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Body Image in a Sexual Context

The Relationship between Body Image and Sexual Experiences

Femke van den Brink

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Body Image in a Sexual Context

The Relationship between Body Image and Sexual Experiences

Lichaamsbeeld in een Seksuele Context

De Relatie tussen Lichaamsbeeld en Seksuele Ervaringen (met een samenvatting in het Nederlands)

Proefschrift

ter verkrijging van de graad van doctor aan de Universiteit Utrecht op gezag van de rector magnificus, prof.dr. G.J. van der Zwaan, ingevolge het besluit van het college voor promoties in het openbaar te verdedigen op woensdag 24 mei 2017 des middags te 2.30 uur

door

Femke van den Brink

geboren op 28 juli 1984 te Amersfoort

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Contents

Chapter 1
General introduction 7

Chapter 2
Body image and female sexual functioning and behavior: A review 13

Chapter 3
Body satisfaction and sexual health in Dutch female university students 63

Chapter 4
Measurement invariance of the Body Appreciation Scale:
A comparison of Dutch and US women 77

Chapter 5
Positive body image and sexual functioning in Dutch female university students:
The role of adult romantic attachment 85

Chapter 6
Negative body attitudes and sexual dissatisfaction in men:
The mediating role of body self-consciousness during physical intimacy 101

Chapter 7
Relationships between body image, sexual satisfaction,
and relationship quality in romantic couples 113

Chapter 8
Summary and General discussion 127

References 139

Dutch summary, Samenvatting in het Nederlands 163

Dankwoord 173

Curriculum Vitae 179

Chapter 1

General introduction

Body image: From the past to the present

Long before the beginning of modern science, Plato once wrote "We are bound to our bodies like an oyster is to its shell", highlighting that our body influences our life experiences. The inspiring history of the scientific study of body image started in the early 1900s. Interested in unusual forms of body experience, neurologists observed that patients who lost a limb through injury or amputation typically have inaccurate images of their bodies in that these images still include the missing body part. The dominant construct of body image at the time was that of body schema, a neural mechanism whereby each person unconsciously constructs a mental image of the own body. According to Head (1920), the brain uses this mental image to accurately feel and move the body and its parts. A distorted body schema can result in unusual body experiences such as phantom limb.

A different construct of body image was proposed by Schilder. His classical definition of body image as "the picture of our own body which we form in our mind, that is to say the way in which the body appears to ourselves" (Schilder, 1935, p. 11) was the starting point for the movement of the study of body image beyond the domain of neurophysiology. Schilder, psychoanalyst and psychiatrist, pioneered in the belief that one's body image is not solely shaped through isolated process in the brain, but also consists of attitudes and interactions with others. With his idea, he inspired many psychologists to investigate cognitive and emotional elements of body image. Throughout the second half of the 20th century, psychoanalytic and cognitive behavioral approaches have had a major influence upon body image theory and research. As a result of renewing insights from different psychological perspectives, the concept of body image was broadened over time. At the end of the 20th century, Thompson, Heinberg, Altabe, and Tantleff-Dunn (1999, p. 10) defined 14 different terms that have been used in research to refer to (aspects of) body image.

Body image is now generally viewed as a multidimensional construct. Cash (2002a) referred to body image as the 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 present-day body image literature, although the vast majority of studies have focused on the evaluative dimension.

In the past two decades we have witnessed a tremendous growth in the number of published studies on body image. Whereas scientific attention was initially focused on young women suffering from eating disorders (Cash, 2004; Cash *&* Smolak, 2011), body image is nowadays also extensively studied in non-clinical populations. This is an important development in the field, since the sociocultural emphasis on appearance in western societies is now larger than ever before (Grogan, 2007). The current body ideal holds that women should appear thin with specific bust-waist-hip proportions of 36–24–36 inches (90-60-90 centimeters) while men should appear tall and heavily muscled with low body fat (Harrison, 2003; Pope, Phillips, *&* Olivardia, 2000). Mass media promote this beauty ideal that leads many people to feel

badly about their own bodies as this –for most people unattainable– ideal body is presented as inseparable from happiness, desirability, and success in life (Tiggemann, 2002). Clearly, a negative body image is not limited to women with eating disorders. Alarming statistics indicated that a negative body image is prevalent, especially among girls and young women (e.g., Bearman, Presnell, Martinez, *&* Stice, 2006; Hoyt *&* Kogan, 2001; Presnell, Bearman, *&* Stice, 2004; Stice *&* Whitenton, 2002), which led to the conclusion that a negative body image has reached epidemic proportions among women in western society (e.g., Cash, 2008). The widespread incidence of negative body image is concerning because of its link with serious psychological and physical health concerns, such as low self-esteem (Ambwani *&* Strauss, 2007), depressive feelings (Stice, Hayward, Cameron, Killen, *&* Taylor, 2000), social anxiety (Cash, Thériault, *&* Annis, 2004), extreme dieting (Crowther *&* Williams, 2011), and the use of steroids (Cafri *&* Thompson, 2004).

Body image in a sexual context

There is an important link between body image and experiences of sexuality, given the heightened attention inherently placed on the body in the context of sexual activity. Sexuality is a multidimensional construct that includes many different aspects, such as sexual knowledge, beliefs, attitudes, values, and behaviors (Bernhard, 2008). A potential association between body image and aspects of sexuality was firstly found by Masters and Johnson (1970), who were pioneers in research on the nature of the human sexual response and the diagnosis and treatment of sexual disorders and dysfunctions. Based on observations of sexual behaviors in a laboratory setting, they introduced the term 'spectatoring' which involves a person attending to own body parts and adequacy of personal sexual functioning during sexual activity from a third person perspective, rather than from a first-person perspective. According to Masters and Johnson, spectatoring is a dysfunctional process, in which sexual anxieties translate into negative cognitions which can underlie sexual avoidance and dysfunctions.

Barlow (1986) continued studying the phenomenon of spectatoring, especially in the context of erectile dysfunction, and proposed a causal model of attentional processes in sexual functioning in which disruptions in the processing of erotic cues required for sexual arousal impede sexual functioning. These disruptions occur when a self-focus during sexual activity activates anxiety which, in turn, causes an attentional shift from reward-motivated focus on arousal cues to threat-motivated focus on the likelihood and consequences of failure. Building upon the laboratory work of Barlow and others (e.g., Beck, Barlow, *&* Sakheim, 1983; Sakheim, Barlow, Beck, *&* Abrahamson, 1984), Faith and Schare (1993) studied the relationship between spectatoring and the frequency of engaging in a wide range of sexual behaviors using self-report inventories. Interestingly, they argued that a negative body image reflects the same type of hypercritical body evaluation encountered during spectatoring. Whereas prior experimental research measured spectatoring as the extent to which subjects were able to monitor their genitals while exposed to erotic stimuli, Faith and Schare assumed that a negative body image is indicative of chronic spectatoring and operationalized it as the extent to which subjects endorse negative statements to describe their bodies (e.g., "I am too fat"). As their results indicated that individuals who perceive their bodies in more negative terms are more likely to describe themselves as less sexually active than those perceiving their bodies positively, they were the first in targeting a specific link between body related evaluations and sexual experiences.

Meanwhile, body image had been investigated in relation to a variety of variables of sexuality, such as more physical aspects of sexual functioning (e.g., experiencing sexual arousal and achieving an orgasm), subjective sexual satisfaction, sexual schemas, sexual esteem, and sexual (risk) behavior. As sexuality plays a considerable role in romantic relationships and is an important aspect of emotional and psychological health (e.g., Bridges, Lease, & Ellison, 2004; Levin, 2007), the rapid growth of research on the link with body image is a step forward in understanding the role of body image in the context of individual sexual experiences with implications for interventions. However, as pointed out by Thompson (2004), we have witnessed an explosion in the assessments developed to measure various aspects of the construct. It is therefore difficult to draw solid conclusions from the existing research. Which aspects of body image are most relevant in the context of sexual experiences? And what are important mechanisms or mediating variables by which body image affects sexual experiences? The overachieving aim of this thesis was to answer these questions. In order to do so, we first conducted a literature review on the relationship between body image and sexual experiences. Next, the conclusions of the literature review were used as a starting point for a series of empirical studies addressing gaps in the existing literature in order to contribute to a more complete view on the relationship between body image and sexual experiences. An outline of the thesis is presented below.

Outline of this thesis

In **Chapter 2**, with the Faith and Schare study (1993) as a starting point, data from 57 studies were compiled for a review of empirical evidence regarding the association between body image and sexuality among healthy women. The overall conclusion of this literature review was that body image issues can affect all domains of sexual functioning. Cognitions and self-consciousness during sexual activity seem to be key factors in understanding the complex relationships between women's body image and sexuality. Body evaluations and cognitions do not interfere only with sexual responses and experiences during sexual activity, but also with sexual behavior, sexual avoidance, and risky sexual behavior. Although this review demonstrated the importance of taking body evaluations and cognitions into account when studying sexual experiences, the existing research turned out to be limited in several ways.

First, it is notable that very little attention in research is paid to *positive* aspects of body image and female sexuality. This has probably resulted in an underestimation of the variation of female body image experiences in relation to their sexual experiences. Second, although contextual body cognitions and evaluations (i.e., in the context of sexual activity) were found to be most relevant for sexual experiences, most studies only assessed general body image (i.e., one's general or typical feelings of satisfaction or dissatisfaction with various aspects of one's body without specifying a particular situational context). As general body image may not be synonymous with body image during sexual activity, it is important to take this distinction into account. Third, there is a relative lack of corresponding research on males. It is often assumed that, because a negative body image is more prevalent in women than men, the same would be true for body image in a sexual context. Lastly, body image and sexual experiences have often been studied outside of a partner or romantic context. As sexual activity often takes place within the context of a romantic relationship, examining the role of partner-related cognitions and evaluations is important. In this thesis, these important limitations were addressed in five empirical studies in order to build upon existing research.

Chapter 3 describes the first study that focused on positive aspects of body image in relation to women's sexual experiences (N = 319). The aim of this study was to examine differences in recent sexual activity, sexual self-esteem, and general sexual functioning between women who experience positive body evaluation compared to women who experience neutral body evaluation. Additionally, it was explored if body satisfaction would mediate the relationship between body image self-consciousness during sexual activity and these aspects of sexuality. **Chapter 4** describes the study that investigated the factor structure of the Body Appreciation Scale (BAS) and tested for measurement invariance using a Dutch sample female university students (n = 470) and previously published data from US samples female university students (n = 181, n = 327, n = 424). The BAS measures positive body image more broadly than only body satisfaction, therefore relevant in studies examining positive body image in relation to sexual experiences. **Chapter 5** builds on the previous two chapters and describes the study that examined the role of a potentially important partner-related variable in the context of positive body image and sexual functioning in women: romantic attachment (N = 319). A proposed conceptual model linking romantic attachment, positive body image, and aspects of sexual functioning (i.e., desire, arousal, lubrication, orgasm, satisfaction, and pain) was tested using structural equation modeling. In **Chapter 6**, the focus is on men. This study investigated associations between four key aspects of male body image evaluation (i.e., with respect to muscularity, body fat, height, and genitals) and body self-consciousness during physical intimacy with sexual dissatisfaction (N = 201). **Chapter 7** describes the study that examined associations between positive body image, sexual satisfaction, and perceived romantic relationship quality in heterosexual couples (N = 151). By using a dyadic approach, both partners' perspectives were taken into account. The thesis concludes with the Summary and General discussion in **Chapter 8** in which the findings of all studies are discussed and integrated, along with the theoretical implications, practical implications, key limitations, and directions for future research.

Chapter 2

Body image and female sexual functioning and behavior: A review

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Authors' contributions:
FvdB collected the studies for review. FvdB and LW wrote the paper. FvdB and LW participated in finalizing the manuscript and approving it.

Abstract

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.

Introduction

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, 2002a). 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 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 authors who seemed to have an 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 ways in which body image and sexuality were conceptualized in studies varies, and different terms have been used to refer to different 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 (2002a) provided a useful multidimensional model. He referred to body image as the 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, 2002a).

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 were 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). 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 model 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 the domains 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, spectatoring, 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 sections, 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, Thurau, & 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 (Graham, Sanders, Milhausen, *&* McBride, 2004). Sexual desire 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 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 wom-

en 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 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 absent 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, and 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 to pain (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 overall 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 in women). 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 a Diagnostic and Statistical Manual of Mental Disorders (4th ed.; American Psychiatric Association, 1994) diagnosis of a sexual dysfunction showed that women with sexual dysfunction also presented more negative body image beliefs (Nobre & Pinto-Gouveia, 2006). 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, that it is women's *perceptions* of their bodies, rather than any objective measures of their bodies, that predict 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, and 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 wom-

en 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. There 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 (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 the number of non-intercourse sexual partners 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 & Schare, 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. Pinquart (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 pornography was associated with negative feelings about 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 frequency of sexual activity decreased as the result of watching pornography.

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 associ-

ations 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 felt more negative about their bodies reported lower levels of desire and arousal (e.g., Ackard et al., 2000; Koch et al., 2005; Seal et al., 2009), increased avoidance (e.g., Reissing et al., 2005; La Rocque & Cioe, 2010), and 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 sexual activity with casual partners and inconsistent condom or contraceptive use (e.g., Akers et al., 2009; Eisenberg et al., 2005; Gillen et al., 2006; Kvalem 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 to a greater degree 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 undermines 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, 2002a).

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 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 incorporated the partner. Berman et al. (2003) reported more distress and depression among those women with more negative genital self-image. 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 in their sample 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 arousal, satisfaction, and orgasm in women, but not sexual desire.

Table 1. Overview of the literature

Author(s)	Study design	Body image measure(s)
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
Akers et al. (2009)	Survey; cross-sectional, correlational design	Perceived weight, weight perception accuracy (comparing BMI with perceived weight)

Sexuality measure(s)	Sample: *N*, Age, *M (SD)*	Results (for female participants)
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 (β = .50), having sex with lights on (β = .44), frequency of initiating sex (β = -.11), frequency of achieving orgasm during sex (β = .15), comfort trying new sexual activities (β = .21), and partner pleasure (β = .13).
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, —	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. 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.

Author(s)	Study design	Body image measure(s)
Albright (2008)	Survey, cross-sectional, correlational design	Impact of sexual activities online on sexual self-image (e.g., partner more critical of me)
Ålgars 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 and smaller breasts
Berman, Berman, Miles, Pollets, & Powell (2003)	Survey, cross-sectional, correlational design	GSIS
Calogero & Thompson (2009a)	Survey, cross-sectional, correlational design	IG-SATAQ, BSh-OBCS, BSu-OBCS

Sexuality measure(s)	Sample: *N*, Age, *M (SD)*	Results (for female participants)
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)	9% of the women reported that watching pornography was likely to make their partners more critical of them.
FSFI, Modified version of Section III of the DSFI	9,532 (n = 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).
FSFI, FSDS	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.
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 (β = .42), which led to higher body shame (β = .34) and lower sexual self-esteem (β = -.38), which, in turn, predicted less sexual satisfaction (body shame β = -29). In addition, more body shame led to lower sexual self-esteem directly (β = -.21), and body surveillance led to less sexual satisfaction directly (β = -.28). Study 1: Sexual self-esteem was negatively correlated with self-objectification (r = -.56).

Author(s)	Study design	Body image measure(s)
Calogero & Thompson (2009b)	Survey, cross-sectional, correlational design	Study 1: BD-EDI-2, DT-EDI-2, BS-OBCS Study 2: BD-EDI, DT-EDI-2, BS-OBCS, BS-OBCS
Carvalho & Nobre (2010)	Survey; cross-sectional, correlational design	BIB-SDBQ, LSBIT-SMQ
Cash, Maikkula, & Yamamiya (2004)	Survey; cross-sectional, correlational design	BASS-MBSRQ, OP-MBSRQ, ASI, BESAQ, PSCSQ
Daniluk (1993)	Qualitative focus group study	Subjective experiences of body image

Sexuality measure(s)	Sample: *N*, Age, *M (SD)*	Results (for female participants)
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 2: 111 English female students (64.9% White, 4.5% Black, 14.4% Asian, 12.6% Southern European, 3.6% American), —, 22.00 (3.81)	Self-objectification predicted sexual self-esteem (β = -.56). Study 2: Self-objectification was negatively correlated with sexual self-esteem and sexual self-competence (r = -.38 and r = -.36, 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 (β = -.36 and β = -.21, respectively). Self-objectification directly predicted sexual self-competence (β = -.35), and body shame did not.
Sexual desire dimension of the FSFI	237 Portuguese women, —, 35.30 (10.80)	Body image beliefs and self–body image thoughts did not predict sexual desire.
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 (β = -.25).
Subjective experience and expression of sexuality	10 Canadian women (primarily White), —, 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

Author(s)	Study design	Body image measure(s)
Davison & McCabe (2005)	Survey; cross-sectional, correlational design	BIS-BIBCQ, BII-BIBCQ, PAS, BCS-BIBS, BIS-BIBS, SPAS, PACS
Donaghue (2009)	Survey; cross-sectional, correlational design	Satisfaction with current body in general and weight
Dove & Wiederman (2000)	Survey; cross-sectional, correlational design	GBDS, ABDs
Eisenberg, Neumark-Sztainer, & Lust (2005)	Survey; cross-sectional, correlational design	Satisfaction with body image/size during the past 30 days
Faith & Schare (1993)	Survey, cross-sectional, correlational design	BI-DSFI
Gillen, Lefkowitz, & Shearer (2006)	Survey; cross-sectional, correlational design	CDRS, AE-MBSRQ, AO-MBSRQ

Sexuality measure(s)	Sample: *N*, Age, *M (SD)*	Results (for female participants)
		their healthy sexual functioning. Self-acceptance and self-love were viewed as the road to such integration.
SOS-MSSCQ, SSES-MSSCQ, SSS-MSSCQ	437 Australian participants (80% originally from Australia; *n* = 226 women); —, 42.26 (17.11)	The body image variables were unrelated to aspects of sexual functioning.
SSSS	91 Australian female students, —, 30.16 (11.11)	Body satisfaction was positively correlated with the passionate/romantic (*r* = .33) and open/direct dimensions (*r* = .36) of sexual self-schemas, but not significantly related to the embarrassed/conservative dimension (*r* = -.18, *ns*).
SOS, DSD-SDI, short form of the SES, OC, PO, percentage of pretended orgasms, SSS	120 Northern American women (93% Caucasian), —, 18.85 (0.85)	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).
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%), —	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.
SI-DSFI, AS-DSFI, SES-DSFI	248 undergraduate and graduate Northern American psychology students (*n* = 140 women), —, —	Worse body image conceptualizations significantly predicted lower frequency of sexual behaviors (β = -.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 (β = .36).
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,

Author(s)	Study design	Body image measure(s)
Graham, Sanders, Milhausen, & McBride (2004)	Qualitative focus group study	Subjective feelings about one's body
Herbenick et al. (2011)	Survey; cross-sectional, correlational design	FGSIS
Holt & Lyness (2007)	Survey; cross-sectional, correlational design	AE-MBSRQ, AO-MBSRQ, FE-MBSRQ, FO-MBSRQ, HE-MBSRQ, HO-MBSRQ, IO-MBSRQ, BASS-MBSRQ, SW-MBSRQ
Hoyt & Kogan (2001)	Survey; cross-sectional, correlational design	Satisfaction body parts and global appearance items of the BRSS

Sexuality measure(s)	Sample: *N*, Age, *M (SD)*	Results (for female participants)
		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.
Cues for sexual arousal, relationship between arousal and sexual interest, enhancer/ inhibitors of arousal	80 Northern American women (mixed ethnic composition), —, 34.30 (16.10)	Feeling comfortable and positive about one's body was frequently mentioned as a factor that would facilitate sexual arousal.
FSFI	2,056 Northern American women (66.2% White, 13.1% Black, 13.7% Hispanic), 18–60, —	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).
GSS-PSSI, SP-PSSI	44 English college students (n = 130 women), —, 21.50 (ages 18–21)	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 (β = .29 and β = .26, respectively). Appearance evaluation was the only significant predictor of sexual satisfaction, in general (β = .31), and overweight preoccupation was the only significant predictor of sexual satisfaction with a partner (β = .25).
Sex life item of the BRSS	288 Northern American college students (95.1% Caucasian; n = 187 women), —, 20.71 (3.30)	Women who were dissatisfied with their sex lives were more dissatisfied with their body appearance than those who were satisfied with their body appearance.

Author(s)	Study design	Body image measure(s)
Koch, Mansfield, Thurau, & Carey (2005)	Survey; cross-sectional, correlational design	Self-attractiveness in comparison to 10 years ago
Kvalem, von Soest, Træen, & Singsaas (2011)	Survey; prospective, correlational design	BASS
Lankveld, van & Bergh (2008)	Laboratory study; cross-sectional, experimental design	SSF-SSCS, SE-SSCS, self-focus on physical appearance (experimental condition)
Larson, Clark, Robinson, & Utter (2011)	Survey; cross-sectional, correlational design	Weight satisfaction, trying to lose weight

Sexuality measure(s)	Sample: *N*, Age, *M (SD)*	Results (for female participants)
Changes in sexual response in the past 10 years (e.g., more/less frequency of sexual activity)	307 Northern American women (99.2% Caucasian), —, 50, (ages 39–56)	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.
Coital onset	Time 1: 5,055 Norwegian adolescents (*n* = 2,535 girls), —, 14.00 (0.85) Time 4: 1,449, —, 26.80 (0.75)	Girls between 14 and 17 years of age (Time 2) without coital experience were significantly more satisfied with their bodies, compared withgirls 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).
FSFI, genital measure of sexual responding (vaginal photoplethysmograph), subjective sexual responding (potentiometer)	40 Dutch women, —, 28.70 (10.50)	Induction of state self-focus *per se* 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.
Sexual activity, STI prevention communication, condom use, contraception use	9,107 New Zealand students (*n* = 4,187 females; 55.3% European, 24.7% New Zealand Maori, 8.2% Pacific, 7.2% Asian), 12–18, —	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).

