was also associated with reduced sexual assertiveness, lower sexual self-efficacy, and more emotional disengagement during partnered sex in young adult women (Yamamiya et al., 2006).

Specific situations, like weight changes during the lifespan of women (e.g., pregnancy), may impact the relationship between experiences of body image and sexual functioning. Pauls, Occhino, and Dryfhout (2008) assessed body image and sexual functioning during pregnancy and postpartum. They found that body image during sexual activity did not significantly change during pregnancy, although it worsened in the postpartum period. Especially in early pregnancy, poorer sexual functioning was associated with impaired body image. Research has also been carried out with obese women. One study assessed body image and sexual functioning in women enrolled in a weight management program. These women perceived significant improvements in their body image and sexual functioning after weight loss. Most of the women attributed the improvements to changes in body image that occurred along with weight loss (Werlinger, King, Clark, Pera, & Wincze, 1997).

The Role of Sexual Schemas, Self-Objectification, and Sexual Self-Esteem

Women's sexual responses depend heavily on what sex means to them: what it signifies about their relationship, what the context is, and which norms and expectations are applied. These are specific examples of erotic plasticity among women. Several studies have shown that body image is related to women's personal values and attitudes regarding sexuality. These may inhibit

sexual functioning and interfere with the quality of sexual experiences. For example, positive general body image is associated with accurate knowledge regarding sexual matters, higher sex drives, liberal (instead of conservative) sexual attitudes, and more frequent sexual fantasies (Tang et al., 1997). Furthermore, body dissatisfaction is associated with women's sexual self-schemas. The concept of sexual self-schemas refers to the extent to which women see themselves as possessing a range of personal characteristics that are associated with participation in intimate sexual relationships and behavioral openness to sexual experiences and encounters. The three identified dimensions of women's sexual self-schemas are the "passionate/romantic" dimension (i.e., the propensity to experience positive emotions in the context of romantic and sexual relationships), the "open/direct" dimension (i.e., the extent to which one sees oneself as being broadminded and open to new experiences), and the "embarrassed/conservative" dimension (i.e., negative feelings about the self in relationships and a lack of confidence and experience; Andersen & Cyranowski, 1994). Women who were satisfied with their bodies were more likely to view themselves as romantic/passionate and open/direct persons (Donaghue, 2009). Women with more positive sexual self-schemas believed their bodies and faces to be more attractive, and were judged by others to be more attractive (Wiederman & Hurst, 1998). In turn, women who viewed themselves as romantic/passionate, open/direct, and not embarrassed/conservative experienced less anxious self-consciousness, and were less likely to avoid body exposure during sex. More positive sexual self-schemas were related to better sexual functioning (Cash et al., 2004), more arousal, longer-lasting sexual and affective relationships, and more positive attitudes regarding sex in general (Andersen & Cyranowski, 1994).

In addition to associations with women's sexual self-schemas, body image has also been found to be associated with sexual self-esteem. La Rocque and Cioe (2010) and Weaver and Byers (2006) found that young women with a more positive body image were more likely to be sexually confident. General self-objectification and body shame have also been found to be directly linked to sexual self-esteem (Calogero & Thompson, 2009b). Dove and Wiederman (2000) showed that concerns about sexual performance and body appearance cause cognitive distraction, which predicts low sexual self-esteem. Genital image self-consciousness during physical intimacy has also been associated with lower sexual esteem as well (Schick et al., 2010). Low levels of sexual self-esteem have been related to lower sexual functioning (Dove & Wiederman, 2000). In one study, an association between higher sexual self-esteem and higher sexual satisfaction was found (Calogero & Thompson, 2009a). The overall conclusion is that positive sexual self-schemas and sexual self-esteem are important for feeling comfortable during sex. Body evaluations and

cognitions may interfere not only with responses and experiences during sexual activity, but also with sexual behavior.