Author(s)	Study design	Body image measure(s)
Littleton, Radecki-Breitkof, & Berenson (2005)	Survey; cross-sectional, correlational design	BC-OBSC, BSh-OBCS, BSu-OBCS
Meana & Nunnik (2006)	Survey; cross-sectional, correlational design	BI-DSFI, ABDs
Meston (2006)	Laboratory study; cross-sectional, experimental design	BI-DSFI
Nobre & Pinto-Gouveia (2006)	Survey; cross-sectional, correlational design	BIB-SDBQ
Pauls, Occhino, & Dryfhout (2008)	Survey; prospective, correlational design	BESAQ
Penhollow & Young (2008)	Survey; cross-sectional, correlational design	BISC, BES

Sexuality measure(s)	Sample: *N*, Age, *M (SD)*	Results (for female participants)
Condom use, sex after alcohol or drugs use, binge, number of sexual partners	1,547 Northern American women (37% Caucasian, 34% Hispanic, 29% African American), —, 25.00 (7.50)	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).
Global Sexual Functioning Score of the SHF, SI-DSFI, SES-DFSI, AS-DFSI, PD-DFSI, AfS-DFSI, FS-DFSI, FS-DFSI, SS-DSFI	457 Northern American college students (56.5% Caucasian, 14% Asian American, 11% African American, 9% Hispanic American), 18–20 (for 78%; *n* = 237 women), —	Appearance distraction was negatively related to sexual satisfaction (r = -.32), but not related to global sexual functioning, sexual knowledge, sexual attitudes, sexual information, 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 (β = .21) and negative body image (β = .50).
FSFI, SSSW, self-report sexual responses to the erotic film, physiological sexual responses to erotic film (vaginal photo-plethysmograh)	32 Northern American women: *n* = 16 sexually functional women, —, 28.90 (8.40); *n* = 16 sexually dysfunctional women, —, 32.30 (10.20)	Sexually dysfunctional women showed a trend toward lower body image than did sexually functional women (p = .07).
FSFI, other SDBQ domains	488 Portuguese women: *n* = 160 without sexual problems, —, 30.40 (11.40); *n* = 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).
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).
Modified DSFI	408 Northern American students (84% White, 11% Black; *n* = 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

Author(s)	Study design	Body image measure(s)
Peplau et al. (2008)	Survey; cross-sectional, correlational design	AE-MBSRQ, OP-MBSRQ, BIQLI
Pinquart (2009)	Survey; cross-sectional, correlational design	AS-BIQ
Pujols, Meston, & Seal (2010)	Survey; cross-sectional, correlational design	Weight concern, physical condition and sexual attractiveness subscales of the BES, ABDs
Purdon & Holdaway (2006)	Survey; cross-sectional, correlational design	NETCQ
Reissing, Laliberté, & Davis (2005)	Survey; cross-sectional, correlational design	BAQ

Sexuality measure(s)	Sample: *N*, Age, *M (SD)*	Results (for female participants)
		(*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 identified in the best-fit model for women: concerns about being nude, fitness, and exercise frequency.
Sex life items of the BIQLI	Study 1: 2,512 Northern American adults: *n* = 1,619 heterosexual women, —, 27.05 (8.85);*n* = 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.
AS, love attitude, initiative to have intercourse, postponing the decision.	687 German adolescents (*n* = 405 women), —, 15.80 (1.19)	Lower body satisfaction was associated with higher decisional ambivalence (β = –.13), and not associated with delayed first sexual intercourse.
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 (β = .20) and low frequency of appearance-based distracting thoughts during sexual activity (β = .15), after controlling for sexual functioning status. Post hoc testing revealed that the sexual attractiveness subscale of the BES was the only significant predictor of sexual satisfaction.
SFQ, GMSEX, SOS	97 Canadian psychology students (almost exclusively Caucasian; *n* = 50 females), —, 20.00 (1.50)	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 type of non-erotic thought experienced during typical sexual activities with a partner.
SAS, SSSS, SSES-F, FSFI	107 Canadian women (94% identified themselves as	Body attitudes were significantly associated with sexual aversion (*r* = -.33), but not as-

Author(s)	Study design	Body image measure(s)
Roberts & Gettman (2004)	Laboratory study; cross-sectional, experimental design	AAS, self-objectification or body competence condition (priming condition)
Rocque, la & Cioe (2010)	Survey; cross-sectional, correlational design	AE-MBSRQ, AO-MBSRQ, BASS-MBSRQ, BESAQ
Sanchez & Kiefer (2007)	Survey; cross-sectional, correlational design	BSh-OBCS, BISC

Sexuality measure(s)	Sample: *N*, Age, *M (SD)*	Results (for female participants)
	Canadian), 18–29, —	sociated with low sexual self-efficacy, negative sexual adjustment, and negative sexual self-schema. Negative body attitudes were not predictive of lower sexual self-efficacy (β = .15). A more negative body attitude was associated with an increase in sexual aversion (β = -.33), which, in turn, was associated with negative sexual adjustment (β = .38).
Appeal of Sex Scale	160 Northern American undergraduate students (82% European American, 15% Hispanic, 3% African American; *n* = 90 women), 17–30, 19.00 (—)	Women's ratings of the appeal of physical sex were significantly higher in the body competence condition than in the self-objectification condition.
Sexual avoidance dimension of the SAS, SSE-SS, SS-ESLS, DSD-SDI	362 Canadian students (*n* = 264 women; 86.5% White), —, 19.41 (1.42)	A relationship between negative body image and a greater tendency to avoid sexual activity was found (β = -.35). Sexual esteem, sexual satisfaction, and sexual desire appeared to mediate this relationship (body image significantly predicted these mediators, β = .62, β = .48, and β = .17, respectively). In turn, these variables were associated with greater sexual avoidance (β = -.42, β = -.12, and β = –.18, respectively). The direct relationship between body image and sexual avoidance was not significant in the mediation model.
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)	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 (β = .53), which, in turn, predicted lower sexual pleasure (β = .28) and sexual arousability (β = -.29). Results persisted, controlling for relationship status and age. Being in a relationship was associated with less sexual self-consciousness (β = .27) and less orgasm difficulty (β = .29).

Author(s)	Study design	Body image measure(s)
Satinsky, Reece, Dennis, Sanders, & Bardzell (2012)	Survey; cross-sectional, correlational design	BAS
Schick, Calabrese, Rima, & Zucker (2010)	Survey; cross-sectional, correlational design	VAS, GISC
Schooler, Ward, Merriwether, & Caruthers (2005)	Survey; cross-sectional, correlational design	BCBM, BISC
Seal, Bradford, & Meston (2009)	Laboratory study; cross-sectional, correlational design	BES

Sexuality measure(s)	Sample: *N*, Age, *M (SD)*	Results (for female participants)
FSFI	247 Northern American women (66.8% White), —, 29.90 (7.77)	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 (β = .27), orgasm (β = .24), and satisfaction aspects (β = .37) of sexual function.
MRS-MSSCQ, SE-MSSCQ, SSS-MSSCQ	188 Northern American female undergraduate students (80% White), —, 19.39 (1.41)	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.
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; β = -.67 and β = .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.
Desire, arousal, and lubrication dimensions of the FSFI, SSAS	85 Northern American female students (54% White, 21% Hispanic= Latina, 12% African	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

Author(s)	Study design	Body image measure(s)
Seal & Meston (2007)	Laboratory study; cross-sectional, experimental design	Body awareness (experimental condition), BES
Shulman & Horne (2003)	Survey; cross-sectional, correlational design	BIA, BASS-MBSRQ

Sexuality measure(s)	Sample: *N*, Age, *M (SD)*	Results (for female participants)
	American, 11% Asian), —, 18.90 (0.90)	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.
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 to be 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).
Presence and frequency of masturbation	96 Northern American women (*n* = 51 African American, *n* = 45 European American), 18–49, —	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

Author(s)	Study design	Body image measure(s)
Steer & Tiggemann (2008)	Survey; cross-sectional, correlational design	SOQ, BSu-OBCS, BSh-OBCS, AAS, BISQ

Sexuality measure(s)	Sample: *N*, Age, *M (SD)*	Results (for female participants)
		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.
Desire, Arousal, Orgasm, and Satisfaction dimension of the FSFI	116 Australian female students (> 90% Caucasian), —, 22.74 (8.44)	Self-objectification and self-surveillance were not related to sexual functioning, both general and current. 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 other hand. Path analysis showed that self-objectification led to self-surveillance (β = .69), which led to body shame (β = .41) and appearance anxiety (β = .42), which, in turn, led to self-consciousness during sex (β = .21 and β = .47, respectively) and, finally, to sexual dysfunction (β = -.41). There was just one additional, direct pathway from self-surveillance to self-consciousness during sex (β = .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 (β =.41) and current sexual activity (β = .44).

Author(s)	Study design	Body image measure(s)
Tang, Lai, & Chung (1997)	Survey; cross-sectional, correlational design	BI-DSFI
Trapnell, Meston, & Gorzalka (1997)	Survey; cross-sectional, correlational design	BI-DSFI
Vasilenko, Ram, & Lefkowitz (2011)	Survey; prospective, correlational design	AE-MBSRQ
Weaver & Byers (2006)	Survey; cross-sectional, correlational design	BD-EDI, BIAQ, SIBID
Weeden & Sabini (2007)	Survey; cross-sectional, correlational design	Self-ratings of overall physical attractiveness

Sexuality measure(s)	Sample: *N*, Age, *M (SD)*	Results (for female participants)
SES-DSFI, SI-DSFI, AS-DSFI, FS-DSFI, SSS-DSFI, DS-DSFI	305 Chinese college students (*n* = 145 females), —, 20.50 (1.40)	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.
SES-DSFI, SI-DSFI, AS-DSFI	722 Canadian psychology students (51% East or Southeast Asian ancestry; *n* = 437 women), 17–55 (*Mdn* = 19), —	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.
Age of first intercourse	Time 4: 100 Northern American college students (49% European American, 26% Latino American, 25% African American; 45% female), —, 23.00 (5.40)	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.
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 (*sr* = -.17 and *sr* = .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.
Sexual behaviors (e.g., number of life-time intercourse partners) and attitudes (e.g., number of intercourse partners expected over the next five years)	456 Northern American students (71% non-Hispanic European descent, 15% Asian descent, 3% African descent; *n* = 238 women), —, 19.02 (1.14)	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).

Author(s)	Study design	Body image measure(s)
Wenniger & Heiman (1998)	Survey; cross-sectional, correlational design	AE–MBSRQ, AO–MBSRQ, FE–MBSRQ, FO–MBSRQ,HE–MBSRQ, HO–MBSRQ, IO–MBSRQ
Werlinger, King, Clark, Pera, & Wincze (1997)	Survey; retrospective, correlational design	AE–MBSRQ, BASS–MBSRQ
Wiederman (2000)	Survey; cross-sectional, correlational design	Study 1: BD–EDI–2, self-rated bodily attractiveness, BISQ Study 2: BD–EDI–2, self-rated bodily attractiveness, BISQ
Wiederman & Hurst (1998)	Survey; cross-sectional, correlational design	BD-EDI; Self-rated bodily attractiveness; AO-MBSRQ

Sexuality measure(s)	Sample: *N*, Age, *M (SD)*	Results (for female participants)
BSFQ	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)	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" (β = -.37), less investment in being physically fit (β = .31), and lower body esteem regarding sexual attractiveness were associated with a lower level of sexual functioning (β = .43).
DS–DSFI, SSS–DSFI, GSSI–DSFI, importance of the various factors in perceived changes in sexual functioning (e.g., being more attractive to others)	32 Northern American obese women (91% White), —, 47.00 (—)	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: SSE-SS, heterosexual experiences Study 2: SSE-SS, SAI, HISA, SAS, extent and frequency of heterosexual experiences	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)	Study 1: Higher body image self-consciousness during sexual activity was 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 the prediction of the experience of vaginal intercourse, fellatio, and cunnilingus.
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)	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 wom-

Author(s)	Study design	Body image measure(s)
Wild, Flisher, Bhana, & Lombard (2004)	Survey; cross-sectional, correlational design	BI-SEQ
Wingood, DiClemente, Harrington, & Davies (2002)	Survey; cross-sectional, correlational design	A modified version of the BAQ
Yamamiya, Cash, & Thompson (2006)	Survey; cross-sectional, correlational design	BIQ, BESAQ

Sexuality measure(s)	Sample: *N*, Age, *M (SD)*	Results (for female participants)
		en 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.
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)	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.
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).
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

Author(s)	Study design	Body image measure(s)

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); ABDs¼Appearance-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 (Cash, 1994a, 2000); BAQ = Body Attitude

Sexuality measure(s)	Sample: *N*, Age, *M (SD)*	Results (for female participants)
		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 (β = -.19). BESAQ scores accounted for initial ambivalence about having sex with a partner (β = .26) and degree of emotional disengagement during sex (β = .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.

Questionnaire (Story, 1998); BCBM = Body Comfort/Body Modesty Measure (Merriwether & 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 (Wieder-

man, 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); FO–MBSRQ = Fitness Orientation subscale of the Multidimensional Body–Self Relations Questionnaire (Cash, 1994a, 2000); GBDS = General Body Dissatisfaction subscale of the Body Attitude Test (Probst, Vandereycken, Van Coppenolle, & Vanderlinden, 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); GSIS = 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: AfS–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 (Wenniger & 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 (Deroga-

tis, 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 Arousability 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 Arousability 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, Kearl, & 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, 1992a); SI– DSFI = Sexual Information subscale of the Derogatis Sexual Functioning Inventory (Derogatis, 1975); SI–SAI = Sexual Intercourse subscale of the Sexual Arousability 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–ESLS= 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).

Chapter 3

Body satisfaction and sexual health in Dutch female university students

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Authors' contributions:
FvdB, LW, and MS made substantial contributions to the study conception and design. FvdB and JT collected the data. FvdB and DH performed the data-analysis. FvdB wrote the paper. FvdB, MS, DH, JT, and LW participated in finalizing the manuscript and approving it.

Abstract

Studies in the field of body image have primarily addressed its negative aspects, such as body dissatisfaction. The present study focused instead on women who are satisfied with their bodies and on how body satisfaction relates to sexual health. A sample of 319 Dutch female university students completed an online survey that included items about body image evaluation, body image investment, overweight preoccupation, body image affect during sexual activity, sexual frequency, sexual functioning, and sexual self-esteem. We found that the level of body dissatisfaction was minimal in our sample. The majority reported neutral or mildly positive body evaluations, and in 30% of the sample these evaluations were clearly positive. Comparisons between women who reported positive versus neutral body evaluations showed that the body-satisfied women had lower body mass indexes (BMIs) and reported less body image investment, less overweight preoccupation, and less body self-consciousness during sexual activity. With regard to sexual health, they reported higher sexual self-esteem and better sexual functioning. Furthermore, we found that body image self-consciousness was negatively associated with sexual functioning, sexual self-esteem, and frequency of sexual activity with a partner. Body satisfaction did not account for a portion of the relationship of body self-consciousness during sexual activity with sexual health.

Introduction

There is an extensive body of literature on female body image, most of which was generated in the United States and other Western countries. The main conclusion of this literature seems to be that poor body image is widespread, especially among young women (e.g., Bearman, Presnell, Martinez, & Stice, 2006; Hoyt & Kogan, 2001; Presnell, Bearman, & Stice, 2004; Stice & Whitenton, 2002). It has been repeatedly maintained that negative body image can be considered a "normative discontent" among women in Western societies (Rodin, Silberstein, & Striegel-Moore, 1985). However, recent research in a large sample of Dutch participants revealed that approximately 73% of young women reported moderate to high body satisfaction (Woertman & van den Brink, 2008). This research indicates that the results of international body image studies cannot be generalized to the Dutch situation. It is, however, difficult to make comparisons, because research quantifying the number of young women who have positive body image, defined as being satisfied with one's body, and the determinants of positive body image have been scarce. The chief emphasis in the literature has been on negative aspects; only a small number of studies have focused specifically on positive body image. The results of these few studies indicated that positive body image was associated with several aspects of better overall adjustment and mental health. Women with positive body image have, for example, lower disordered eating, higher self-esteem and optimism, and more proactive coping styles (Avalos, Tylka, & Wood-Barcalow, 2005; Wood-Barcalow, Tylka, & Augustus-Horvath, 2010). They also demonstrate higher self-ratings of attractiveness, higher educational qualifications, lower neuroticism (Swami, Hadji-Michael, & Furnham, 2008), and more negative attitudes toward cosmetic surgery (Swami, 2009).

Little is known about the sexual health of women who are satisfied with their bodies. Sexual health can be described as a state of physical, mental, and social well-being in relation to sexuality (World Health Organization, 2012), and it contains biological, psychological, and sociocultural aspects (Bernhard, 2002). As is the case in other Western countries, sexual pleasure and intimacy are important to the majority of Dutch women and contribute to a general feeling of well-being. The majority of Dutch women feel positive about their sex lives (Rutgers Nisso Groep, 2009b). But how is sexual health associated with body image? Does a positive body image imply positive sexual health?

International research has linked aspects of body image to different facets of female sexual health, focusing on identifying correlates of body dissatisfaction, such as sexual aversion (Reissing, Laliberte´, & Davis, 2005), sexual avoidance (la Rocque & Cioe, 2010), risky sexual behavior (Littleton, Breitkopf, & Berenson, 2005), and sexual problems (Sanchez & Kiefer, 2007). From these findings it could be inferred that a positive body image is associated with positive sexual health. However, it cannot be assumed that characteristics and experiences of women who experience body satisfaction are simply the opposite of those of women who are dissatisfied. Likewise, positive body evaluation is not synonymous with the absence of body dissatisfaction (e.g., Wood-Barcalow et al., 2010). In line with "positive psychology," portraying positive body image in this manner is inappropriate, because the absence of pathology does not always indicate optimal healthy functioning (e.g., Seligman & Csikszentmihalyi, 2000). For example, it is well documented that body dissatisfaction is one of the most consistent and robust risk and maintenance factors for eating pathology (Stice, 2002). However, the absence of eating disorder is not evidence of favorable body image per se. As argued by Seligman and

Csikszentmihalyi (2000), it is important not to conceptualize psychological health as only the absence of pathology, weakness, and damage, but to acknowledge and appreciate the role of positive traits that contribute to and maintain overall psychological health. Identifying the determinants of positive body image could increase our understanding of how to prevent issues related to negative body image and may help uncover human strengths that act as protective factors against developing negative body image.

Aims of this study

Our first aim was to test whether we could replicate the previous finding that the majority of young Dutch women experience moderate to high body satisfaction (i.e., neutral to positive body evaluations) (Woertman *&* van den Brink, 2008). Our second aim was to explore the sexual health of young women who are satisfied with their bodies. In accord with a multidimensional approach toward body image and the important distinction between general and contextually specific body image, we also included other dimensions of body image: body image investment (i.e., appearance importance), overweight preoccupation, and body image affect (i.e., body image self-consciousness during sexual activity) (Cash, 1994c, 2002b). The indicators of sexual health examined in this study were recent sexual activity, sexual self-esteem, and general sexual functioning, because these variables have frequently been studied in association with negative body image. We compared scores on demographic, personal, and the previously mentioned variables between women who reported positive body evaluation and women who reported neutral body evaluation. Neutral in addition to referring to satisfaction being average, in this context may also be interpreted in terms of ambiguity, in the sense that how respondents experience their bodies varies from relatively positive to relatively negative, depending on circumstances. Discriminating between the underlying dimensions of sexual health, previous correlational studies have indicated that women more satisfied with their bodies reported more sexual activity than women who were dissatisfied (Ackard, Kearney-Cooke, *&* Peterson, 2000). They also had higher levels of sexual self-esteem (la Rocque *&* Cioe, 2010; Weaver *&* Byers, 2006) and experienced better general sexual functioning (Weaver *&* Byers, 2006). Based on these results, we expected to find more positive sexual health in women who experience positive body evaluation than in women who experience neutral body evaluation.

In addition, we explored the role of body image affect (i.e., body image self-consciousness during sexual activity) in sexual health. Research has shown that high body image self-consciousness during sexual activity was associated with avoidance of sexual activity (Wiederman, 2000), lower sexual self-esteem (Dove *&* Wiederman, 2000), and sexual dysfunction (Cash, Maikkula, *&* Yamamiya, 2004; Dove *&* Wiederman, 2000; Steer *&* Tiggemann, 2008; Yamamiya, Cash, *&* Thompson, 2006). Body image self-consciousness during sexual activity was also found to interact with sexual responses and experiences to a greater extent than with general body image (Steer *&* Tiggemann, 2008; Yamamiya et al., 2006). However, it is unknown whether a high level of general body satisfaction may serve as a protective factor against negative effects of body image affect during sexual activity on sexual experiences. Therefore, this study explored whether body satisfaction would mediate the relationship between body image self-consciousness during sexual activity and sexual health.

Method

Procedure and participants

The participants were recruited via the Internet. The website of Utrecht University provided a link to the questionnaire. The program Net Questionnaires was used to create the online questionnaire. Students signed up for participation via a special website accessible only to students, listing all available studies. Criteria for participation were female gender, university student, between 18 and 35 years old, and sexually active (with a partner, now or in the past). When opening the link, participants first completed an informed consent form. The questionnaire measured different dimensions of body image. The participants answered demographic questions and general questions about mental health status and sexual health. On average, it took 15 minutes to complete the questionnaire. At Utrecht University, bachelor program students are required to spend a minimum of 10 hours as research participants in scientific studies. Completion of this questionnaire resulted in the automatic credit of one half hour to the account of the participant.

In this study, 322 Dutch female university students initially participated. Three participants were excluded from further analysis because of the absence of any current or previous sexual experience with a partner. The final sample consisted of 319 women. Age ranged from 18 to 30 years (M = 22.05, SD = 2.48). The large majority of the sample (83%, n = 265) reported not being religiously active, 14% (n = 45) Christian, and 3% (n = 9) "other" religion. In the total sample, 95.5% (n = 305) were heterosexual, 0.8% were homosexual (n = 3), and 3.6% (n = 11) were bisexual. Most participants (72.4%, n = 231) had a sexual partner at the time of completing the questionnaire. In this sample, 2.2% (n = 7) of the women were currently diagnosed with a mood disorder, 1.6% (n = 5) with an anxiety disorder, 1.6% (n = 5) with an eating disorder, and 0.4% (n = 1) with a sexual disorder. None of the participants was currently diagnosed with body dysmorphic disorder. Of these young women, 11.6% (n = 37) reported negative sexual experiences in the past. Participants' body mass index (BMI) was calculated from self-reported weight and height (kg/m^2). Percentages of underweight (BMI < 18.5 kg/m^2), normal weight (BMI 18.5 to 25 kg/m^2), overweight (BMI 25 to 30 kg/m^2), and obese (BMI > 30 kg/m^2) participants were also calculated. BMI ranged from very underweight (BMI 15.57), to obese (BMI 39.14) (M = 21.84, SD = 2.84). The majority of the participants were in the normal weight range (84.0%, n = 268); 5.6% (n = 18) were underweight; 7.8% (n = 25) were overweight; and 2.5% (n = 8) were obese.

Comparisons with national census data showed that our sample was overrepresented by nonreligious participants. In the Netherlands, 55% of young women (aged 18 to 25 years) with higher education reported being nonreligious, whereas 31% reported a Christian religion (Centraal Bureau voor de Statistiek, 2009a). Moreover, our sample was underrepresented by overweight participants. In the general population of young Dutch women (aged 18 to 25 years), 19.3% were found to be overweight and 73% were in the normal weight range (Centraal Bureau voor de Statistiek, 2009b). Having a diagnosis of a psychiatric disorder (de Graaf, ten Have, & van Dorsselaer, 2010) and negative sexual experiences in the past (Rutgers Nisso Groep, 2009a) was less common in the present sample compared to the general Dutch population of young adult women.

Measures

All scales were translated from English to Dutch with the translate-retranslate method (i.e., retranslation by native speaker).

Demographic/personal questions. These items asked participants' age, height, weight, sexual orientation, how long they had been sexually active, the number of sexual partners they had up to the present, and the type of relationship they were in currently. Religious disposition was measured by the item, "What is currently your religion?" (non, Christianity, Islam, or other). In addition, participants were asked if they were currently diagnosed with a psychiatric disorder (sexual disorder, eating disorder, anxiety disorder, mood disorder, and body dysmorphic disorder). Lastly, participants were asked if they had had negative sexual experiences in the past (e.g., sexual abuse and sexual violence).

Body image. Body image was measured by items of four subscales of the Multidimensional Body-Self Relations Questionnaire (MBSRQ) (Brown, Cash, & Mikulka, 1990; Cash, 2012). The Appearance Evaluation (AE) subscale was used to measure evaluative body image, with higher scores indicating more favorable evaluations of overall appearance. The subscale consisted of seven 5-point disagree-agree Likert items and assessed the global evaluation of one's appearance (e.g., "My body is sexually attractive."). Gillen, Lefkowitz, and Shearer (2006) found a reliability of $\alpha = 0.88$ in a sample of young women aged 17 to 19. Eleven items of the Appearance Orientation (AO) subscale were used to assess body image investment. The scale consisted of 5-point disagree-agree Likert items about the importance of appearance (e.g., "Before I go home, I always check how I look."). Wiederman and Hurst (1998) found a reliability of $\alpha = 0.87$ for this subscale in a sample of young adult women. Three items of the Overweight Preoccupation (OWP) subscale were used to measure concerns about being or becoming fat, vigilance of small weight fluctuations, dieting behaviors, and eating restraint. Answers were measured on a 5-point disagree-agree Likert scale (e.g., "I am very conscious of even small changes in my weight.").This scale has been reported to be internally reliable in a sample of young females ($\alpha = 0.82$) (Grogan, Hartley, Conner, Fry, & Gough, 2010). To measure body image affect during sexual activity, participants completed the 15-item Body Image Self-Consciousness Scale (BISC), with higher sores indicating more self-consciousness during sexual activity (Wiederman, 2000). Potential responses for each item ranged from Never (1) to Always (6) (e.g., "During sexual activity, I am [would be] concerned about how my body looks to my partner."). The scale was found to be reliable in a sample of women ranging in age from 18 to 21, with $\alpha = 0.95$ (Wiederman, 2000).

Sexual health. A Sexual Frequency Scale (SFS) (McCabe & Taleporos, 2003) assessed whether the participants had engaged in a range of six sexual activities on a 5-point scale (0 = Never; 1 = One time; 2 = 2 to 5 times; 3 = 6 to 20 times; or 4 = More than 20 times) over the past six months. The items fell into either the "solo" category (masturbation by yourself, viewing erotic movies/magazines) or "mutual sexual activity" category (deep kissing, nude cuddling, oral sex, sexual intercourse), and separate totals were obtained for both of these categories. The Sexual Esteem Scale (SES) (Snell & Papini, 1989), a subtest of the Sexuality Scale, was used to assess sexual self-esteem. The SES consists of ten items (e.g., "I am a good sexual partner"), including five reverse-keyed items. Responses were made on a modified 5-point Likert-type scale ranging from Definitely disagree to Definitely agree. Higher scores indicated

higher sexual self-esteem. The scale was found to be reliable, with a α = 0.92 (Snell *&* Papini, 1989). The Female Sexual Function Index (FSFI) (Rosen et al., 2000) was used to measure current sexual functioning. It consists of 19 items grouped into six scales: Desire, Arousal, Lubrication, Orgasm, Satisfaction, and Pain. Each item is rated on a 5-point Likert scale, where higher scores indicate better sexual functioning (e.g., "Over the past 4 weeks, how often did you feel sexual desire or interest?"). The scale has been found t be internally consistent, with a α = 0.82 (Rosen et al., 2000). Dutch research has supported the reliability and psychometric validity of the FSFI in adult women (ter Kuile, Brauer, *&* Laan, 2006).

Results

Percentage of women who experienced body satisfaction

To select women who were satisfied with their body, the Appearance Evaluation subscale of the Multidimensional Body-Self Relations Questionnaire (MBSRQ) (Brown et al., 1990; Cash, 2012) was used (see previous Measures section), which, in addition to individuals' negative body evaluations, also assesses neutral and positive body evaluations. The mean score on this subscale indicated neutral to fairly positive body evaluations in general (M = 3.73, SD = 0.84). Only four participants (1.3%) reported scores of 1 (Disagree) or 2 (Mostly disagree) on all the items and were clearly dissatisfied with their bodies. Since we were specifically interested in positive body evaluation, answering all seven items with a score of 4 (Mostly agree) or 5 (Agree) was labeled as body satisfaction. For comparison, we compiled a second group of women who reported neutral body evaluations. This group was created by selecting the remaining participants, who used mainly 3 as a response or answered using the full range from 1 to 5, as opposed to using only 1 (Disagree) or 2 (Mostly disagree) (i.e., clear negative body evaluations). The women with distinctive negative body evaluations (n = 4) were excluded. Our final sample consisted of 94 (29.8%) women experiencing exclusively positive body evaluation and 221 women (70.2%) experiencing neutral body evaluation.

Differences between the body-satisfied and the body-neutral group

Demographic/personal variables. To explore characteristics of young women who were satisfied with their bodies, we compared scores on demographic and personal variables between women who were clearly satisfied with their bodies and women who were not. To this end, chi-square tests and independent sample t-tests were conducted. Because of the number of analyses being conducted, $p < 0.01$ was employed to define statistical significance. We found that the body-satisfied (M = 22.52, SD = 2.77) and neutral group (M = 21.85, SD = 2.31), $t(151) = 2.01$, $p = 0.04$, did not differ on age. Similarly, the body-satisfied and neutral groups were not significantly different on reported religion, $\chi^2(1) = 0.21$, $p = 0.65$. We found no differences in heterosexual or nonheterosexual orientation between women who reported positive and neutral body evaluation, $\chi^2(1) = 0.16$, $p = 0.69$. The age of being sexually active with a partner for the first time ranged from 11 years to 24 years in the total sample and did not significantly differ between the body-satisfied (M = 16.52, SD = 1.86) and the neutral group (M = 16.37, SD = 1.94), $t(313) = 0.66$, $p = 0.51$. The number of sexual partners ranged from 1 to 42 and also did not differ between these groups (M = 5.82, SD = 6.05, and M = 5.84, SD = 8.23, respectively), t(313) = -0.02, p = 0.61. Having a partner, a diagnosis of a psychiatric disorder, and negative sexual experiences were also unrelated to body satisfaction in our sample: $\chi^2(1) = 2.66$, $p = 0.10$; $\chi^2(1) = 0.68$, $p = 0.41$; $\chi^2(1) = 0.12$, $p = 0.73$, respectively.

BMI, body image, and sexual health variables. The reliability of the body image and sexual health subscales was high (Table 1), except for the two-item SFS-solo subscale (α = 0.43). We therefore decided to include only one item of this subscale in the further analyses. The frequency of masturbation question was used, because masturbation has been found to have a strong link with young women's sexual health (Hogarth & Ingham, 2009) and therefore was highly relevant for the content of this study.

We examined whether there were differences in BMI, other body image indicators, and sexual health indicators based on the presence of body satisfaction. Because of relationships previously observed within young women between BMI, body image, and sexual health, a *MANOVA* was performed to determine whether a significant effect existed when the variables were considered together. The independent variable entered was Body satisfaction group, and dependent variables were BMI, Body image investment, Overweight preoccupation, Body image affect during sexual activity, Solo sexual frequency, Mutual sexual frequency, Sexual self-esteem, and Sexual functioning. A significant effect was found for body satisfaction on the other body image and sexual health variables, Wilks's λ, $F(8, 252) = 0.74$, $p = <0.001$. Subsequently, univariate F values were computed. It was found that women who reported positive body evaluation had lower BMIs and reported less body image investment, less overweight preoccupation, and less body self-consciousness during sexual activity than women who reported neutral body evaluation. Women who experienced positive body evaluation also reported higher sexual self-esteem and better general sexual functioning. The comparisons with regard to sexual frequency were not statistically significant (see Table 1).

Table 1. Ranges, Cronbach's Alpha, and differences in scores of the body image and sexual health measures between women who experienced positive and neutral body evaluation

			Positive body evaluation (n = 94)		**Neutral body evaluation (n = 221)**			
Measure	**Range**	**α**	**M**	**SD**	**M**	**SD**	**F**	**p**
Body Mass Index	15.75-39.14	-	20.92	2.15	22.87	2.95	12.88	0.000*
Body image investment	1-5	0.82	3.48	0.73	3.71	0.66	5.54	0.019*
Overweight preoccupation	1-5	0.77	1.85	0.86	2.87	1.16	50.48	0.000*
Body image affect	1-6	0.95	1.51	0.48	2.22	0.95	42.31	0.000*
Solo sexual frequency	0-4	-	1.71	0.98	1.80	0.79	0.33	0.567
Mutual sexual frequency	0-4	0.89	3.30	0.93	3.05	1.02	3.49	0.063
Sexual self-esteem	1-5	0.94	3.73	0.78	3.27	0.88	25.53	0.000*
Sexual functioning	1-5	0.96	4.40	0.48	4.20	0.59	7.15	0.008*

Note. Body image investment was measured by the MBSRQ-AO subscale, overweight preoccupation by the MBSRQ-OWP subscale, body image affect during sexual activity by the BISQ scale, solo and mutual sexual frequency by items of the SFS, sexual self-esteem by the SES, and sexual functioning by the FSFI.
* $p < .05$

Exploration of mediating effects of body image self-consciousness during sexual activity

To explore whether body satisfaction was a mediator of body self-consciousness during sexual activity and sexual health (i.e., sexual functioning, sexual self-esteem, and mutual sexual frequency), partial and complete mediation effects were tested by means of path analyses. First, total effects were estimated and tested. Second, path analysis models, including direct and indirect effects, were fitted to the data. Finally, models in which the direct effects were set equal to the estimated total effects were tested against models in which the direct effects were estimated freely. The unstandardized regression parameter estimates for the simple regressions of FSFI on BISC, SES on BISC, and SFS-Mutual on BISC were -0.158 ($p < 0.001$), -0.316 ($p < 0.001$), and -0.372 ($p < 0.001$), respectively. Thus, low body image self-consciousness was directly associated with better sexual functioning, higher sexual self-esteem, and higher frequency of sexual activity with a partner. After including AE as a mediator, the direct effect of BISC on FSFI was -0.166 ($p = 0.001$), the direct effect of BISC on SES was -0.232 ($p = 0.000$), and the direct effect of BISC on SFS-Mutual was -0.495 ($p < 0.001$). Thus, complete mediation could be rejected for all three outcome variables. Subsequently, likelihood ratio testing of the estimated total effect against the indirect effect after inclusion of AE as a mediator yielded $p = 0.870$ for FSFI, $p = 0.256$ for SES, and $p = 0.094$ for SFS-Mutual; therefore, absence of partial mediation could not be rejected for all three outcome variables. These findings indicated that the relationship between body self-consciousness during sexual activity and sexual health was not (partially) mediated by participants' general body evaluation.

Discussion

The focus of the present study was on body satisfaction and sexual health in young women. Although extant body image research has provided a rich understanding of this complex construct, negative aspects of body image and adverse consequences (e.g., disordered eating behaviors) (Polivy & Herman, 2002; Stice, Presnell, & Spangler, 2002) have dominated the literature. There is a current belief that dissatisfaction with appearance is a prevalent problem for many girls and young women. In contrast with this belief, and as expected, we found that the level of body dissatisfaction was minimal (1.3%) in our Dutch sample. The large majority reported neutral or more ambiguous body evaluations, but in 30% evaluations were clearly positive, implying that most of the women in our sample did not experience body image issues. This finding replicates previous Dutch study results (Woertman & van den Brink, 2008). Although international studies, mainly those performed in the United States, have indicated that many young women struggle with body image issues, no normative body dissatisfaction was encountered in our sample of Dutch female university students. How do we best account for these differences?

To remain close to the data, we draw attention to the average BMI in the sample of Dutch students included in the present study being lower than in comparable American samples (e.g., Siegel, 2010; Woertman & van den Brink, 2008). In general, Dutch women are less likely to be overweight compared to American women. Estimated prevalence of overweight and obesity are also much lower in the Netherlands (World Health Organization, 2010). In addition, Dutch women are generally taller. Dutch women now average 5 feet 6 inches, which is almost 2 inches taller than American women (Centraal Bureau voor de Statistiek, 2010; McDowell, Fryar, Ogden, & Flegal, 2008). The Dutch emphasis on early childhood care, greater equality

of nutritional opportunity in childhood in the Netherlands, and a health system that requires everyone to have insurance coverage are likely to have contributed in making the Dutch taller and less likely to be overweight in comparison with people in the United States, where growing poverty has contributed to poorer childhood nutrition and lack of available health care for many people. Given the current tall, thin standard of the Western beauty ideal (Byrd-Bredbenner *&* Murray, 2003) it is likely that many young American women perceive more discrepancy between their current body and the ideal female body portrayed in the media than Dutch women, resulting in more body dissatisfaction. Research has clearly demonstrated that women in the United States experience body dissatisfaction because of exposure to unrealistic beauty ideals (Grogan, 2008). Although exposure to thin ideals in the media has been shown to be related to body dissatisfaction in Dutch women as well (Anschutz, Engels, *&* van Strien, 2008), it is unknown if they adhere to Western standards of thinness in the same way. North American women may be more susceptible to feel pressure to conform to the Western beauty ideal because appearance and beauty play a greater part in their own development (e.g., beauty contests in high school) (Anschutz, van Strien, *&* Engels, 2008). Possibly, the cultural differences lay also in the attitudes regarding obtaining the perfect appearance. Finkelstein (1991, p. 87) argued that in the United States the capacity of the body for alteration and modification is understood to be unlimited. In his view, the body becomes a commodity, which can be continuously upgraded and modified in accordance with new interests and greater recourses. For example, the United States is the world's biggest consumer of plastic surgery. The Netherlands is ranked 24th on the list of the number of plastic surgeries conducted per year (ISAPS, 2011). The previously mentioned cultural differences may be explanations for the discrepancy between our results with respect to body satisfaction and those of studies performed in the United States. However, since we did not include an American sample in the present study nor assess sensitivity to beauty ideals, this explanation remains hypothetical, needing further investigation.

Of course, cultural factors other than the ones just addressed may be involved in understanding differences in body satisfaction across the globe (e.g., religion and ethnicity). Compared to U.S.-based samples, samples of young Dutch university students are predominantly nonreligious (e.g., Baugh, Mullis, Mullis, Hicks, *&* Peterson, 2010; Woertman *&* van den Brink, 2008), and the ethnic composition is generally more than 90% Caucasian, whereas more ethnic variety has been found in American university students (e.g., Weeden *&* Sabini, 2007). In conclusion, even within the Western world—which is generally considered to be fairly homogeneous in terms of culture—what may seem to be subtle differences in socioeconomic, political, and religious makeup of the society may have substantial impact on how women feel about themselves.

The second aim of this study was to explore characteristics of young women who are satisfied with their bodies, with emphasis on their sexual health. How did they differ from the women who reported neutral body image evaluations? It appeared that women who reported positive body evaluation had lower BMIs and reported less preoccupation with their weight than women who reported neutral body evaluation. This implies that both actual weight, and weight-related feelings and cognitions contribute to body satisfaction in young women. The body-satisfied women also reported less monitoring and evaluation of their body during sexual activity. With regard to sexual health, our results paint a positive picture, with high mean scores on

the sexual self-esteem, sexual functioning, and sexual frequency variables in the total sample. Women who reported overall body satisfaction evaluated themselves more positively as a sexual partner and reported better general sexual functioning than women who were neutral about their bodies. Both solo and mutual sexual frequency did not differ between women with positive and neutral body image evaluations. These results imply that body satisfaction is associated with positive quality, but not higher quantity, of sexual experiences.

These findings are broadly in line with findings of international correlational research, which have shown positive associations between body satisfaction and sexual health. Body satisfaction was found to be associated with fewer sexual difficulties (Weaver *&* Byers, 2006), greater sexual satisfaction (Holt *&* Lyness, 2007; Penhollow *&* Young, 2008), and greater comfort with one's body during sexual activity (Ackard et al., 2000). The latter variable is especially important as it captures context-specific body evaluations and is therefore likely to affect sexual health more directly than general body evaluations (Yamamiya et al., 2006). In this study, it was found that low body image self-consciousness was independently associated with better sexual functioning, higher sexual self-esteem, and higher frequency of sexual activity with a partner. General body satisfaction did not account for a portion of the relationship of body self-consciousness during sexual activity with sexual health. Thus, a high level of general body satisfaction does not serve as a protective factor against negative effects of persistent evaluation of one's body during sexual activity on sexual health.

Limitations

The results must be considered in light of study limitations. Previous research suggests that women who volunteer to participate in sex research tend to be more sexually experienced, hold less traditional sexual attitudes, and report higher sexual self-esteem and sexual sensation seeking (Wiederman, 1999). Furthermore, young women without any sexual experience with a partner were not included in this study. Dutch studies have indicated that many young women have minimal experience. For example, in one survey, over 25% of young women aged 19 to 20 years, and over 15% of those aged 20 to 24 years, had no experience of sexual intercourse. Age of first intercourse appeared to be later for higher-educated women, women in certain ethnic groups (e.g., Turkish, Moroccan), and women who were not in a steady relationship (Rutgers Nisso Groep, 2009a). Women not engaging in sexual intercourse may not yet be interested in having sex, may be waiting for higher levels of relational commitment first, or may intend to have sexual intercourse only after getting married (e.g., due to religious beliefs). In addition, they may avoid sexual experiences with a potential partner due to concerns about their bodily appearance. Recent research suggests that body dissatisfaction predicts a lower likelihood of coital onset for some girls (Pearson, Kholodkov, Henson, *&* Impett, 2012). Because of the homogeneous sample (i.e., high education, sexually experienced women, nonreligiosity, and healthy weight status), the findings are not representative for the general Dutch female population of that age. In addition, all the variables were measured by self-report, so there could be a social desirability bias. We also specifically measured women's satisfaction with their appearance, not other characteristics of positive body image. Using instruments that are able to examine multiple facets of positive body image, such as the Body Appreciation Scale (Avalos et al., 2005), can offer a more complete understanding of this construct. Furthermore, a measure of physical fitness was not included in this study, which in retrospect was an oversight, as exercising has been associated with body satisfaction (LePage *&* Crowther,

2010), and with sexual health indicators such as higher sexual performance and sexual desirability (Penhollow & Young, 2004), as well as with sexual satisfaction (Penhollow & Young, 2008). Lastly, the relation between body image and sexual health is correlational; thus, the direction of causation could go from sexual health to body image, as well as vice versa.