Body Image and Sexual Behavior

Sexual behaviors include a variety of activities that include kissing and hugging, penile–vaginal intercourse, oral sex, anal sex, and masturbation. Women may engage in sexual behaviors alone or with one or more partners. Several studies have found associations between different dimensions of body image and sexual behaviors.

Women who were more satisfied with their body reported more frequent sexual activity, and were more likely to initiate sex and to try new sexual behaviors than those who were less satisfied (Ackard et al., 2000; Trapnell, Meston, & Gorzalka, 1997). Greater body comfort and low body image self-consciousness were associated with a higher level of sexual experience (Schooler, Ward, Merriwether, & Caruthers, 2005). In addition, self-rated attractiveness was found to be positively correlated with several sexual behaviors (i.e., the number of lifetime intercourse partners, age at first intercourse, **and women the number of non-intercourse sexual partners they had in the past three years**; Weeden & Sabini, 2007). With respect to solo sex, there was a positive relationship between body satisfaction and masturbation frequency in European American women (Shulman & Horne, 2003). Other studies have reported that adolescent girls without coital experience were significantly more satisfied with their bodies, compared to girls who had coital experience. Body dissatisfaction increased the probability for coital onset (Kvalem, von Soest, Træen, & Singsaas, 2011; Satinsky et al., 2012). A negative conceptualization of their body was associated with a lower frequency of sexual behavior in female students. However, frequency of sexual behavior was best predicted by sexual attitudes. Women with liberal and accepting attitudes toward their bodies reported greater frequencies of sexual behavior, whereas women ascribing to more conservative views of sexuality reported having fewer sexual experiences (Faith & Share, 1993).

Other studies have focused on body image in relation to fear and avoidance of sexual activities with a partner. Reissing, Laliberté, and Davis (2005) found that a more negative body attitude was related to higher levels of sexual aversion in a sample of young adult women. La Rocque and Cioe (2010) studied the relationship between body image and sexual avoidance. They found that female students with a more negative body image (i.e., negative body image evaluations, high body image investment, and high body self-consciousness during sexual activity) displayed a greater tendency to avoid sexual activity. Sexual esteem, sexual satisfaction, and sexual desire appeared to mediate this relationship

(La Rocque & Cioe, 2010). Furthermore, women with a more positive body image were more likely to be sexually confident, desire sexual activity, and gain satisfaction from sexual experiences. Although support for a direct relationship between body image and sexual avoidance was found, lower levels of sexual esteem, sexual satisfaction, and sexual desire appeared to mediate this relationship. Wiederman (2000) also found that women who experienced higher levels of body image self-consciousness were more likely to avoid sexual activity because of fear and anxiety.

Besides avoidance of sex and lower frequency of sexual activities, body image issues could also impact risky sexual behaviors, such as less frequent or inconsistent condom use among women. Sexual risk behaviors have been examined more extensively in adolescent girls than in adult women. Pinqart (2009) found that German adolescents with body dissatisfaction showed higher levels of ambivalence during their sexual decisions. Ambivalence, in turn, was associated with a lower probability of using contraceptives during first intercourse. These findings are in line with other research in young women. Adolescent women who were more dissatisfied with their body image were more likely to fear abandonment as a result of negotiating condom use, more likely to perceive that they had fewer options for sexual partners, more likely to perceive themselves as having limited control in their sexual relationships, and more likely to worry about acquiring HIV. Having higher dissatisfaction with one's body image was associated with never using condoms during sexual intercourse and being more likely to engage in unprotected vaginal sex (Eisenberg, Neumark-Sztainer, & Lust, 2005; Gillen, Lefkowitz, & Shearer, 2006; Wingood, DiClemente, Harrington, & Davies, 2002). Lower body comfort and greater body image self-consciousness were also related to lower levels of sexual assertiveness and condom use self-efficacy in an ethnically diverse, but mainly White, sample of American female students (Schooler et al., 2005). In addition, genital image self-consciousness during physical intimacy was associated with lower motivation to avoid unprotected sexual behavior (Schick et al., 2010). In a descriptive study by Akers et al. (2009), the relationship between (perceived) weight and sexual behavior among adolescents of various racial/ethnic groups was assessed. The results indicated that sexually active girls, who were or who perceived themselves to be at the weight extremes, as well as those with weight misperceptions, were more likely to report engagement in sexual risk behaviors, compared with normal weight peers or those who perceived their weight to be "about right." Sexual intercourse before the age of 13, having four or more partners, and not using condoms during the last sexual contact were the most consistently observed associations. In another study, satisfaction with weight was associated with regular contraception use and discussion of sexually transmitted infection prevention with partners in

adolescent girls (Larson, Clark, Robinson, & Utter, 2011). Instead of the clear association between body and weight satisfaction and sexual risk behaviors, sexual self-esteem was found to be unrelated to risky sexual behavior in a sample of South African students (Wild, Flisher, Bhana, & Lombard, 2004). To our knowledge, only one study has assessed associations between aspects of body image and sexual behavior among both adolescents and adult women in a sample of women ranging in age from 12 to 56. In that study, high levels of appearance shame and appearance investment were significant predictors of inconsistent condom use, having multiple sex partners in the past year, and having sex after drinking alcohol or using drugs (Littleton, Radecki-Breitkof, & Berenson, 2005).

A large Internet survey performed in the United States (Albright, 2008) showed that women's perceptions of their own bodies can be negatively affected as a result of viewing pornography, with less frequent sexual activity as one outcome. Watching porn was associated with negative feelings of their own bodies, increased pressure to perform acts seen in pornographic films, and the feeling that their partners were more critical of their bodies. It is noteworthy that men were more critical of their partners' bodies as a result of accessing erotic images and films online. In 12% of the women, the amount of actual sex decreased as the result of watching porn.

Summary and Conclusion

The research fields of body image and sexuality have experienced considerable expansion in the last decade. The ways in which body image and sexuality have been conceptualized and measured, however, has varied greatly. The studies have shown great diversity in the ages of the participants, but are quite homogenous for other demographic variables (e.g., education). Also, most studies have relied on correlational analyses. Furthermore, most studies of associations between body image and female sexuality have focused on the evaluative dimension of body image, mostly referred to as *body dissatisfaction*. For these reasons, it is difficult to draw general conclusions across studies.

The commonsense notion of a simple relationship between body image and sexuality cannot be easily confirmed based on the scientific literature. However, in this review, we found support from both quantitative and qualitative research that negative body evaluations are likely to have a direct relationship with several aspects of female sexual functioning and behavior. There are indications that women low in body satisfaction report concerns about the appearance of their bodies during sexual interactions with their partners. Women who feel more negative about their bodies report lower levels of sexual desire, arousal (e.g., Ackard et al., 2000; Koch et al., 2005; Seal et al., 2009), and increased sexual

avoidance (e.g., Reissing et al., 2005; La Rocque & Cioe, 2010), and they experience decreased pleasure, orgasm, and sexual satisfaction (e.g., Sanchez & Kiefer, 2007; Yamamiya et al., 2006). Furthermore, in studies of young women, associations were found between negative body image and engagement in sexual risk behaviors, such as inconsistent sexual activity with casual partners and condom or contraceptive use (e.g., Akers et al., 2009; Eisenberg et al., 2005; Gillen et al., 2006; Kvale et al., 2011). Cognitions and self-consciousness seem to be key factors in understanding the complex relationships between a woman's body image and her sexuality. Negative cognitions about one's physical appearance and monitoring oneself *during* sexual activity interact with sexual responses and experiences stronger than general body image issues. In several studies, women reported higher levels of appearance distraction during sexual activity (e.g., Dove & Wiederman 2000; Meana & Nunnink, 2006; Seal et al., 2009). A self-conscious focus on one's appearance and avoidance of bodily exposure during sex undermine one's sexual functioning more than general feelings of body dissatisfaction (Cash et al., 2004). Body evaluations and cognitions not only interfere with responses and experiences during sexual activity, but also with general sexual behavior, sexual avoidance, and risky sexual behaviors.