Conclusions

Despite the limitations, this study adds to the wider body image literature by targeting body satisfaction in young women. In our opinion, identifying female subpopulations with positive body image and characterizing the personal and environmental determinants involved will be conducive to fully understanding female body image. From the perspective of positive psychology, it is important to identify protective factors and strengths of individuals to gain a complete and balanced scientific understanding of body satisfaction and dissatisfaction (Seligman & Csikszentmihalyi, 2000). In addition, cultural differences between Northern European countries such as the Netherlands and other Western countries possibly contributing to body satisfaction need to be further addressed. For example, research from Schalet (2004) showed that Dutch society is quite different from American society when considering sexuality. Dutch parents are less controlling of adolescent sexuality. They assume that teenagers can self-regulate their sexual development, and they discuss sexuality openly. This contrasts with a more conservative view on sexuality in American parents, which may account for the high sexual self-esteem and low self-consciousness during sexual activity among young Dutch women. Further research is needed to identify which cultural determinants contribute to appearance satisfaction and sexual health. Understanding how positive body image can contribute to a satisfying sex life will be valuable in selecting the appropriate targets for treatment intervention in the context of sexual dysfunction or body image issues, and improve women's well-being.

Chapter 4

Measurement invariance of the Body Appreciation Scale: A comparison of Dutch and US women

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Authors' contributions:
DH, FvdB, MS, and LW made substantial contributions to the study conception and design. FvdB collected the data. DH performed the data-analysis. FvdB and DH wrote the paper. FvdB, MS, DH, and LW participated in finalizing the manuscript and approving it.

Abstract

The Body Appreciation Scale (BAS) targets important facets of positive body image and is widely utilized by researchers to measure positive body image in women. To determine whether the BAS measures the same construct in Dutch as in US subpopulations, the current study investigated the factor structure of the BAS and tested for measurement invariance using a Dutch sample female university students (n = 470) and previously published data from US samples female university students (n = 181, n = 327, n = 424; Avalos, Tylka, & Wood-Barcalow, 2005). Results supported measurement invariance, thus providing further evidence for the psychometric qualities of the BAS, by supporting the cross-country validity and comparability.

Introduction

Over the last decades, positive body image has attracted increasing attention in body image research, overturning the traditional focus on negative body image (Tylka, 2011). Positive body image is a multidimensional construct, containing dimensions like appreciation, acceptance of the body, adaptive investment in appearance, and the ability to conceptualize beauty broadly and filtering appearance-related information in a body-protective way (Tylka & Wood-Barcalow, 2015[a]). Positive body image is conceptually distinct from negative body image (Tylka, 2011). Positive body image is reflected not just by the absence of body dissatisfaction *but also* by the presence of love, respect, acceptance, and appreciation held for one's body. Targeting positive body image in research may generate insights for prevention and treatment of body image issues that might not be derived from the measurement and reduction of negative body image. A positive approach can enhance further physical and psychological health benefits (Webb, Wood-Barcalow, & Tylka, 2015).

To enable measurement of key dimensions of positive body image, Avalos, Tylka, and Wood-Barcalow (2005) developed the Body Appreciation Scale (BAS). This 13-item self-report scale assesses favorable opinions about the body, acceptance of the body in spite of imperfections, respect for needs of the body, and protection of body image by rejecting unrealistic thin media images. Avalos et al. (2005) found good psychometric results for the BAS in samples of US women. The BAS is now widely used and further evidence of validity of translated versions (e.g., Spanish, Lobera & Ríos, 2011; German, Swami, Stieger, Haubner, & Voracek, 2008) of this measure was demonstrated.

The BAS has not yet been translated to Dutch. Although Western countries are generally considered to be fairly homogeneous in terms of culture, positive body image of Dutch women may be different when compared with women in other Western countries. However, it might be invalid to make comparisons based on BAS mean scores across different groups. Before comparing scale scores, it is crucial to ensure that the same latent construct is measured in people from different (sub)cultures (e.g., Chen, 2008). Therefore, the aim of the current study was to determine whether the BAS measures the same construct in Dutch and US subpopulations. To this end, Dutch data were compared with previously published data obtained in US samples (Avalos et al., 2005). Multi-group principal components analyses were used to test if there is measurement invariance for the BAS across Dutch and US subpopulations.

Method

Participants

The Dutch sample consisted of 470 female psychology students from Utrecht University. Age ranged from 18 to 30 years (M = 21.79, SD = 2.14). Previously published data from three studies in US samples, mainly consisted of psychology students, were used (Avalos et al., 2005) for comparison with our Dutch sample. Participants were 181 women (M = 20.24, SD = 5.17), 327 women (M = 18.45, SD = 1.04), and 424 women (M = 19.86 years, SD = 4.64), respectively. For a more extensive description see Avalos et al. (2005).

Measures

Body Appreciation Scale. A Dutch version of the Body Appreciation Scale (BAS) was used. The original scale (Avalos et al., 2005) was translated from English to Dutch with the trans-

late-retranslate method (retranslation by native speaker unaffiliated with the study). The scale consists of 13 5-point never-always Likert items (e.g., 'I respect my body'). Higher scores indicated greater body appreciation. Research conducted on the original version and on translated versions supported internal reliability and construct validity of the scale (Avalos et al., 2005; Swami et al., 2008). In the Dutch sample, Cronbach's alpha was .87.

Procedure

The Dutch participants were recruited via the Internet. Students could access the online questionnaire via a link on the website of Utrecht University. When opening the link, participants first completed an informed consent. Criteria for participation were being female, university students, and aged between 18 and 35 years. Participants received course credit. The main difference between procedures was that a pencil-and-paper method was used in the US samples. Participants completed the questionnaires in a classroom setting used as a research laboratory. For a complete description see Avalos et al. (2005).

Statistical analysis

A multi-group principal components analysis (MGPCA) was carried out (Dolan, Bechger & Molenaar, 1999; Flury, Nel, & Pienaar, 1995; Nel & Pienaar, 1998) using the Mx program (Neale, Boker, Xie, & Maes, 2003). MGPCA is as a special case of multi-group common factor analysis where the number of common factors equals the number of items, the common factors are assumed to be uncorrelated, no unique factors are assumed, and the factor loading matrix of each subpopulation is assumed to be orthogonal. MGPCA was selected because it prevents the possible misspecification of the number of factors in a usual common factor analysis and because it corresponds to the PCAs used in earlier studies of the BAS. Like a multi-group common factor analysis, MGPCA can be used to test for measurement invariance (Meredith, 1993). In the case of MGPCA, different forms of measurement invariance coincide. The only requirement for measurement invariance in a MGPCA, is the equality of factor loading matrices across populations. Under the assumption that the data are the observations of random samples from multivariate normal populations, equality of factor loading matrices across populations can be tested using a likelihood ratio test. If measurement invariance across populations holds, then the hypothesis that the items measure the same principal components in the different populations, cannot be rejected. Next, under measurement invariance, Welch's *t* tests can be carried out to test for differences in principal component means between populations.

Results

Multi-group principal components analyses

First, measurement invariance across the four subpopulations was tested. Results revealed that complete measurement invariance could not be rejected ($\chi^2[312] = 323.04$, $p > .320$). Second, a multi-group principal components model in which all parameter matrices for the US samples were set equal, was tested. Results revealed that the hypothesis that the three US samples came from the same population, could not be rejected ($\chi^2[364] = 399.71$, $p > .095$). Third, it was tested whether the variances of the principal components in the US subpopulation were the same as in the Dutch subpopulation. Results revealed that these variances were not the same ($\chi^2[377] = 627.88$, $p < .001$). Fourth, it was tested whether the means of the principal components in the US subpopulation were the same as in the Dutch subpopulation.

The null hypothesis that the means were the same also had to be rejected ($\chi^2[377] = 750.85$, $p < .001$).

Initial solution and oblique rotation

The first four principal components explained a large part of the total variance in both samples (73.6% in the Dutch sample , 78.6% in the US sample) and the rank order of the eigenvalues was the same in both samples (Table 1). Results of the Welch's t tests indicated small differences in all four principal components means (Table 1). Correlations after oblimin rotation of the first principal component with the second, third, and fourth were -.91, -.84, .88 (Dutch sample) and -.75, -.70, .65 (US sample), respectively. Correlations of the second principal component with the third and fourth were .62, -.94 (Dutch sample) and .20, -.86 (US sample), respectively. Correlations between the third and fourth principal component were -.78 (Dutch sample) and -.46 (US sample).

Discussion

To explore the comparability of the BAS between Dutch and US subpopulations, this study tested measurement invariance. Results supported measurement invariance, which provides further evidence for the good psychometric qualities of the BAS across countries.

The BAS was designed to provide a unidimensional measure of body appreciation (Avalos et al., 2005). Although our results do not support a unidimensional factor structure of the BAS in Western samples, they are generally in accordance with previous results. While a large amount of the variance was explained by the main principal component, eigenvalues corresponding to the second principal component were larger than 1 (see also Lobera & Ríos, 2011). Although correlations between the first and second principal component estimated after oblique rotation were high in this study –indicating that the two rotated components could not be easily differentiated- five items (item 7,8,9,11,12) had no acceptable loading onto the main rotated component. As previously reported by Tylka and Wood-Barcalow (2015[b]), these items had low item-factor loadings on the main factor compared to the other items. The other items appear to load consistently high across studies on the main factor, a latent construct that was previously labeled as 'General Body Appreciation' in studies in non-Western samples (Swami & Chamorro-Premuzic, 2008). In the present study, small mean differences between the Dutch and US subpopulation were observed for this latent construct, indicating that the average degree of general body appreciation was somewhat higher for the Dutch women. Results, however, also revealed a tendency of US women to report higher scores on items related to less investment or attention placed on weight and shape and protection of body image by rejecting unrealistic thin media images (item 9 and 12 with highest loadings on the second principal component and item 8 with highest loadings on the third principal component).

Limitations

These results must be considered in light of study limitations. It is important to note that the differences in facets of body appreciation between Dutch and US subpopulations may be explained by other factors, such as the time gap of ten years between the data collection in the US and the Dutch samples, differences in procedures (e.g., online questionnaire in the Dutch sample versus the pencil-and-paper method in the US samples), and differences in sample characteristics (e.g., ethnic composition). Furthermore, this study was based on homogenous

samples (mainly students). Future cross-country research is needed to further clarify the nature of differences in body appreciation within different Western countries The recently developed BAS-2, improved upon limitations of the original version (e.g., replacing items with low item-factor loadings on the main factor; Tylka & Wood-Barcalow, 2015[b]), would be valuable in this respect.

Conclusions

Overall, the results supported measurement invariance, which provide further evidence for the good psychometric qualities of the BAS, by supporting the cross-country validity and comparability.

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Table 1. Estimates of the principal component loadings of the items for the Dutch and US samples, eigenvalues of the principal components, percentages explained variance (EV), estimated mean difference between the Dutch and US sample, Welch's t test results, and adjusted R-squared for each of the first four principal components before and after oblimin rotation

	Before rotation				**After oblimin rotation**			
	Principal component							
Item	1	2	3	4	1	2	3	4
1	**.24**	-.13	.04	-.03	**.25**	-.03	.02	-.16
2	**.30**	-.12	-.06	.12	**.35**	-.05	-.03	-.03
3	**.33**	-.16	-.07	.14	**.39**	-.07	-.04	-.04
4	**.34**	-.01	-.12	.12	**.36**	-.06	-.02	.05
5	**.25**	-.11	-.02	.11	**.29**	-.06	-.00	-.03
6	**.33**	-.12	-.04	.11	**.37**	-.04	-.00	-.04
7	.19	**-.24**	.14	**-.34**	.12	-.00	.01	**-.47**
8	**.20**	**.42**	**.87**	.14	-.00	-.00	**.99**	-.01
9	**.22**	**.49**	**-.21**	.07	.13	**.46**	.09	**.35**
10	**.36**	-.10	-.04	.11	**.40**	-.02	.01	-.05
11	.14	-.33	**.26**	**-.67**	-.00	.06	.02	**- .79**
12	**.25**	**.57**	**-.29**	**-.56**	-.03	**.88**	-.02	-.06
13	**.33**	-.04	-.06	.09	**.35**	.04	.01	-.01
Eigenvalue								
Dutch	3.42	1.07	.75	.64	3.07	1.15	.83	.90
US	7.48	1.16	.99	.77	6.55	1.54	1.12	1.29
% EV								
Dutch	42.77	13.41	9.38	8.03	38.29	14.34	10.39	11.25
US	56.46	8.77	7.50	5.82	49.45	11.63	8.47	9.73
M difference	-.76	.22	.65	-.20	-.47	.53	.67	-.38
Welch's *t*	-5.83	3.41	11.92	-3.97	-3.82	8.10	11.36	-6.15
df	1042.94	744.94	820.24	781.90	1021.72	903.65	802.47	845.08
p-value	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
R^2_{adj}	.02	.01	.09	.01	.02	.04	.08	.02

Note. Absolute values greater than .20 are indicated in bold. A negative estimated mean difference means that the principal component mean is smaller in the US sample.

Chapter 5

Positive body image and sexual functioning in Dutch female university students: The role of adult romantic attachment

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Authors' contributions:
FvdB, LW, and MS made substantial contributions to the study conception and design. FvdB collected the data. DH and FvdB performed the data-analysis. FvdB wrote the paper. FvdB, MS, DH, and LW participated in finalizing the manuscript and approving it.

Abstract

This study focused on links between romantic attachment, positive body image, and sexual functioning. Dutch female university students (N = 399) completed an online survey that included self-report items about body appreciation, sexual functioning, and romantic attachment. A proposed conceptual model was tested using structural equation modeling and a good fit to the data was found. Results revealed that attachment avoidance in a romantic context was negatively related to sexual arousal, vaginal lubrication, the ability to reach orgasm, and sexual satisfaction. Attachment anxiety was negatively related to body appreciation which, in turn, was positively related to sexual desire and arousal. Findings indicated that romantic attachment is meaningfully linked to body appreciation and sexual functioning. Therefore, the concept of adult attachment may be a useful tool for the treatment of sexual problems of young women.

Introduction

Body image is best characterized as a multidimensional construct encompassing self-perceptions, attitudes, feelings, and behaviors about one's physical appearance (Cash, 2002a). The main focus in body image research has been on negative aspects of this construct (e.g., body dissatisfaction). Negative body image has been found to be associated with several aspects of poor mental health, such as disordered eating behaviors (Polivy & Herman, 2002) and depression (Stice, Hayward, Cameron, Killen, & Taylor, 2000). From these findings, it could be inferred that positive body image, which refers to the love, respect, acceptance, and appreciation held for one's body (Tylka, 2011), is associated with healthy psychological functioning. However, characteristics, predictors, and outcomes of positive body image may not be simply the opposite of those of negative body image (e.g., healthy eating behaviors instead of disordered eating behaviors). Moreover, positive body image is not synonymous with the absence of negative body image (e.g., Avalos, Tylka, & Wood-Barcalow, 2005). Positive body image is reflected by the absence of negative body attitudes and dissatisfaction, *and* the presence of favorable opinions of and positive feelings about the body.

Consistent with the positive psychology movement, it is important to not just the study of absence of pathology, weakness, and damage, but to acknowledge the role of positive traits that contribute to and maintain overall psychological health (Seligman & Csikszentmihalyi, 2000). Therefore, the focus in this study was on positive body image. Unless we fully understand the determinants of positive body image, clinical interventions cannot be expected to be completely successful in reducing negative body image and building positive body image.

Previous studies have found that positive body image was associated with several features of better overall adjustment and mental health, such as higher levels of self-esteem, more criticism on unrealistic beauty ideals, and more negative attitudes toward cosmetic surgery (Avalos et al., 2005; Grogan, 2010; Holmqvist & Frisén, 2012; Swami, 2009; Wood-Barcalow Tylka, & Augustus-Horvath, 2010). An equally important element of overall health and happiness is healthy and satisfying sexual functioning, as sexuality plays a considerable role in intimate relationships and is an important aspect of emotional and psychological health (Bridges, Lease, & Ellison, 2004; Levin, 2007).

Relationships between body image and female sexual functioning have been investigated mostly in negative terms. Although it is clear that body image issues can negatively affect different domains of sexual functioning (for a review, see Woertman & van den Brink, 2012), little is known about associations between sexual functioning and positive aspects of body image. To our knowledge, only two studies focused specifically on aspects of positive body image and relationships with female sexuality. Satinsky, Reece, Dennis, Sanders, and Bardzell (2012) found a sample of North American adult women that body appreciation positively predicted sexual arousal, the ability to reach orgasm, and sexual satisfaction aspects of sexual functioning. Likewise, van den Brink, Smeets, Hessen, Talens, and Woertman (2013) found that Dutch female university students who reported overall body satisfaction reported better general sexual functioning than women who were neutral about their bodies. These results indicate that positive body image, above and beyond the absence of negative body image, is important for positive sexual experiences.

There might be additional factors that impact associations between positive body image and sexual functioning. Identifying such factors is important in selecting the appropriate targets for treatment intervention in the context of sexual dysfunction and of improving women's sexual health and well-being. To this end, we examined links of attachment in romantic relationships with positive body image and sexual functioning.

Attachment refers to the ways individuals organize their connections to important others (Bowlby, 1969, 1973). It was originally considered as being categorical (i.e., secure, preoccupied, fearful, and dismissing; Bartholomew & Horowitz, 1991), but is currently often conceptualized as two continuous dimensions that underlie attachment orientations: anxiety (i.e., anxiety and vigilance concerning rejection and abandonment) and avoidance (i.e., discomfort with closeness and dependency or a reluctance to be intimate with others), with low levels of both dimensions suggesting secure attachment (Brennan, Clark, & Shaver; 1998; Fraley & Shaver, 2000). Both anxious and avoidant attachment are associated with difficulties in forming or maintaining healthy relationships with others (Bowlby, 1973).

Body image is strongly influenced by interactions with important others, with romantic partners contributing most strongly in adulthood (Tantleff-Dunn & Gokee, 2002). For example, negative comments and influences by romantic partners contribute to negative body image, whereas supportive communication helps to reduce body image stress and increase self-esteem (Weller & Dziegielewski, 2005). Insecurely attached individuals are likely to make more pessimistic attributions for their partner's behavior, whenever it activates one's fears about being rejected or doubts about the trustworthiness of others (Collins, Ford, Guichard, & Allerd, 2006). Therefore, insecure attachment to romantic partners might be associated with more vulnerability for interpreting (ambiguous) body-related comments of the partner in a negative way, resulting in negative feelings towards one's own body.

Studies that focused on the link between adult attachment and body image primarily examined relationships between aspects of body image and *general* adult attachment (i.e., attachment experiences in close relationships in general, without specifying whether those close others were romantic partners, parents, friends, etc.) (e.g., Elgin & Pritchard, 2006; Iannantuono & Tylka, 2012). Only a small number of studies focused on body image and attachment in romantic relationships specifically. One study that used a four-category model of adult attachment (i.e., secure, preoccupied, fearful, and dismissing; Bartholomew & Horowitz, 1991) found that a secure romantic attachment style in adulthood was positively related to a favorable body image, whereas a preoccupied romantic attachment style-characterized by high attachment anxiety but low avoidance-was associated with more body dissatisfaction and dysphoria. In the same study, the two underlying continuous dimensions of romantic attachment (i.e., anxiety and avoidance) were assessed. Anxious romantic attachment was a predictor of body dissatisfaction in a sample of North American female college students, whereas avoidant romantic attachment was not (Cash, Thériault, & Annis, 2004). The results were broadly in line with findings of other studies. Only romantic attachment anxiety was found to be associated with concerns and dissatisfaction about body shape in a samples female college students (Hardit & Hannum, 2012; Koskina & Giovazolias, 2010). Evans and Wertheim (1998) found in their sample of young adult females that anxious romantic attachment was associated with drive for thinness and general body dissatisfaction. Taken together, previous research sug-

gests that romantic attachment anxiety is associated with multiple aspects of negative body image, but that romantic attachment avoidance is unrelated to negative body image. To our knowledge, no studies have yet examined associations between positive body image and romantic attachment.

In adulthood, romantic partners typically function simultaneously as sexual partners and attachment figures (Hazan, Zeifman, & Middleton, 1994). Empirical studies have supported relationships between adult attachment in romantic relationships and various aspects of sexuality (for a review, see Stefanou & McCabe, 2012). Previous studies in clinical samples showed that both attachment anxiety and avoidance were related to painful experiences during sexual intercourse (Granot, Zisman-Ilani, Ram, Goldstick, & Yovell, 2010) and sexual dissatisfaction (Brassard, Péloquin, Dupuy, Wright, & Shaver, 2012). Studies in community samples found that both attachment anxiety and avoidance were associated with less sexual arousal (Birnbaum, 2007), problems with lubrication (Brassard, Shaver, & Lussier, 2007), lower levels of orgasmic frequency (Cohen & Belsky, 2008), and sexual dissatisfaction (Davis et al., 2006). In samples of female college students, attachment anxiety and avoidance were linked with impaired vaginal orgasm (Costa & Brody, 2011), sexual distress (Stephenson & Meston, 2010a), and negative affect about sexual experiences (Gentzler & Kerns, 2004). In addition, attachment anxiety was found to be related to less sexual satisfaction in female undergraduates (Stephenson & Meston, 2011).

The current study

The current study investigated associations of romantic attachment with positive body image and sexual functioning in young female university students. In early adulthood, romantic partners typically start to serve as important attachment figures (Fraley & Shaver, 2000). During this time, dating relationships are generally transformed into more serious romantic relationships and the attachment and caregiving features of romantic relationships become salient (Furman, 2002). Sexual activity often takes place within the context of these relationships (Willetts, Sprecher, & Beck, 2004). The increasing impact of a romantic partner in early adulthood makes this period in life of particular interest.

Based on the previous studies in this field-for most part of samples of college women-we posited that romantic attachment has important links with positive body image and female sexual functioning. We expected positive body image to be related to sexual functioning (van den Brink et al., 2013) (Hypothesis 1). Furthermore, romantic attachment-related anxiety was expected to be linked with positive body image (e.g., Cash et al., 2004) (Hypothesis 2). Additionally, we expected romantic attachment anxiety and avoidance to be related to lower sexual functioning scores (e.g., Birnbaum, 2007) (Hypothesis 3 and 4, respectively). Furthermore, previous research found that the anxiety and avoidance dimension of romantic attachment were interrelated (Fraley, Heffernan, Vicary, & Brumbaugh, 2011). This indicates that individuals who are highly anxious in relationship with a romantic partner also tend to avoid intimacy with this person and vice versa. We therefore predicted that romantic attachment anxiety and avoidance would be associated (Hypothesis 5).

Method

Participants

The participants were recruited via the Internet. The Website of Utrecht University provided a link to the questionnaire. The program "Net questionnaires" was used to create the online questionnaire. Students signed up for participation via a special website only accessible to students listing all available studies. Criteria for participation were female gender, university student, between 18 and 35 years old, and sexually active (with a partner, now or in the past). When opening the link, participants first completed an informed consent form. The questionnaires measured body appreciation, attachment anxiety and avoidance in romantic relationships, and sexual functioning. Demographic and personal questions were also included. These items asked participants' age, height, weight, religious affiliation, and sexual orientation. Participants were also asked if they were currently involved in a romantic relationship with a partner and if they were sexually active with their partner. Participants received course credit for participating in the study. On average, it took 25 minutes to complete the questionnaire.

A total of 399 Dutch female university students participated in this study. Age ranged from 18 to 29 years (M = 21.70, SD = 1.98). The large majority of the sample (72.8 %, n = 291) reported no religious affiliation, 23.3 % (n = 93) were of Christian religion, and 4.1 % (n = 16) were otherwise religious. In the total sample, 94.8 % (n = 379) were heterosexual, 1.3 % were homosexual (n = 5), and 4.0 % (n = 16) were bisexual. Most participants had a current romantic partner and were sexually active with their partner (66.7 %, n = 266). Participants' Body Mass Index (BMI) was calculated from self-reported weight and height (kg/m^2). Percentages of underweight (BMI < 18.5 kg/m^2), normal weight (BMI 18.5-25 kg/m^2), overweight (BMI 25-30 kg/m^2), and obese (BMI > 30 kg/m^2) participants were also calculated. The majority of the participants were in the normal weight range (85.7 %, n = 342), 4.0 % (n = 16) were underweight, 8.3 % (n = 33) were overweight, and 2.0 % (n = 8) were obese.

Comparisons with national census data showed that the sample was overrepresented by non-religious participants. In the Netherlands, 55% of young women (aged 18 to 25 years) with higher education reported being nonreligious, whereas 31% reported a Christian religion (Centraal Bureau voor de Statistiek, 2009a). Moreover, our sample was underrepresented by overweight participants. In the general population of young Dutch women (aged 18 to 25 years), 27.4% were found to be overweight and 66.8% were in the normal weight range (Centraal Bureau voor de Statistiek, 2011).

Measures

All scales were translated from English to Dutch with the translate-retranslate method (retranslation by native speaker), unless otherwise stated.

Positive body image. Positive body image was measured was assessed by measuring body appreciation using the Dutch version of the Body Appreciation Scale (BAS; Avalos et al., 2005). The scale consists of 13 5-point never-always Likert items. One example of an item is: "I respect my body". Scores were averaged to obtain an overall body appreciation score. Higher scores indicated greater body appreciation. This scale has been reported to be internally reliable in a sample of young females (α = 0.94; Avalos et al., 2005). In the present study, Cronbach's alpha for this scale was 0.88. Means and *SD*s for the current sample are shown in Table 1.

Sexual functioning. The Dutch version (ter Kuile et al., 2006) of the Female Sexual Function Index (FSFI; Rosen et al., 2000) was used to assess the key dimensions of sexual function in women. It consists of 19 items grouped into six domains: desire (two items), arousal (four items), lubrication (four items), orgasm (three items), satisfaction (three items), and the absence of pain (three items). Each item was scored on a scale of 0 or 1 to 5. Domain scores were obtained by adding the scores of the individual items that comprise the domain and multiplying the sum by the domain factor (desire 0.6, arousal and lubrication 0.3, orgasm, satisfaction, and absence pain 0.4) (Rosen et al., 2000). Higher scores indicated better and more consistent sexual functioning, while a score of zero indicated no sexual activity during the last four weeks. An example of an item is: "Over the past 4 weeks, how often did you feel sexual desire or interest?". The scale was found to be internally consistent with $\alpha = 0.82$ (Rosen et al., 2000). Dutch research has supported the reliability and psychometric validity of the FSFI and its subscales in adult women (ter Kuile et al., 2006). In the present study, reliability of the total scale was high ($\alpha = 0.97$). Reliability was also good for all subscales ($\alpha \geq 0.76$). Means and *SD*s for the current sample are shown in Table 1.

Romantic attachment. The Experiences in Close Relationships-Relationship Structures Questionnaire (ECR-RS, Fraley et al., 2011) was used to measure attachment orientation in romantic relationships. Nine items were used, with six items measuring attachment-related avoidance and three items measuring attachment-related anxiety. Responses were measured on a 7-point strongly disagree-strongly agree Likert scale. Mean scores were computed for avoidance and anxiety separately. Higher scores are indicative of higher attachment insecurity. An example of an attachment avoidance related item is: "I don't feel comfortable opening up to my partner". An example of an attachment anxiety related item is "I often worry that this person doesn't really care for me". Previous studies revealed good reliability for both attachment avoidance ($\alpha \geq 0.81$) and attachment anxiety($\alpha \geq 0.83$) (Fraley et al., 2011). The Cronbach's alphas for avoidance and anxiety in the present sample were 0.84 and 0.88, respectively. Means and SDs for the current sample are shown in Table 1.

Table 1. Means and SD's for the Positive Body Image, Sexual Functioning, and Romantic Attachment Measures

Measure	Minimum	Maximum	M	SD
BAS	1	5	3.62	0.50
FSFI Desire	1.2	6	3.81	0.94
FSFI Arousal	0	6	4.46	1.76
FSFI Lubrication	0	6	4.75	1.97
FSFI Orgasm	0	6	4.26	1.87
FSFI Satisfaction	0.8	6	4.50	1.61
FSFI Absence Pain	0	6	4.28	2.12
ECR-RS AANP	1	7	2.79	1.54
ECR-RS AAVP	1	7	2.23	0.97

Note. BAS=Body Appreciation Scale; ECR-RS=Experiences in Close Relationships-Relationship Structures Questionnaire with AANP=Attachment Anxiety romantic Partner, and AAVP=Attachment Avoidance romantic Partner; FSFI=Female Sexual Function Index.

Statistical Analysis

A structural equation model was fitted to the data using Mplus, version 6.11 (Muthén & Muthén, 2010). The model included nine hypothesized latent variables: attachment avoidance, attachment anxiety, body appreciation, desire, arousal, lubrication, orgasm, satisfaction, and the absence of pain. The structural part of the structural equation model consisted of all the hypothesized relationships between these latent variables. The latent variables desire, arousal, lubrication, orgasm, satisfaction, and the absence of pain were regressed on both attachment variables and on body appreciation. Body appreciation was regressed on attachment anxiety only. The two attachment variables were unexplained by the model (the exogenous variables). The measurement part of the structural equation model consisted of three standard confirmatory factor models. In the first confirmatory factor model, six avoidance items (out of nine) of the ECR-RS only had a factor loading on attachment avoidance, and the three anxiety items only had a factor loading on attachment anxiety. In the second confirmatory factor model, all items of the BAS had a factor loading on the single latent variable body appreciation. In the third confirmatory factor model, the items of the FSFI loaded on the a priori factors. Two items of the FSFI only had a loading on desire, four other items only had a loading on arousal, another four items only had a loading on lubrication, three other items only had a loading on orgasm, another three items only had a loading on satisfaction, and another three items only had a loading on the absence of pain. The structural model and the three standard confirmatory factor models together were fitted to the data as a single structural equation model[1].

Results

Structural Equation Model

Model fit was evaluated using the values of a mean and variance adjusted chi-square test statistic, the root mean square error of approximation (RMSEA), Bentler's comparative fit index (CFI), the Tucker-Lewis Index (TLI), and the Weighted Root Mean Square Residual (WRMR). Since all items were ordered categorical, the structural equation model was fitted to the data using robust weighted least squares estimation. The value of the likelihood ratio chi-square goodness of fit statistic was 1378.73 on 744 degrees of freedom ($p < .001$). The estimate of the RMSEA was .047, CFI and TLI were both .98, and WRMR was 1.15. These results indicated a good fit (Schreiber, Nora, Stage, Barlow, & King, 2006). Parameter estimation results are shown in Fig. 1 and in Table 2. Correlations between the sexual functioning domains are not shown in the model, since this was unrelated to the hypotheses of this research. These estimates are shown in Table 2.

With reference to the hypotheses, the findings were as follows. Hypothesis 1 was partly supported. Body appreciation predicted higher sexual desire and arousal, but none of the other

[1]As pointed out by Meyer-Bahlburg and Dolezal (2007), there are issues with administering the FSFI in samples with lower rates of sexual activities. Therefore, we assessed whether there were differences between respondents who reported being sexually active with a romantic partner and respondents not currently engaged in a romantic relationship. Multi-group versions of the structural equation model under the requirement of measurement invariance were fitted to the data. Chi-square difference test results revealed that there were no significant differences in the structural relationships among the latent variables between the two groups. Therefore, the total sample was used in the structural equation model.

domains of sexual functioning. Consistent with Hypothesis 2, romantic attachment anxiety predicted lower body appreciation in the model. Hypothesis 3 was not supported, since the sexual functioning domains were not predicted by romantic attachment anxiety. Romantic attachment avoidance was directly predictive of lower sexual arousal, less lubrication, orgasm difficulties, and less sexual satisfaction, as expected in Hypothesis 4. However, the desire and absence of pain domain of sexual functioning were not predicted by attachment-related avoidance. Hypothesis 5 was supported, since romantic attachment anxiety and avoidance were associated in the model.

The model indicated significant associations between body appreciation, the romantic attachment dimensions, and the sexual functioning domains. In the model, the body appreciation and the romantic attachment variables explained 4.9 % of the variance in sexual desire scores, 13.5 % of the variance in arousal scores, 16.7 % of the variance in lubrication scores, 16.8 % of the variance in orgasm scores, 28.5 % of the variance in satisfaction scores, and 7.4 % of the variance in absence of pain scores.

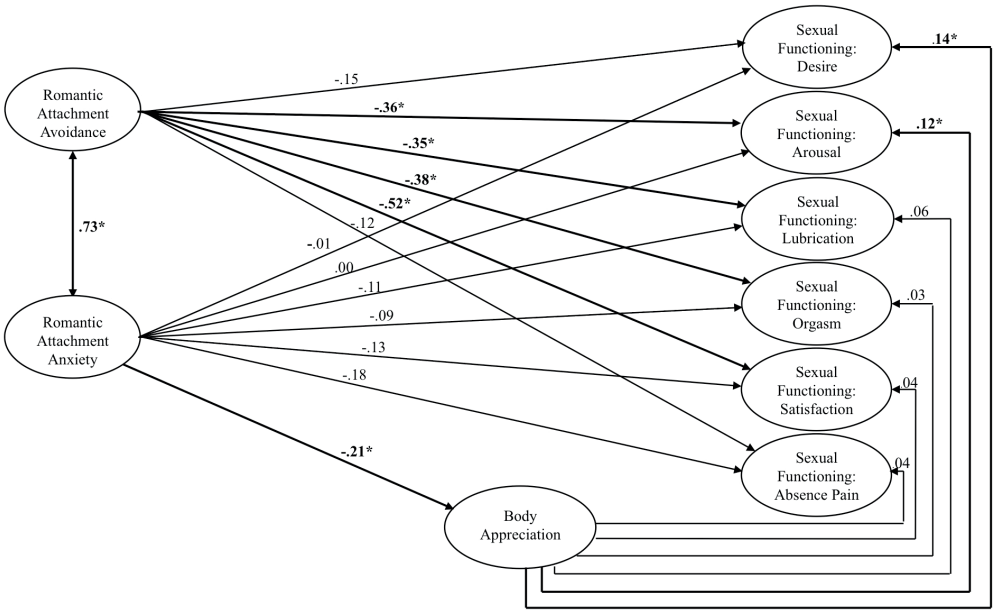

Figure 1. The structural model linking anxious and avoidant romantic attachment with body appreciation and the sexual functioning domains and its parameter estimation results, with $^{*}p < .05$.

Table 2. Estimated Regression Parameters and Correlations With Standard Errors, Critical Ratios (Estimate/Standard Error), and Significance Levels Between All Variables in the Structural Equation Model

Regression of		on/with	Estimate	S.E.	Est./S.E.	p-value
BAS	→	ECR-RS RAAN	-.21	.06	-3.55	**<.001***
ECR-RS RAAN	↔	ECR-RS RAAV	.73	.03	25.25	**<.001***
FSFI Desire	→	BAS	.14	.05	2.57	.010*
	→	ECR-RS RAAN	-.01	.11	-.09	.936
	→	ECR-RS RAAV	-.15	.11	-1.40	.163
	→	FSFI Arousal	.57	.05	12.37	**<.001***
	→	FSFI Lubrication	.45	.05	8.47	**<.001***
	→	FSFI Orgasm	.32	.06	5.45	**<.001***
	→	FSFI Satisfaction	.51	.06	9.18	**<.001***
	→	FSFI Absence Pain	.32	.06	5.74	**<.001***
FSFI Arousal	→	BAS	.12	.06	2.04	.042*
	→	ECR-RS RAAN	.00	.10	.00	.997
	→	ECR-RS RAAV	-.36	.10	3.59	**<.001***
	↔	FSFI Lubrication	.90	.02	61.29	**<.001***
	↔	FSFI Orgasm	.59	.04	15.87	**<.001***
	↔	FSFI Satisfaction	.85	.02	39.93	**<.001***
	↔	FSFI Absence Pain	.65	.04	18.20	**<.001***
FSFI Lubrication	→	BAS	.06	.06	1.01	.313
	→	ECR-RS RAAN	-.11	.10	-1.10	.273
	→	ECR-RS RAAV	-.35	.10	-3.51	**<.001***
	↔	FSFI Orgasm	.58	.04	16.27	**<.001***
	↔	FSFI Satisfaction	.77	.03	26.88	**<.001***
	↔	FSFI Absence Pain	.73	.03	22.80	**<.001***
FSFI Orgasm	→	BAS	.03	.06	.50	.614
	→	ECR-RS RAAN	-.09	.10	-.88	.379
	→	ECR-RS RAAV	-.38	.10	-3.81	**<.001***
	↔	FSFI Satisfaction	.51	.04	13.00	**<.001***
	↔	FSFI Absence Pain	.37	.05	7.72	**<.001***
FSFI Satisfaction	→	BAS	.04	.06	.64	.525
	→	ECR-RS RAAN	-.13	.10	-1.31	.190
	→	ECR-RS RAAV	-.52	.11	-4.86	**<.001***
	↔	FSFI Absence Pain	.62	.04	15.11	**<.001***
FSFI Absence Pain	→	BAS	.04	.06	.63	.530
	→	ECR-RS RAAN	-.18	.11	-1.69	.092
	→	ECR-RS RAAV	-.12	.10	-.18	.237

Note. BAS=Body Appreciation Scale; FSFI=Female Sexual Function Index; ECR-RS=Experiences in Close Relationships-Relationship Structures Questionnaire with RAAN=Romantic Attachment Anxiety and RAAV=Romantic Attachment Avoidance. Single arrows represent one-way paths and double arrows represent correlations.

*$p < .05$.

Discussion

The goal of this study was to shed light on links of romantic attachment (i.e., attachment avoidance and anxiety) with positive body image and sexual functioning. We tested a model specifying the relations between romantic attachment avoidance and anxiety, body appreciation, and sexual functioning in young adult females and found a good fit, demonstrating the importance of romantic attachment for both constructs.

Our model confirmed the expectation of relationships between positive body image, sexual functioning, and romantic attachment orientations in young female university students. First, results revealed that body appreciation was associated with attachment related anxiety in relation to a romantic partner, with lower levels of attachment anxiety relating to greater levels of body appreciation. This is in line with findings from another study in which general adult attachment was linked to body appreciation (Iannantuono & Tylka, 2012). Body appreciation, in turn, was associated with sexual functioning, as it was related to higher levels of sexual desire and subjective arousal. Findings further demonstrated a direct relationship between romantic attachment avoidance and sexual functioning. Specifically, lower levels of attachment avoidance were associated with more subjective sexual arousal and vaginal lubrication, higher ability to reach orgasm, and sexual satisfaction.

Taken together, these results suggest both direct and indirect links between romantic attachment and sexual functioning. Whereas low attachment avoidance is likely to lead to a better sexual response and more satisfaction with sexual activity with a partner, low attachment anxiety is likely to enhance positive body image, which, in turn, facilitates better sexual functioning by improving sexual desire and arousal.

It is noteworthy that the attachment and body appreciation variables differed significantly in how much of the variance of the sexual functioning domains they predicted (i.e., 4.9 % of desire, 13.5 % of arousal, 16.7 % of lubrication, 16.8 % of orgasm, 28.5 % of satisfaction, and 7.4 % of absence of pain). Previous research indicated that lack of emotional well-being and negative emotional feelings during sexual interaction with one's partner are more important determinants of sexual distress (i.e., distress or worry with respect to one's own sex life) than impairment of the more physiological aspects of female sexual response (Bancroft, Loftus, & Long, 2003). The absence of sexual distress is closely related to sexual satisfaction (Stephenson & Meston, 2010b). For many women, the level of sexual satisfaction is not only based on genital responses during sexual activity with a partner, but also on trust, intimacy, respect, communication, affection, and pleasure from sensual touching (Basson, 2000). Body-related and attachment related feelings may therefore be most strongly linked to affective and emotional components of sexual satisfaction. The weak relationship of body appreciation and attachment variables with sexual desire may be explained by the measurement of sexual desire, the FSFI desire subscale, we used in the current study. Sexual desire can be experienced "spontaneously" in the form of sexual thoughts, sexual dreams, and fantasies, or in response to sexual cues. For many women, sexual arousal and a responsive-type of desire occur simultaneously at the start of sexual activity with a partner (Basson, 2000). Sexual thoughts, dreams, and fantasies, which is what is predominantly referred to in the participant instruction of the FSFI, are experiences that are likely to be less related to factors susceptible to interpersonal influences such as body image and attachment.

Overall, the findings of our model were generally consistent with previously examined links between body image, sexual functioning, and adult attachment (e.g., Cash et al., 2004; Davis et al., 2006). However, our results did not confirm findings of Birnbaum (2007) since attachment anxiety was not directly associated with areas of sexual functioning in the model. Furthermore, our results did not fully confirm the findings of Satinsky et al. (2012), who found that body appreciation positively predicted the arousal, orgasm, and satisfaction dimensions of sexual functioning. This may be explained by differences in sample characteristics like differences in age and sexual orientation or cultural differences between Northern European countries such as the Netherlands and other Western countries (van den Brink et al., 2013). Lastly, the association between romantic attachment anxiety and romantic attachment avoidance was relatively high in our sample, whereas these dimensions were found to be only weakly related in other studies (e.g., Davis et al., 2006).

As discussed by Fraley et al. (2011), it is often assumed by researchers that the anxiety and avoidance dimension should be unrelated based on theoretical considerations. This assumption might be too strong, since the dimensions are separable and conceptually independent. The fact that anxiety and avoidance are relatively highly interrelated does not imply considerable overlap between the anxiety and avoidance dimension (Fraley et al., 2011), but is likely that women who fear intimacy in a specific relationship also tend to avoid closeness and dependency in this relationship. In spite of that, it is possible that anxiety and avoidance often go together in actual practice, the high correlation between the dimensions in our sample may also be explained by measurement choice and sample characteristics. Results of a recent meta-analysis showed that the anxiety-avoidance association was higher among samples using the ECR-R compared to the former version (ECR; Brennan et al., 1998), in samples collected outside of North America, and in samples with more participants in committed relationships (Cameron, Finnegan, & Morry, 2012).

Limitations

There were several limitations to this study that future research could address. Our sample consisted exclusively of female university students and women with any sexual experience, and was somewhat overrepresented by non-religious participants and underrepresented by overweight participants. Previous research also suggests that women who volunteer to participate in sex research tend to be more sexually experienced, hold less traditional sexual attitudes, and report higher sexual self-esteem (Wiederman, 1999). Therefore, the results of this study may not be representative for the general Dutch population of young women. Additionally, all the variables were measured by self-report, so there could be a self-report bias, most importantly with respect to self-reported weight. Larson, Ouwens, Engels, Eisinga, and Van Strien (2008) found, in a Dutch sample, that heavier female college students tended to underestimate their weight strongly, which can lead to erroneous prevalence estimates of overweight. It is possible that the same trends in relation to inaccurate reporting of weight would apply to the women in our study. Furthermore, other variables that may impact relationships between positive body image, sexual functioning, and romantic attachment orientations were not included in this study. The presence of depressive symptoms among young women, for example, is associated with body dissatisfaction (Stice et al., 2000), problems when engaging in sexual activity with a partner (Frohlich & Meston, 2002), and adult attachment insecurity (Wei, Mallinckrodt, Larson, & Zakalik, 2005). Furthermore, a limitation of our single-item measure

of having a romantic partner is that it did not fully validate the relationship as a committed relationship. Committed romantic relationships and dating behavior are both prevalent in college students (Siebenbruner, 2013). Therefore, it is possible that participants who reported having a romantic partner were not (yet) in a committed relationship, reflecting exclusivity, trust, and commitment that can enhance emotional closeness and attachment (Banker, Kaestle, & Allen, 2010). Since duration of partnership and relationship quality were found to be related to romantic attachment (Feeney, 2004; Davis et al., 2006), body image (Ambwani & Strauss, 2007; Weller & Dziegielewski, 2005), and aspects of sexual functioning (Davis et al., 2006; Klusmann, 2002; Murray & Milhausen, 2012), it would be valuable to include these variables in further research. Lastly, given the correlational nature of this study, direction of causation could not be determined. It is also possible that the direction of the relationships is reversed. Women who experience poor sexual functioning may develop less body appreciation and more attachment-related concerns towards their partners (e.g., fear of rejection or discomfort with depending on their partners).