There are also studies in which only modest or no relationships between body image and aspects of female sexuality were found (e.g., Davison & McCabe, 2005). In our opinion, one of the major explanations for inconsistent findings in the literature (see Table 1) is a great diversity of body image measures. There are body image measures assessing a trait dimension and measures that index a more immediate, state-like variable (Cash, 2002).

Female body image is extensively entwined with social ideals and norms of beauty that are always tied to a particular time and place. Women's bodies are socially constructed as objects to be watched and evaluated (Grogan, 2008). In fact, there is no objective, "ideal" body shape, size, or look; there is no "right" way a body should move or smell. Body image is inseparable from a particular society's understanding of race, gender, and class, to mention just a few social constructs that intersect with body image. The impact of body image is experienced by most of us in deeply personal ways; it is something that is socially constructed. None of us are born hating our bodies; it is something we seem to learn. As with body image, female sexuality is also heavily dependent on meanings, social norms, and expectations, rather than on physiological responses alone. As suggested by Baumeister (2000), women's sexuality may be more influenced by cultural factors than men's.

There are parallels between the self-surveillance practiced by many women in their daily lives and the self-surveillance reenacted in research situations. Both the researchers and the female participants should see their bodies as objects (Blood, 2005). Also, experiences and

responses during sexual activity have often been the focus of investigation. The stage of the sexual response cycle appears to be relatively unimportant for understanding the impact of body image. Although body image issues may affect all domains of sexual functioning separately, the result is likely to be quite consistent across domains. Body image issues may interfere with sexual pleasure and satisfaction, or may lead to painful experiences during sexual activity with partners. Research on body image suggests a connection between the ways a woman views her body and her sexuality (Seal et al., 2009). Relationships between body image variables and sexuality have been demonstrated beyond actual body size (Peplau et al., 2008; Seal et al., 2009; Weaver & Byers, 2006; Wiederman & Hurst, 1998), suggesting that a women's perceptions and cognitions about her body size, rather than her actual body, have an influence on her sexuality.

Researchers often study body image outside of a partner or romantic context. Women's prospects for relationships and intimacy are deemed largely dependent on their physical attractiveness to men (Bordo, 1993; Wolf, 1991). However, in the domain of body image and sexuality, we found some studies that incorporate the partner. Berman et al. (2003) reported more distress and anxiety about sex. Peplau et al. (2008) questioned whether the negative impact of body attitudes is widespread or limited to a small group of women. They found that 48% of the heterosexual women and 47% of the lesbian women reported that a positive body image had a positive effect on their sex lives. However, 27% of the lesbians and 30% of the heterosexual women reported a negative effect of body image on their sex lives. Finally, they examined women's concern about exposing their bodies to partners during sex. More heterosexual women than lesbian women reported hiding at least one aspect of their bodies during sex (52% vs. 44%).

Many feminists have argued that women are often defined by their bodies, and their bodies are treated as objects that exist for the sexual pleasure of men (Murnen & Smolak, 2009). In the first explicit investigation of objectification theory as an explanatory framework for women's sexual functioning, Steer and Tiggemann (2008) found that self-objectification processes predicted higher self-consciousness during sex, which, in turn, predicted lower sexual functioning.

In a recent article, Bancroft and Graham (2011) suggested that a man's experience is dominated by the pursuit of sexual pleasure, whereas a woman's is dominated by a powerful sense of being desired and a sense of emotional intimacy. This notion could be tested in future research on female body image and sexual functioning and behavior. Furthermore, it is clear that there has been too little attention in research to positive aspects of body image and female sexuality. We expect that differences among women are much larger than the study results so far have suggested. For that reason,

it would be interesting to focus more on positive body image with regard to sexual functioning in future research. An interesting example is the recent study by Satinsky et al. (2012), who explored positive body image and sexual functioning. Satinsky et al. found that body appreciation predicted the arousal, satisfaction, and orgasm aspects of sexual functioning in women, but not sexual desire.

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