Conclusions

Overall, the findings indicated that attachment security is meaningfully linked to sexual functioning in female university students in two ways. Low levels of attachment anxiety were favorable for experiencing more body appreciation and, in turn, more sexual desire and subjective sexual arousal. Low levels of attachment avoidance were directly linked with better sexual functioning, by enhancing more arousal and vaginal lubrication, higher ability to reach orgasm, and sexual satisfaction. To our knowledge, this was the first study to examine the role of romantic attachment in relationships between positive body image and sexual functioning. As highlighted by Satinsky et al. (2012), the discovery that positive body image is related to sexual function offers implications for promoting sexual health moving away from the traditional focus on negative body image. The finding that romantic attachment is meaningfully linked with positive body image and sexual functioning can help make a step-change in understanding and treating mental health issues in the context of sexual dysfunction.

The development of an attachment relationship towards a romantic partner is an important developmental task during early adulthood marking the transformation of dating to committed romantic relationships (Arnett, 2000). Since adult attachment is strongly based on attachment experiences earlier in life (e.g., Bowlby, 1969), it might be difficult for young women who were insecurely attached as children and adolescents to use their romantic partners as a "secure base". These young women may therefore be more likely to engage in (casual) sexual relationships without commitment, with potential risk for experiencing negative consequences, such as sexual assault (Littleton, Tabernik, Canales, & Backstrom, 2009). As many university health services increase their focus on mental health issues, the role of romantic attachment can be a continued area of interest for researchers and clinicians. In clinical settings, we recommend to pay attention to the intimate relational context through, for example, involving romantic partners in individual treatment programs. Furthermore, we feel that emotionally focused couple therapy is useful in this respect. This form of therapy can be effective in targeting negative interactions between partners that maintain attachment insecurity, reprocessing negative emotional experiences of sex, and develop a more secure bond with the partner in order to build on a more satisfying sex life (Johnson & Zuccarini, 2010). The associations between body appreciation, sexual functioning and romantic attachment underline that spe-

cific (elements in) treatment programs can be helpful in building on a positive cycle, in which positive body image, a satisfying sex life, and a secure bond with the partner can reinforce each other.

Chapter 6

Negative body attitudes and sexual dissatisfaction in men: The mediating role of body self-consciousness during physical intimacy

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Authors' contributions:
FvdB designed the study. LB and RZ collected the data. MV and FvdB performed the data-analysis. FvdB and MV wrote the paper. FvdB, MV, LS, LB, RZ, and LW participated in finalizing the manuscript and approving it.

Abstract

Previous research indicated that negative attitudes about the body and appearance are common among men and demonstrated that negative body attitudes can negatively impact sexual experiences. The present study investigated the association between body attitudes and sexual dissatisfaction, and the mediating role of body self-consciousness during physical intimacy. In a cross-sectional design, 201 Dutch men completed an online survey measuring body attitudes towards muscularity, body fat, height, and genitals, body self-consciousness during physical intimacy, and sexual dissatisfaction. Hypotheses were tested using correlation analyses and a mediation analysis with body attitudes as predictors, body self-consciousness as mediator, and sexual dissatisfaction as outcome. Correlation analyses showed that negative body attitudes and body self-consciousness during physical intimacy were significantly related to sexual dissatisfaction. The mediation analysis revealed that negative attitudes towards muscularity, body fat, and genitals had positive indirect effects on sexual dissatisfaction through body self-consciousness during physical intimacy. Negative attitudes towards genitals additionally had a positive direct effect on sexual dissatisfaction. These findings indicate that body image interventions focused on male body attitudes may be beneficial in improving men's body image, which may ultimately increase sexual satisfaction.

Introduction

For most individuals, pleasurable sexual experiences are an essential element of overall health related quality of life (e.g., Henderson, Lehavot, & Simoni, 2009; Robinson & Molzahn, 2007). Research has indicated that sexual dissatisfaction negatively affects quality of life and well-being (Heiman, 2002; Nicolosi, Moreira, Villa, & Glasser, 2004; Tan, Tong, & Ho, 2012). Published studies on this topic suggest that a remarkable percentage of men (15-57%) are not (fully) satisfied with their sex life (Dunn, Croft, & Hackett, 2000; Frederick, Lever, Gillespie, & Garcia, in press; Mulhall, King, Glina, & Hvidsten, 2008; Pedersen & Blekesaune, 2003). Since sexual dissatisfaction can affect overall quality of life, identifying determinants thereof is important. To this end, we examined links between male body image and sexual dissatisfaction.

Body image is a multidimensional construct, but research has mainly focused on the attitudinal-evaluative component (Cash, 2002). Previous studies have indicated that negative attitudes about the body and appearance are common in samples of adult and college men (Frederick & Essayli, in press; Frederick, Forbes, Grigorian, & Jarcho, 2007; Frederick, Sandhu, Morse, & Swami, 2016; Griffiths et al., 2016; Ridgeway & Tylka, 2005). These findings are concerning in the context of men's sexual experiences, since negative body attitudes were found to be associated with greater sexual dissatisfaction (Gil, 2007; Holt & Lyness, 2007; Træen, Markovic, & Kvalem, 2016).

A mechanism through which negative body attitudes might be linked to sexual dissatisfaction can be found in Fredrickson and Roberts' (1997) objectification theory. This theoretical framework was originally developed to explain women's experiences and posits that the treatment of women as sexual objects by men and in the media leads women to treating themselves as objects to be evaluated based upon bodily appearance (i.e., self-objectification). Self-objectification is manifested as persistent consciousness of the body and habitual body monitoring (e.g., Roberts & Gettman, 2004) and has been linked to numerous negative outcomes among women, such as sexual dissatisfaction (Fredrickson & Roberts, 1997). However, given the increased cultural emphasis on men's appearance, objectification theory is now considered relevant for understanding men's experiences as well (Moradi & Huang, 2008; Strelan & Hargreaves, 2005a).

A muscular male body-ideal is much more dominant in modern society than in the past (Frith & Gleeson, 2004; Pope, Phillips, & Olivardia, 2000). Although men do not typically experience sexual objectification to the same extent as women, men's bodies are also evaluated and judged by women and other men (Strelan & Hargreaves, 2005b). Furthermore, men are exposed to media images portraying muscular men as prestigious and attractive (e.g., Frederick, Fessler, & Haselton, 2005), which may lead them to engage in self-objectification (Aubrey, 2006). Men's self-objectification was found to predict negative body attitudes (Morry & Staska, 2001; Strelan & Hargreaves, 2005a). Particularly during physical intimacy, in which the body is exposed to a partner, negative attitudes towards one's body may increase the likelihood of becoming more conscious about the body. Exaggerated body self-consciousness during physical intimacy may in turn interfere with focusing on sexual pleasure (Fredrickson & Roberts, 1997), which may contribute to sexual dissatisfaction.

Previous research supports this assumption by providing empirical evidence of the mediating role of body self-consciousness during physical intimacy in the relationship between negative body attitudes and sexual dissatisfaction. Sanchez and Kiefer (2007) found that body shame was related to greater body self-consciousness during physical intimacy, which in turn predicted lower sexual pleasure. This mediating role of body self-consciousness during physical intimacy was supported by findings of Penhollow and Young (2008) and Milhausen, Buchholz, Opperman, and Benson (2015), who found that body self-consciousness during physical intimacy was associated with sexual dissatisfaction in samples of young adult men. In contrast, Daniel and Bridges (2013) found no relationship between body self-consciousness and sexual dissatisfaction. This could be explained by the fact that compared to the other studies, men's general body self-consciousness (i.e., body self-consciousness without specifying a particular situational context), instead of context-specific body self-consciousness (i.e., body-self-consciousness during physical intimacy) was assessed, indicating that the latter may be particularly relevant in predicting sexual dissatisfaction. In sum, empirical studies have indicated that negative body attitudes are indirectly related to sexual dissatisfaction in men through body self-consciousness during physical intimacy.

It is important to note that few instruments intending to measure men's body attitudes have been developed (Tylka, Bergeron, & Schwartz, 2005). Commonly, studies in men use instruments originally developed to measure women's body image. However, body image is appraised differently in men. Men generally seek to gain weight (Cohane & Pope, 2001) and strive for a 'muscular mesomorph' body shape with muscled arms and shoulders, small waist, and low body fat (Labre, 2005; Mishkind, Rodin, Silberstein & Striebel-Moore, 1986). Besides muscularity and low body fat, tall height as well as evaluation of the genitals were identified as an important elements of men's body image (Frederick, Peplau, & Lever, 2006; Morrison, Bearden, Ellis, & Harriman, 2005; Ridgeway & Tylka, 2005; Tiggemann, Martins, & Churchett, 2008). The body image measures used in previous studies investigating the relationship between body attitudes and sexual dissatisfaction in men do not (fully) cover these important aspects of male body image. Including unique aspects of male body attitudes in research may provide more complete and accurate results.

To summarize, objectification theory and results of empirical studies suggest that negative body attitudes are meaningfully linked to sexual dissatisfaction in men. The mediating role of body self-consciousness during physical intimacy in this relationship may be particularly salient. However, given the lack of sufficient male body image measures (i.e., measures including unique aspects of male body attitudes) in prior research, previous findings may not present the full picture of the specific negative body attitudes related to sexual dissatisfaction. Since male body image is multi-faceted (Tiggemann et al., 2008) and today's men experience increased societal and media pressures to meet an unrealistic body ideal (Pope, et al., 2000), further research focusing on identifying and targeting unique aspects of men's body image concerns and the sexual problems that can accompany these concerns would be valuable.

The present study

The present study investigated the relationships between body attitudes, body self-consciousness during physical intimacy, and sexual dissatisfaction in men. On the basis of previous findings regarding the unique aspects of male body image, we focused on body attitudes to-

wards muscularity, body fat, height, and genitals. Based on the associations between negative body attitudes, body self-consciousness during physical intimacy, and sexual dissatisfaction found in previous studies (e.g., Holt & Lyness, 2007; Milhausen et al., 2015), it was expected that negative attitudes towards muscularity, body fat, height, and genitals as well as higher levels of body self-consciousness during physical intimacy would be associated with greater sexual dissatisfaction. Additionally, based on previous findings (e.g., Sanchez & Kiefer, 2007), it was expected that body self-consciousness during physical intimacy would mediate the relationships between the aspects of body attitudes and sexual dissatisfaction. These proposed hypotheses are summarized schematically in Figure 1.

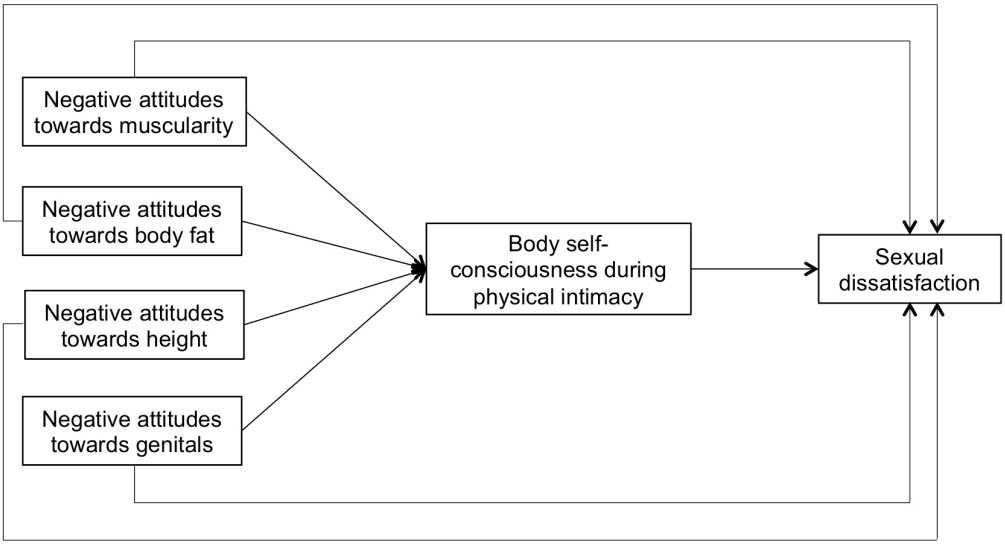

Figure 1. Schematic summary of the hypothesized links between body attitudes with sexual dissatisfaction and the mediating role of body self-consciousness during physical intimacy.

Method

Participants and Procedure

Participants were recruited from a university community via posters displayed in the social sciences department, flyers distributed on campus, and the students website of Utrecht University which provides an overview of all ongoing research projects. Heterosexual men that are or have been sexually active with a female partner were invited to take part in an online study on "body image and sexual satisfaction in men". A short description of the study and the direct link to the online questionnaire were given. Interested men could access the questionnaire via that link. After opening the link, participants had to complete an informed consent form, in which voluntary participation and anonymity were highlighted. In order to avoid missing data, all questions were mandatory. Social sciences students from Utrecht University received course credit for participation. All other participants were not compensated for participation. On average, it took 30 minutes to complete the questionnaire.

Sample size calculations (Faul, Erdfelder, Lang, & Buchner, 2007; Fritz & MacKinnon, 2007)

revealed that 177 participants are required in order to detect small to medium effects (under guidelines from Cohen, 1988, p. 412) with 80% power and a type I error rate of 5%. The estimated effect size was based on effects found in similar past research (Holt & Lyness, 2007; Sanchez & Kiefer, 2007; Træen et al., 2016).

A total of 201 men fully completed the questionnaire. Participants' age ranged from 18 to 44 years with a mean age of 23.88 years (*SD* = 4.23). A total of 69 men (34.4 %) received course credit for participation. Most participants (67.1 %, *n* = 135) had a romantic partner. The duration of the romantic relationship was less than one month in 5.5 % (*n* = 11), between one and six months in 11.6 % (*n* = 23), between six and twelve months in 9.5 % (*n* = 19), between one and two years in 10.4 % (*n* = 21), and longer than two years in 32.4 % (*n* = 65) of these participants. Highest level of education (completed or current) was lower secondary school in 7.5 % (*n* = 15), higher secondary school in 22.9 % (*n* = 46), lower vocational education in 7.0 % (*n* = 14), higher vocational education in 19.9 % (*n* = 40), and university in 42.8 % (*n* = 86) of the participants.

Measures

All scales were translated from English to Dutch using the translate-retranslate method (re-translation by a native speaker), unless otherwise stated. Means, standard deviations, and minimum and maximum scores for each of the measures are provided in Table 1.

Body Attitudes. The three subscales of the Male Body Attitudes Scale (MBAS) (Tylka et al., 2005) were used to asses body attitudes with respect to *muscularity* (10 items, e.g., "I think I have too little muscle on my body"), *body fat* (8 items, e.g., "I am concerned that my stomach is too flabby"), and *height* (2 items, e.g., "I wish I were taller"). The items were answered on a 6-point Likert scale ranging from 1 = never to 6 = always. Items were recoded if appropriate and averaged so that higher subscale scores indicate more negative attitudes with respect to muscularity, body fat, and height, respectively. Previous research supported the measure's scale score reliability, and construct, concurrent, and discriminant validity (Tylka et al., 2005). Cronbach's alpha in the current study was .90, 95% CI [.88, .92], for both the muscularity and body fat subscale, and .84, 95% CI [.79 - .88], for the height subscale. Additionally, the 7-item Male Genital Self-Image Scale (MGSIS) (Herbenick, Schick, Reece, Sanders & Fortenberry, 2013) was used to assess body attitudes with respect to the *genitals* (e.g., "I am satisfied with the size of my genitals"). The items were answered on a 4-point Likert scale ranging from 1 = strongly disagree to 4 = strongly agree. Items were averaged with higher scores indicating more negative attitudes with respect to the genitals. Herbenick et al. (2013) reported high scale score reliability and good construct and discriminant validity. In the current sample, Cronbach's alpha was .85, 95% CI [.82 - .88].

Body Self-Consciousness During Physical Intimacy. The 17-item Male Body Image Self-Consciousness Scale (M-BISC; McDonagh, Morrison & McGuire, 2010) was used to measure body self-consciousness during physical intimacy (e.g., "During sex, I would worry that my partner would think my chest is not muscular enough"). The items were answered on a 5-point Likert scale from 1 = strongly disagree to 5 = strongly agree. Items were averaged with higher scores indicating higher body self-consciousness during physical intimacy. Research has supported the reliability and psychometric validity of the M-BISC (McDonagh et al., 2010). Cronbach's

alpha of the current study was .94, 95% CI [.93 - .95].

Sexual Dissatisfaction. The Dutch version (Ter Kuile, Lankveld, Kalkhoven, & van Egmond, 1999) of the 28-item male version of the Golombok Rust Inventory of Sexual Satisfaction (GRISS; Rust & Golombok, 1986) was used to measure sexual dissatisfaction (e.g., "Do you feel there is a lack of love and affection in your sexual relationship with your partner?"). Items were scored on a 5-point Likert scale from 1 = always to 5 = never. Items were recoded if appropriate and averaged so that higher scores indicate greater sexual dissatisfaction. Previous research indicated good scale score reliability and validity (Ter Kuile et al., 1999). Cronbach's alpha in the current study was .87, 95% CI [.84 - .89].

Statistical analysis

All statistical analyses were performed with IBM SPSS Statistics Version 24. In a first step, bivariate associations between the study variables were analyzed using Pearson correlation coefficients. In a second step, a mediation analyses with the four aspects of body attitudes (i.e., negative body attitudes towards muscularity, body fat, height, and genitals) as independent variables, body self-consciousness during physical intimacy as mediator, and sexual dissatisfaction as dependent variable was conducted. As previous research has shown that men involved in romantic relationships were significantly more likely to be sexually satisfied than were men who were not involved in such relationships (e.g., Higgins, Mullinax, Trussell, Davidson, & Moore, 2011), relationship status was entered as control variable. The mediation analysis comprises a number of subanalyses that estimate the total, direct and indirect effects of the four aspects of body attitudes on sexual dissatisfaction. The total and direct effects were estimated by means of a stepwise multiple regression analysis in which the four aspects of body attitudes were entered in the first step and body self-consciousness during physical intimacy was entered in the second step. Total effects refer to the specific relationships between each aspect of body attitudes and sexual dissatisfaction while controlling for the other aspects of body attitudes (first step), and direct effects refer to the specific relationships between each aspect of body attitudes and sexual dissatisfaction while controlling for the other aspects of body attitudes and body self-consciousness during physical intimacy (second step). As recommended by Hayes (2013), the specific indirect effects of the four aspects of body attitudes on sexual dissatisfaction through body self-consciousness during physical intimacy and their significance were determined by means of bootstrap analyses with 5000 bootstrap samples and bias corrected and accelerated 95% confidence intervals (BCa 95% CI). To this end, the PROCESS macro for SPSS has been used (Hayes, 2013). All coefficients will be reported in standardized form.

Table 1. Means, standard deviations, minimum and maximum scores, and bivariate correlations between the aspects of body attitudes, body self-consciousness during physical intimacy, and sexual dissatisfaction

	M	SD	Min.	Max.	1	2	3	4	5
1. Negative attitudes towards muscularity[a]	2.43	.86	1.00	6.00	-	-	-	-	-
2. Negative attitudes towards body fat[a]	2.36	.91	1.00	5.88	-.03	-	-	-	-
3. Negative attitudes towards height[a]	2.28	1.29	1.00	6.00	.20***	.12	-	-	-
4. Negative attitudes towards genitals[b]	1.89	.50	1.00	3.86	.17*	.26***	.21***	-	-
5. Body self-consciousness during physical intimacy[c]	1.50	.55	1.00	3.71	.37***	.36***	.24***	.56***	-
6. Sexual dissatisfaction[c]	1.80	.40	1.10	3.40	.15*	.16*	.16*	.44***	.53***

Note. [a] Scale range: 1-6 with higher scores indicating more negative attitudes, [b] Scale range: 1-4 with higher scores indicating more negative attitudes, [c] Scale range: 1-5 with higher scores indicating more body self-consciousness during physical intimacy/sexual dissatisfaction.
***$p < .001$, *$p < .05$.

Results

Bivariate associations between the aspects of body attitudes, body self-consciousness during physical intimacy, and sexual dissatisfaction

The results of the correlation analyses of the study variables are presented in Table 1. As expected, negative body attitudes towards muscularity, body fat, height, and genitals as well as body self-consciousness during physical intimacy were significantly related to greater sexual dissatisfaction. Also negative body attitudes towards muscularity, body fat, height, and genitals were related to higher body self-consciousness during physical intimacy.

Total, direct and indirect effects through body self-consciousness during physical intimacy of body attitudes on sexual dissatisfaction

The assumptions of multiple regression analysis (i.e., normality, linearity, homoscedasticity) were tested and all were met. The results are displayed in Table 2. A significant total effect (step 1) and a significant direct effect (step 2) of negative body attitudes towards genitals on sexual dissatisfaction was found. This indicates that more negative attitudes towards genitals were related to greater sexual dissatisfaction. Additionally, the analysis revealed a significant direct effect (step 2) of body self- consciousness during physical intimacy on sexual dissatisfaction, indicating that more body self-consciousness during physical intimacy was associated with greater sexual dissatisfaction. Thirty-one percent of the variance in sexual dissatisfaction could be explained.

The bootstrap analyses revealed significant indirect effects of negative attitudes towards muscularity, .13, BCa 95% CI [.060, .223], negative attitudes towards fat, .12, BCa 95% CI [.051, .221], as well as negative attitudes towards genitals, .17, BCa 95% CI [.086, .276], on sexual dissatisfaction via body self-consciousness during physical intimacy. Thus, as expected, more negative attitudes towards muscularity, body fat, and genitals were related to higher body self-consciousness during physical intimacy, which in turn, was related to greater sexual dissatisfaction. No significant indirect effect of negative attitudes towards height on sexual dissatisfaction via body self-consciousness during physical intimacy was found, .03, BCa 95% CI [-.019, .095].

Discussion

The present study investigated associations of four key aspects of male body attitudes (i.e., with respect to muscularity, body fat, height, and genitals) and body self-consciousness during physical intimacy with sexual dissatisfaction. As expected and in line with previous studies (e.g., Træen et al., 2016), more negative body attitudes towards muscularity, body fat, height, and genitals were all significantly related to greater sexual dissatisfaction. The present study expands previous research on body attitudes and sexual dissatisfaction in men by incorporating unique aspects of male body image, instead of using global, non-gender specific body attitudes measures.

Table 2. Results of the stepwise regression analysis with sexual dissatisfaction as outcome: Total and direct effects of four aspects of body attitudes on sexual dissatisfaction

Predictors	β step 1	β step 2
Step 1: adj. R^2 = .21, $F(5, 195) = 11.70^{***}$		
Negative attitudes toward muscularity	.05	-.07
Negative attitudes towards body fat	.05	-.06
Negative attitudes towards height	.06	.03
Negative attitudes towards genitals	$.38^{***}$	$.20^{**}$
Control variable relationship status [a]	$-.16^{*}$	-.11
Step 2: ΔR^2 = .10, $F(1,194) = 28.53^{***}$; adj. R^2 = .31, $F(6, 194) = 15.88^{***}$		
Body self-consciousness during physical intimacy		$.43^{***}$

Note. *β*'s in step 1 represent total effects of the body attitudes on sexual dissatisfaction. *β*'s in step 2 represent direct effects of the body attitudes on sexual dissatisfaction. [a] 0 = no romantic partner, 1 = romantic partner.

$^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$.

The results revealed that, when considering all body attitudes simultaneously, only negative attitudes towards genitals were significantly related to greater dissatisfaction. This, however, is not surprising since genitals play a prominent role in many sexual acts (e.g., intercourse) and therefore naturally more salient in sexually intimate situations than muscularity, body fat,

and body height. This finding may contribute to a better understanding of the link between negative body attitudes and sexual dissatisfaction found in previous studies. It can be speculated that the relationship between negative general body attitudes and sexual dissatisfaction particularly results from negative attitudes towards genitals. Attitudes towards genitals may affect men's more general views of their bodies, creating insecurity for men who are dissatisfied with their genitals and confidence for men who are satisfied with their genitals (Lever, Frederick, & Peplau, 2006). These findings underline the importance of attitudes towards genitals in the conceptualization of male body image (Tiggemann et al., 2008).

Our results further showed, as expected and in line with objectification theory and previous findings (e.g., Fredrickson & Roberts, 1997; Penhollow & Young, 2008), a statistically significant association between body self-consciousness during physical intimacy and sexual dissatisfaction. Thus, during physically intimate interactions with a partner, where the body is unavoidably at focus, an increase in body self-consciousness may disrupt men's sexual satisfaction.

Most importantly, this study offers further insight in the role of body self-consciousness during physical intimacy in the association between negative body attitudes and sexual dissatisfaction. The results of the mediation analysis suggest that negative body attitudes towards muscularity, body fat, and genitals may activate body self-consciousness in sexually intimate situations, which, in turn, leads to greater sexual dissatisfaction. Body attitudes towards height were not related to sexual dissatisfaction, suggesting that negative attitudes about those aspects of the body that become more apparent for a partner during physical intimacy may have an impact on sexual dissatisfaction.

Thus, men's concerns about parts of their bodies that might have their origin in an inflated cultural male body ideal (e.g., Labre, 2005) are likely to manifest themselves in form of exaggerated body self-consciousness during physical intimacy with a partner that hinders focusing on sexual pleasure and positive sexual experiences (Fredrickson & Roberts, 1997). Negative attitudes towards genitals were also directly related to sexual dissatisfaction, again highlighting the importance of this aspect of male body image in the context of sexuality. Previous research indicated that negative body attitudes are associated with lower sexual esteem (i.e., an individual's confidence in themselves as a sexual partner; Wiederman & Allgeier, 1993) (Morrison et al., 2005) and sexual avoidance (La Rocque & Cioe, 2012). Since many men perceive that the size of their penis is closely associated with masculinity and sexual performance (Francken, Van de Wiel, Van Driel, & Schultz, 2002; Lever et al., 2006), negative attitudes towards genital appearance may translate into feelings of insecurity about sexual competence, which may lead to avoidance of sexual activity with a partner and not experiencing the satisfaction normally associated with physical intimacy. However, this explanation remains hypothetical needing further investigation.

The results of this study may have potential implications for clinical practice. For therapists who treat clients with sexual problems, body image concerns may not be easily identified because men tend to avoid discussing these concerns with others (e.g., Barwick, Bazzini, Martz, Rocheleau, & Curtin, 2012). Besides, body image is often not been seen as a men's issue (Tantleff-Dunn, Barnes, & Larose, 2011) and men may be therefore unlikely to disclose distress

related to feelings about the appearance of their body. It is therefore important that therapists pay attention to potential body image issues, and should address these issues with male clients if needed. Incorporating body image intervention would be useful in this respect. For example, cognitive-behavioral body image therapy is found to be an efficacious treatment of body image problems (for a meta-analysis, see Jarry & Ip, 2005), with outcomes shown to reduce body self-consciousness during physical intimacy (Grant & Cash, 1996). This form of intervention may be beneficial for improving men's body image, which in turn can result in positive sexuality outcomes.

In addition, this study adds to existent literature by offering more insight in the unique aspects of male body image important in the context of sexual dissatisfaction. Male body image is multi-faceted and as highlighted by Tiggemann et al. (2008, p. 1168), "male body image cannot be adequately conceptualized and studied by simply tweaking our previous investigations of female body image". As today's men experience increased societal and media pressures to meet an unrealistic body ideal (Pope, et al., 2000) it will become increasingly important to identify and target unique aspects of men's body image concerns, and the sexual problems that can accompany these concerns.

Limitations

Some limitations need to be acknowledged. The present sample consisted of heterosexual and primarily highly educated young men. Because of the homogeneous sample, results of this study may not be representative of the general Dutch population of men. Future research would profit from more heterogeneous samples and from including bisexual and gay men while taking specific aspects of same-sex sexuality into account (McDonagh, Stewart, Morrison, & Morrison, 2016; Sandfort & Keizer, 2001). Furthermore, a measure of body mass index (BMI) was not included in this study, which in retrospect was an oversight as BMI has been associated with body attitudes and with sexual experiences (e.g., Frederick & Jenkins, 2015). In addition, in the present study, within-person effects have been investigated. As sexual relationships are dyadic in nature, perceptions and behaviors of the sexual partner might be of importance with regard to the quality of sexual experience (Zhaoyang & Cooper, 2013). Further studies should include data on BMI and use dyadic designs to take the interdependence of partners into account. Lastly, given the cross-sectional nature of this study, direction of causality could not definitely be determined. Although mediation analyses are common statistical procedures on cross-sectional data, further longitudinal studies are needed to study the effects over time (Maxwell, Cole, & Mitchell, 2011).

Conclusions

Despite the limitations, this study adds to the literature by targeting relationships between body image and sexual experiences in men. Given the fact that cultural body ideals for men have become unattainably masculine in the past decades (Pope et al., 2000), it is important to further study potential health risks for males related to their body image. Understanding how different aspects of body image in men relate to sexual dissatisfaction will be valuable in selecting the appropriate targets for treatment intervention in the context of body image issues and sexual problems.

Chapter 7

Relationships between body image, sexual satisfaction, and relationship quality in romantic couples

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Authors' contributions:
FvdB, LW, and MS made substantial contributions to the study conception and design. FvdB collected the data. FvdB and MV performed the data-analysis. FvdB and MV wrote the paper. FvdB, MV, MS, DH, and LW participated in finalizing the manuscript and approving it.

Abstract

The present study examined intra- as well as interpersonal associations between body image, sexual satisfaction, and perceived romantic relationship quality using a dyadic approach. In a cross-sectional design, 151 heterosexual couples completed an online survey measuring body image (BAS), sexual satisfaction (GRISS), and perceived relationship quality (PRQC). Data were analyzed using the Actor-Partner Interdependence (Mediation) Model. Analyses showed that both in women and men, a more positive body image is favorably associated with their own perceived relationship quality, and that this association is mediated by their own greater sexual satisfaction. These findings implicate that interventions focusing on developing and maintaining a positive body image may be helpful in building on a more satisfying sex life and higher perceived relationship quality.

Introduction

In adulthood, romantic relationships are among the most important relationships in an individual's life. Individuals whose relationship is high in quality typically experience satisfaction, commitment, intimacy, trust, passion, and love (Fletcher, Simpson, & Thomas, 2000). Since sexuality is a key component in most romantic relationships, it is not surprising that a couple's sexual experiences can be linked to the perceived quality of their romantic relationship. Research has consistently found positive associations between sexual satisfaction and perceived relationship quality in dating, cohabitating, and married women and men (e.g., Butzer & Campbell, 2008; Byers, 2005; Christopher & Sprecher, 2000; Gadassi et al., 2016; Litzinger & Gordon, 2005; Sprecher, 2002, Yoo, Bartle-Haring, Day, & Gangamma, 2014).

There might be additional factors that impact sexual satisfaction and perceived relationship quality. Identifying such factors is important for selecting the appropriate targets for treatment intervention in the context of sexual and relational problems in romantic couples. As many women and men that undergo sex and couple therapy are struggling with their physical appearance (Wiederman, 2002), body image might be one of the factors influencing both sexual satisfaction and perceived relationship quality.

Body image is a multidimensional construct encompassing self-perceptions, attitudes, feelings, and behaviors about one's physical appearance (Cash & Pruzinsky, 2002). An extensive amount of research demonstrated that body image is consistently and meaningfully related to sexual satisfaction in both women and men (e.g., Holt & Lyness, 2007; Sanchez & Kiefer, 2007; Satinsky, Reece, Dennis, Sanders, & Bardzell, 2012; Træen, Markovic, & Kvalem, 2016; Van den Brink, Smeets, Hessen, Talens, & Woertman, 2013; Woertman & Van den Brink, 2012). For example, women and men with a positive body image have fewer concerns over appearing unattractive to their partner during physical intimacy. The absence of these concerns can prevent exaggerated body self-consciousness that hinders sexual pleasure and positive sexual experiences, and thus, facilitate sexual satisfaction (e.g., Milhausen, Buchholz, Opperman, & Benson, 2015; Van den Brink, Vollmann, Sternheim, Berkhout, Zomerdijk, & Woertman, 2016).

Given the close connection between sexual satisfaction and perceived relationship quality (e.g., Yeh, Lorenz ,Wickrama, Conger, & Elder, 2006), it is plausible that the interaction between body image and sexual satisfaction has implications for the perceived relationship quality as well. Previous research supports this assumption by providing empirical evidence that body image is related to perceived relationship quality in women and men (Ambwani & Strauss, 2007; Boyes, Fletcher, & Latner, 2007; Friedman, Dixon, Brownell, Whisman, & Wilfley, 1999). Meltzer and McNulty (2010) found that this relationship was mediated by sexual satisfaction. In their sample of 53 recently-married couples, they found that wives who perceived themselves as more sexually attractive reported increased sexual satisfaction, which in turn was associated with higher marital satisfaction. Since husbands' body image was not measured in this study, there is not yet empirical evidence supporting this mediating role of sexual satisfaction in men. However, as is the case for women, positive associations between body image and sexual satisfaction (e.g., Van den Brink et al., 2016), sexual satisfaction and perceived relationship quality (e.g., Sprecher, 2002), and body image and perceived relationship quality (Friedman et al., 1999) were demonstrated in men, which provides no reason to

assume substantial gender differences.

These results overall suggest that body image and perceived relationship quality can be linked through sexual satisfaction within women and men involved in a romantic relationship, however, they do not take the dyadic nature of romantic relationships into account. Couple members' sexual and relationship experiences are expected to be associated with each other since both aspects are part of the same social system. Moreover, couple members mutually influence each other's cognitions, emotions, and behavior through social interaction processes (e.g., Back et al., 2011; Kenny, Kashy, & Cook, 2006). For example, an individuals with a positive body image may be less distracted by body concerns during sexual activity and therefore be able to focus more on sexual pleasure, which increases own sexual satisfaction (within-person effect). Likewise, he or she is likely to be more self-assured, more comfortable with trying new sexual activities and giving the partner sexual pleasure, and to initiate and engage in sex more frequently (e.g., Ackard, Kearney-Cooke, & Peterson, 2000; Faith & Schare, 1993). The individual may therefore be perceived as a more attentive and better sexual partner, which increases the partner's sexual satisfaction (between-person effect). Furthermore, a satisfying sexual relationship can lead to increased feelings of intimacy, love, and commitment towards the partner (e.g., Sprecher & Cate, 2004) (within-person effect). Subsequently, expressing love and affection to the partner may enhance the partner's perceived relationship quality as well (e.g., Sprecher, Metts, Burleson, Hatfield, & Thompson, 1995) (between-person effect).

The few empirical studies that used a dyadic design provided inconsistent results. With regard to between-person effects (i.e., partner effects) of body image on sexual satisfaction, results varied from a positive association between women's body image and partner's sexual satisfaction (Meltzer & McNulty, 2010) to no association between an individual's body image and partner's sexual satisfaction in both women and men (Zhaoyang & Cooper, 2013). Results concerning the partner-effects of sexual satisfaction on relationship quality showed that if significant partner effects were found, there was a positive effect of women's, but not men's, sexual satisfaction on their partner's perceived relationship quality (Gadassi et al., 2016; Stanik & Bryant, 2012; Yoo et al,.2014). The only study that assessed partner effects of body image on relationship quality found that women, but not men, who were more satisfied with their bodies had partners who were more satisfied with their romantic relationship (Boyes et al., 2007). Furthermore, Meltzer and McNulty (2010) found that the positive association between women's body image and partner's perceived relationship quality was mediated by the partner's sexual satisfaction. Overall, the few empirical studies that examined partner-effects indicate that women's body image and sexual satisfaction may be more influential on the perceived relationship quality of men than are men's body image and sexual satisfaction on the perceived relationship quality of women.

To summarize, previous studies found important associations between body image, sexual satisfaction, and perceived romantic relationship quality, but most of these studies focused on individuals rather than couples. Given the interdependency of romantic partners, these findings may not present the full picture of how body image, sexual satisfaction, and perceived relationship quality interact within and between romantic partners. Since satisfying and stable romantic relationships protect individuals from various negative mental and physical health outcomes (e.g., Holt-Lunstad, Birmingham, & Jones, 2008), further research focusing on cou-

ple's dynamics would be valuable.

The present study

The present study investigated associations between body image, sexual satisfaction, and perceived romantic relationship quality in heterosexual couples with a dyadic approach in which within and between effects of dyadic couple members were examined simultaneously. Based on previous findings (e.g., Boyes et al., 2007; Meltzer & McNulty, 2010; Sanchez & Kiefer, 2007; Sprecher, 2002; Yoo et al., 2014), it was expected that a positive body image was associated with greater sexual satisfaction, that greater sexual satisfaction was associated with higher perceived relationship quality, and that a positive body image was indirectly associated with higher perceived relationship quality through greater sexual satisfaction within both women and men. Additionally, it was expected that a positive body image in women was associated with greater partner's sexual satisfaction and that greater sexual satisfaction in women was associated with higher perceived relationship quality in the partner. Furthermore, an indirect partner effect of women's body image on their partners' relationship quality via their partner's sexual satisfaction was expected.

Method

Procedure and Participants

Couples were recruited through the Internet and flyers. Undergraduate students of Utrecht University, The Netherlands, were invited to take part in an online study on 'body image and sexual experiences in committed romantic relationships'. Thus, at least one individual of each couple was affiliated with the university. Criteria for participation were: 18 years old or older, being heterosexual, being involved in a committed romantic relationship for a minimum of six months, and being sexually active with the partner. Before getting access to the questionnaire, participants had to complete an informed consent form, in which voluntary participation and anonymity were emphasized. Couple members were matched by a unique couple code that was provided to the first couple member that filled out the questionnaire. Students from Utrecht University received course credit for participation, while the other participants were not compensated for participation. On average, it took 25 minutes for each couple member to complete the questionnaire.

Of the 168 couples that completed the questionnaire, one hundred and fifty-one couples met the inclusion criteria. Of the female couple members, age ranged from 18 to 44 years with a mean age of 22.01 years (SD = 3.00). Of the male couple members, age ranged from 18 to 49 years with a mean age of 24.26 years (SD = 4.47). Highest level of education (completed or current) was lower secondary school in 0 %, higher secondary school or lower vocational education in 21.2 % (n = 32), and higher vocational education or university in 78.8 % (n = 119) of the female couple members. In the male couple members, these percentages were 3.3% (n = 5), 23.2 (n = 35), and 73.5 (n = 111), respectively.

Measures

All questionnaires were translated from English to Dutch using the translate-retranslate method (re-translation by a native speaker), unless otherwise stated. Means, standard deviations, and intercorrelations between the variables for the whole sample are shown in Table 1.

Body Image. Body image was measured using the 13-item female and 13-item male version of the Body Appreciation Scale (BAS; Avalos et al., 2005). The items of the two versions are identical (e.g., 'I respect my body'), except for the sex-specific item 12, which refers to the impact of media images (i.e., unrealistically thin images for women versus unrealistically muscular images for men; Swami, Stieger, Haubner, & Voracek, 2008). The items were answered on a 5-point Likert scale ranging from 1 = never to 5 = always. Items were recoded if appropriate and averaged so that higher subscale scores indicate more body appreciation (i.e. a more positive body image). Previous research indicated good internal consistency, construct validity (Swami et al., 2008), and construct equivalently between women and men (Tylka, 2013). In the present study, Cronbach's alpha for this measure was .88 for the female couple members and .81 for the male couple members.

Sexual satisfaction. The Dutch translation (Ter Kuile, Lankveld, Kalkhoven, & van Egmond, 1999) of the Golombok Rust Inventory of Sexual Satisfaction (GRISS; Rust & Golombok, 1986) was used to assess sexual satisfaction. The questionnaire has separate versions for women and men. Both versions consist of 28 items (e.g., 'Do you find your sexual relationship with your partner satisfactory?' in the female version and 'Do you enjoy having sexual intercourse with your partner?' in the male version). Items are scored on a 5-point Likert scale, where 1 = always and 5 = never. Items were recoded if appropriate and averaged so that higher scores indicate greater sexual satisfaction. Previous research indicated good internal consistency and validity (Ter Kuile et al., 1999). Cronbach's alpha in the current study was .86 for the female couple members and .79 for the male couple members.

Perceived relationship quality. The short, six-item version of the Perceived Relationship Quality Components Inventory (PRQC; Fletcher et al., 2000) measures six components of relationship quality: satisfaction, commitment, intimacy, trust, passion, and love (e.g., 'How satisfied are you with your relationship?'). Participants' responses were measured on a 7-point Likert scale, where 1 = not at all and 7 = extremely. Items were averaged so that higher scores indicate higher relationship quality. Previous research indicated good internal reliability and construct validity (Fletcher et al., 2000). In the present study, Cronbach's alpha for this scale was .77 for both the female and male couple members.

Relationship duration. In the female version of the questionnaire, relationship duration was assessed with a single item (i.e., 'How long (in months) have you and your current partner been involved in a romantic relationship?'). Since previous research indicated that relationship duration, rather than age, should be considered relevant when exploring sexual experiences within romantic relationships (e.g., Murray & Milhausen, 2012), relationship duration was entered as a control variable in the analyses.

Table 1. Means, Standard Deviations, and bivariate correlations between body appreciation, sexual satisfaction, perceived relationship quality, and relationship duration (N = 302)

	1	2	3	M (SD)
1. Body appreciation	-	-	-	3.64 (.49)
2. Sexual satisfaction	.32**	-	-	4.18 (.36)
3. Perceived relationship quality	.16*	.44**	-	6.15 (.45)
4. Relationship duration	-.13*	-.10	-.19*	33.14 (24.68)

Note. Body appreciation was measured by the BAS, sexual satisfaction by the GRISS, perceived relationship quality by the PRQC, and relationship duration (in months) by a single item. $^{**}p < .001$, $^{*}p < .05$.

Statistical analysis

Data were analyzed by using the Actor-Partner Interdependence Model (APIM; Cook & Kenny, 2005; Kenny et al., 2006).The APIM was developed to deal with violations of statistical independence associated with dyadic data, for example of romantic couples. Using the APIM, within-person effects (i.e., actor effects) and between-person effects (i.e., partner effects) can be estimated separately while controlling for confounding due to partner similarity. Actor effects refer to effects of an individual's own predictor variable on his/her own outcomes and partner effects refer to the effects of an individual's predictor variable on his/her partner's outcome variable. An APIM with couple members' body appreciation as predictors and couple members' perceived relationship quality as outcomes was estimated to examine the total actor effect (i.e., the effect of a couple member's body appreciation on his/her own perceived relationship quality) and the total partner effect (i.e., the effect of a couple member's body appreciation on his/her partner's perceived relationship quality).

Mediation in dyadic data can be tested by extending the standard APIM by a mediator variable (APIMeM; Ledermann, Macho, & Kenny, 2011). An APIMeM with couple members' body appreciation as predictors, couple members' sexual satisfaction as mediators, and couple members' perceived relationship quality as outcomes was estimated to examine the direct actor effect (i.e., the effect of an individual's body appreciation on his or her own perceived relationship quality after controlling for sexual satisfaction) and the direct partner effect (i.e., the effect of an individual's body appreciation on his/her partner's perceived relationship quality after controlling for sexual satisfaction). The APIMeM further enables the assessment of indirect actor effects: actor-actor mediation (i.e., effect of an individual's body appreciation on his/her own perceived relationship quality through his/her own sexual satisfaction) and partner-partner mediation (i.e., effect of an individual's body appreciation on his/her perceived relationship quality through his/her partner's sexual satisfaction), as well as indirect partner effects: actor-partner mediation (i.e., effect of an individual's body appreciation on his/her partner's perceived relationship quality through his/her own sexual satisfaction) and partner-actor mediation (i.e., effect of an individual's body appreciation on his/her partner's perceived relationship quality through his/her partner's sexual satisfaction).

To estimate the APIM and APIMeM, structural equation modelling (SEM) was performed using Mplus 7.3.1 (Muthén & Muthén, 2012). To facilitate interpretation (i.e., provide interpretable standardized coefficients), prior to the analyses, all variables were standardized based on the mean and standard deviation calculated across the entire sample. Before estimating the models, it was tested whether dyad members were empirically distinguishable by gender using the omnibus test of distinguishability (Kenny et al., 2006). The omnibus test simultaneously evaluates gender differences in means, variances as well as intrapersonal and intrapersonal correlations. When the omnibus test indicates that couple members could not be distinguished by gender, the API(Me)M was specified for interchangeable dyads by constraining the means, variances, and correlations to the same value across gender (Kenny et al., 2006; Olsen & Kenny, 2006). Additionally, as recommended by Shrout and Bolger (2002), mediation effects (i.e., indirect effects) were estimated by bootstrap analyses using 5000 bootstrap samples.

Results

APIM linking body appreciation to perceived relationship quality

Results of the omnibus test constraining means, variances, and correlations indicated that the couple members were distinguishable by gender, $\chi^2[6] = 39.57$, $p < .001$. However, a subsequent omnibus test constraining only the correlations indicated no difference between couple members, $\chi^2[2] = 1.37$, $p = .51$. Therefore, the couples were treated as indistinguishable by constraining the male actor effect with the female actor effect and the male partner effect with the female partner effect, while controlling for the differences in means and variances.

The results of the APIM revealed a significant total actor effect, $\beta = .14$, $p = < .05$ (paths a, Figure 1), and a marginally significant total partner effect of body appreciation on relationship quality, $\beta = .10$, $p = .05$ (paths b, Figure 1), indicating that a couple member's body appreciation was positively associated with his/her own perceived relationship quality as well as with his/her partner's perceived relationship quality. The correlation between couple members' body appreciation was $r = .08$, $p = .29$, and the correlation between residuals of relationship quality was $r = .44$, $p < .001$. The control variable relationship duration was not significantly related to couple members' body appreciation ($r = -.13$, $p = .19$ for female couple member, $r = -.12$, $p = .08$ for male couple members) and did not significantly predict couple members' perceived relationship quality ($\beta = -.01$, $p = .93$ for female couple members, $\beta = -.13$, $p = .09$ for male couple members).

APIMeM linking body appreciation to perceived relationship quality through sexual satisfaction

Results of the omnibus test constraining means, variances and correlations indicated that the couple members were distinguishable by gender, $\chi^2[12] = 84.23$, $p < .001$. However, a subsequent omnibus test constraining only the correlations indicated no difference between couple members, $\chi^2[6] = 7.64$, $p = .23$. Therefore, the couples were treated as indistinguishable by constraining the male actor effects with the female actor effects and the male partner effects with the female partner effects, while controlling for the differences in means and variances.

The results of the APIMeM (see Figure 1) revealed a significant actor effects of body appreciation on sexual satisfaction (paths *c*), and of sexual satisfaction on perceived relationship

quality (paths *e*), while the corresponding partner effects (paths *d* and paths *f*, respectively) were not significant. This indicates that body appreciation was positively associated with sexual satisfaction and that sexual satisfaction was positively associated with relationship quality within but not across couple members. The actor effects (paths *a*) and partners effects (paths *b*) of body appreciation on perceived relationship quality were reduced compared to the APIM and no longer (marginally) significant. Thus, there were no direct effects of a couple member's body appreciation neither on his/her own perceived relationship quality nor on his/her partner's perceived relationship quality.

Rather, the bootstrap analysis revealed a significant indirect effect of a couple member's body appreciation on his/her own perceived relationship quality through his/her own sexual satisfaction (actor-actor mediation), .09, BC 95% CI (0.041, 0.166) (paths *c* x *e*), indicating that a couple member's body appreciation was positively related to his/her own perceived relationship quality due to a higher own sexual satisfaction. The other indirect effects were not significant, 00, BC 95% CI (-0.003, 0.024) (paths *d* x *f*, partner-partner mediation), .02, BC 95% CI (-0.004, 0.058) (paths *c* x *f*, actor-partner mediation), and .02, BC 95% CI (-0.021, 0.064) (paths d x e, partner-actor mediation).

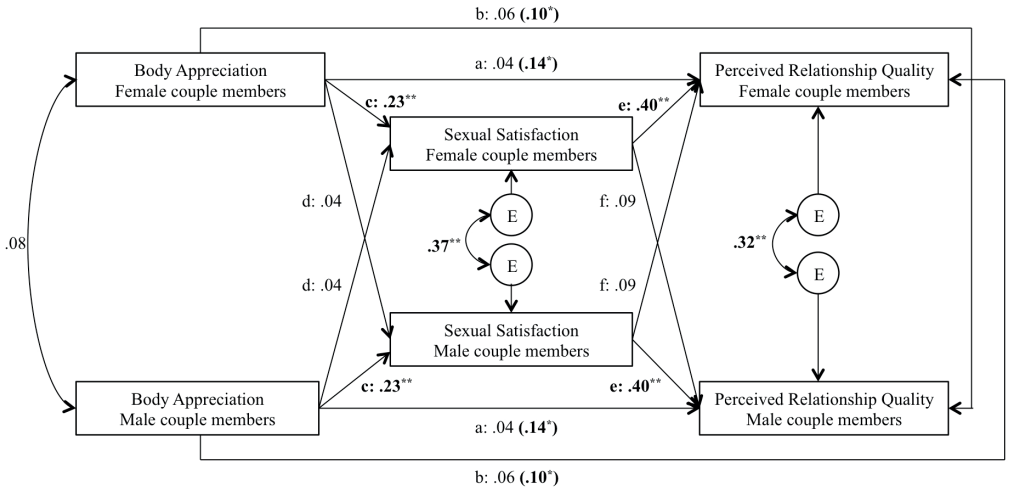

Figure 1. Actor–partner interdependence mediation model linking body appreciation to perceived relationship quality via sexual satisfaction. Paths with the same letter were constrained to the same value (as a result of the omnibustest). Total effects from the simple actor-partner interdependence model are displayed in parentheses. Standardized path coefficients are reported. Control paths for relationship duration on sexual satisfaction (β = -.09, p = .30 for female couple members and β = -.22, p <.01 for male couple members) and on perceived relationship quality (β = .05, p = .56 for female couple members and β = -.04, p = .64 for male couple members) were omitted for figure clarity. $^{**}p < .001$, $^{*}p \leq .05$.

Discussion

Using a dyadic design, the present study examined intra- and interpersonal associations between body image, sexual satisfaction, and perceived relationship quality in romantic couples. First, the results showed that body image, sexual satisfaction, and perceived relationship quality are meaningfully related within individuals. In line with previous findings (e.g., Friedman et al., 1999), the results of the APIM indicated that body image was positively associated with perceived relationship quality. Furthermore, results of the APIMeM suggested that individuals with a more positive body image report greater sexual satisfaction, and that greater sexual satisfaction is associated with a higher perceived quality of the romantic relationship. These expected within-person findings replicate results of a large number of previous studies (e.g., Gadassi et al., 2016; Satinsky et al., 2012; Træen et al., 2016; Yoo et al., 2014). The results of the AMIPeM also offered further insight in the interplay of body image and sexual satisfaction in affecting perceived relationship quality within individuals. As expected, sexual satisfaction mediated the association between body image and perceived relationship quality. More specifically, a positive body image was related to higher perceived relationship quality through greater sexual satisfaction. These findings are in line with results of Meltzer and McNulty (2010), who studied the mediating role of sexual satisfaction in the association between female body image and relationship quality, and expands this study by incorporating male body image.

It is important to note that our results revealed no gender differences in the strength and direction of the associations between an individual's body image, sexual satisfaction, and perceived relationship quality. The vast majority of prior body image research attended to women, largely because social pressures on women to conform to the unrealistic cultural body ideal were more pronounced than pressures on men (Byrd-Bredbenner & Murray, 2003; Rodin, Silberstein, & Striegel-Moore, 1985). Although there has been increasing recognition that a male body-ideal is much more dominant in modern society than in the past and that many men experience negative feelings towards their bodies (Frith & Gleeson, 2004; Pope, Phillips, & Olivardia, 2000), outcomes of body image in men still receive less scientific attention compared to women. The current findings emphasize that a positive body is equally important in shaping positive sexual and relational experiences for men and women. Furthermore, previous literature has suggested that sex may be more important for men than women in valuing their romantic relationship. For example, women tend to value emotional intimacy with their partner more than men while men tend to value more sexual intimacy with their partner than women (e.g., Greeff & Mahlerbe, 2001; Talmadge & Dabbs, 1990). There is a widely held stereotype that women focus on emotional intimacy in a romantic relationship and men focus exclusively on sexual activity (Canary, Emmers-Sommer, & Faulkner, 1997). Although it is possible that the level of sexual satisfaction is perhaps more based on emotional experiences in women and more on physical experiences (e.g., achieving an orgasm) in men (e.g., Leiblum, 2002), our results did not show a stronger association between sexual satisfaction and perceived relationship quality in men. These findings underline the importance of a more nuanced view of these gender differences in which the association between satisfaction with sexual experiences and overall relationship quality equally applies to both men and women.

Unlike our findings of within-person effects, the current study provided only little evidence for the existence of between-person effects. The results of the APIM suggested that a posi-

tive body image was marginally associated with the partner's perceived relationship quality. However, as indicated by the APIMeM results, this association was not due to the own and/or the partner's sexual satisfaction. The APIMeM results also showed no associations between body image or sexual satisfaction and the partner's sexual satisfaction and perceived relationship quality. These results are in line with previous findings of no partner effects from men to women (Boyes et al., 2007; Yoo et al, 2014), but the previously found partner effects from women to men (Meltzer & McNulty, 2010; Yoo et al., 2014) could not be replicated. These findings suggest that, as for women, within-person effects seem to be the key mechanism in predicting perceived relationship quality in men. The inconsistent findings may also be accounted for by differences in study methods, such as the various aspects of body image assessed across the studies. For example, Meltzer and McNulty studied self-perceived sexual attractiveness. As described by Wade (2000), self-perceived sexual attractiveness for women is not only based on feelings about their appearance, but also on feelings about their sex drive and physical strength. Sexual attractiveness was found to be associated with higher sexual self-esteem (Wiederman & Hurst, 1998), which in turn is related to sexually-related behaviors such as more sexual openness and higher coital frequency (Hensel, Fortenberry, O'Sullivan, & Orr, 2011). Women who feel sexually attractive may therefore be experienced as better sexual partner, resulting into greater sexual satisfaction in their partner. Possibly, aspects of sexual female body image, such sexual attractiveness, are more strongly linked to sexual experiences of the male partner than more global measures of body image, such as body appreciation, which was assessed in the present study. Besides, body appreciation is an aspect of positive body image (e.g., Tylka et al., 2011). Although low BAS scores indicate an absence of positive feelings and appreciation towards one's body, this does not automatically imply negative body image, which is reflected by the absence of positive feelings towards one's body and the presence of negative feelings such as dissatisfaction and dysphoria. Perhaps a positive body image in women influences the male partner to a lesser degree than a negative body image. For example, body image issues can cause women to experience stress and depressive feelings (e.g., Stice, Hayward, Cameron, Killen, & Taylor, 2000), which may affect their partners' feelings about the quality of the relationship to a greater extent.

Overall, the results indicated that an individual's body image is meaningfully associated with his or her own romantic relationship quality through his or her own sexual satisfaction, and that this equally applies to both women and men. These findings have practical implications, since body image problems are common in women and men (Pope, Phillips, & Olivardia, 2000; Wiederman, 2002). Given the close connection between sexual and global relationship experiences, interventions that are effective in developing and maintaining a positive body image may be helpful for women and men in building on a more satisfying sex life, which in turn can result in a more positive experience of the romantic relationship. For example, cognitive-behavioral body image therapy is found to be an efficacious treatment of body image problems (for a meta-analysis see Jarry & Ip, 2005), with outcomes shown to reduce negative body-related feelings during physical intimacy with a partner (Grant & Cash, 1996). However, the fact that the effectiveness of body image interventions is primarily studied in women (Jarry & Ip, 2005) suggests that therapeutic interventions in sex and couple therapy may be strongly based on the assumption that only women's sexual experiences can be negatively affected by body image concerns. For therapists, women's body image concerns are more easily identified than men's, because women more openly and frequently discuss these concerns

with others (e.g., Barwick, Bazzini, Martz, Rocheleau, & Curtin, 2012). Besides, body image is often seen as a women's issue (Tantleff-Dunn, Barnes, & Larose, 2011) and men may be therefore unlikely to disclose distress related to feelings about the appearance of their body. Thus, it is important that therapists pay attention to potential body image issues in men, and should acknowledge and address these issues equally with both male and female clients.

Limitations

There were several limitations to this study that future research could address. The present sample consisted of heterosexual and primarily highly educated young couples with relatively short average relationship duration. Because of the homogeneous sample, results of this study may not be representative for the general Dutch population. Future research would benefit from more heterogeneous samples. Furthermore, only one aspect of body image (i.e., body appreciation) was assessed in the present study. Future researchers may use more comprehensive body image measures in order to differentiate between the role of various aspects of body image in associations with sexual and relational experiences. Lastly, given the cross-sectional nature of this study, direction of causality could not definitely be determined. Although previous findings demonstrated that greater sexual satisfaction uniquely predicted higher perceived relationship quality (Yeh et al., 2006), other study results (Lawrance & Byers, 1995) and social exchanges theories (e.g., the interpersonal exchange model of sexual satisfaction; Lawrance & Byers, 1992b) suggested a reversed causal direction. Global relationship quality may also enhance sexual satisfaction in a way that a satisfying romantic relationship promotes satisfying sexual experiences. Furthermore, the direction of relationship between body image and sexual satisfaction may also be reversed. Sexual satisfaction may positively affect one's body image as well (Tantleff-Dunn & Gokee, 2002). Longitudinal studies are needed to further address these issues.

Conclusions

This study adds to the literature by targeting the mediating role of sexual satisfaction in the association between body image and relationship quality within individuals involved in romantic relationships, by taking both partners' perspective into account. No gender difference were found, implying that body image, sexual satisfaction, and perceived relationship quality are equally strongly associated for women and men. Given the fact that romantic relationships are dyadic in nature, it is important to further study these complex dynamics, simultaneously within and between couple members of romantic relationships, in order to improve scientific as well as clinical knowledge about how body image, sexuality, and relationship quality interact in romantic relationships.

Chapter 8

Summary and General discussion

Aim of this thesis

Given the large sociocultural emphasis on appearance and the growing evidence of a widespread incidence of a negative body image in current society (Grogan, 2007), scientific understanding of its potential psychological and physical health consequences, including sexual problems, is now of particular importance. The value of understanding the way body image and sexual experiences are linked lies eventually in using that knowledge to improve mental health care in the context of sexual problems. The aim of this thesis was to answer the following questions: Which aspects of body image are most relevant in the context of sexual experiences? And what are important mechanisms or mediating variables by which body image affects sexual experiences? To answer these questions, we first conducted a literature review, followed by a series of empirical studies addressing gaps in the existing literature.

Summary of main findings

In **Chapter 2**, we reviewed the existing literature on the relationship between body image and sexual experiences. The results underlined the importance of taking body evaluations and cognitions into account when studying sexual experiences. To summarize, the extant literature indicated that women's body concerns are related to decreased sexual functioning and may interfere with sexual pleasure, sexual satisfaction, and sexual behavior. Negative cognitions about one's physical appearance and self-consciousness during sexual activity seem to be key factors in understanding the relationships between body image and sexual experiences. The existing research, however, turned out to be limited in terms of attention to 1) positive aspects of body image and sexual experiences, 2) distinguishing general body image (i.e., one's general or typical feelings and evaluations about one's body without specifying a particular situational context) from body image in a sexual context, 3) research in males, and 4) incorporating partner-related cognitions and evaluations. These gaps in the existing literature were addressed in five empirical studies in order to contribute to a more complete view on the relationship between body image and sexual experiences. Below, the key findings of these studies will first be summarized and integrated. Subsequently, theoretical implications, practical implications, limitations of the studies, and directions for future research will be addressed.

In **Chapter 3**, the focus was on women who are satisfied with their bodies and on how positive body evaluation (i.e., body satisfaction) relates to sexual frequency, sexual functioning, and sexual self-esteem. A sample of 319 Dutch female university students completed an online survey that included items about body image evaluation (MBSRQ-AE), body image investment (MBSRQ-AO), overweight preoccupation (MBSRQ-OWP), body self-consciousness during sexual activity (BISQ), sexual frequency (SFS), sexual functioning (FSFI), and sexual self-esteem (SES). We found that the majority of women reported neutral or mildly positive body evaluations and in 30% these evaluations were clearly positive. Results of a multivariate analysis of variance showed that body-satisfied women had lower body mass indexes and reported less body image investment, less overweight preoccupation, and less body self-consciousness during sexual activity than women who were neutral about their bodies. With respect to their sexual experiences, the body-satisfied women reported higher sexual self-esteem and better general sexual functioning. Furthermore, results of a path-analysis revealed that lower body self-consciousness was associated with better sexual functioning, higher sexual self-esteem, and more sexual activity with a partner.

In **Chapter 4**, the aim was to determine whether the Body Appreciation Scale (BAS) –a measure that assesses positive body image more broadly than only in terms of body satisfaction– measures the same construct in Dutch and US women. Therefore, it was tested if there was measurement invariance for the BAS using a Dutch sample female university students (n = 470) and previously published data from US samples female university students (n = 181, n = 327, n = 424; Avalos, Tylka, & Wood-Barcalow, 2005). Results of multi-group principal components analyses supported measurement invariance, thus allowing analyses involving group means. We found that the average degree of general body appreciation was somewhat higher for the Dutch women, whereas US women tended to report slightly less investment placed on weight and shape and more protection of body image by rejecting unrealistic thin media images.

In **Chapter 5**, the focus was on links between romantic attachment, positive body image, and sexual functioning in women. Dutch female university students (N = 399) completed an online survey that included self-report items about romantic attachment (ECR-RS), body appreciation (BAS), and sexual functioning (FSFI). A proposed conceptual model was tested using structural equation modeling and a good fit to the data was found. Results revealed that lower levels of attachment anxiety were related to greater levels of body appreciation. Body appreciation, in turn, was associated with better sexual functioning, as it was related to higher levels of sexual desire and subjective arousal. Findings further demonstrated a direct relationship between romantic attachment avoidance and sexual functioning. Specifically, lower levels of attachment avoidance were associated with more subjective sexual arousal and vaginal lubrication, higher ability to reach orgasm, and greater sexual satisfaction.

In **Chapter 6**, the aim was to investigate associations of four key aspects of male body attitudes and body self-consciousness during sexual activity with sexual dissatisfaction. A sample of 201 Dutch adult men (age range 18-44 years) completed an online survey measuring body attitudes towards muscularity (MBAS-M), body fat (MBAS-BF), height (MBAS-H), and genitals (MGSIS), body self-consciousness during physical intimacy (M-BISQ), and sexual dissatisfaction (GRISS). Results of a stepwise multiple regression analysis and bootstrap analyses revealed that negative body attitudes were related to greater sexual dissatisfaction in men through body self-consciousness during sexual activity. Specifically, negative attitudes towards muscularity, body fat, and genitals were associated with more body self-consciousness during sexual activity, which in turn was associated with greater sexual dissatisfaction. Negative attitudes towards genitals were also directly related to greater sexual dissatisfaction.

In **Chapter 7**, relationships between positive body image, sexual satisfaction, and perceived relationship quality were assessed in romantic couples by using a dyadic approach. A sample of 151 heterosexual adult couples (age range 18-49 years) completed an online survey measuring body appreciation (BAS), sexual satisfaction (GRISS), and perceived relationship quality (PRQC). Data were analyzed using the Actor-Partner Interdependence (Mediation) Model. The results revealed that both in women and men, more body appreciation was associated with greater sexual satisfaction which, in turn, was associated with higher perceived relationship quality. No gender differences were found, implying that positive body image, sexual satisfaction, and perceived relationship quality are equally strongly associated for women and men. Unlike these within-person associations, the results provided no clear evidence for the

existence of between-person effects, suggesting that one´s partner´s levels of body appreciation and sexual satisfaction have minimal impact on one´s perceived relationship quality.

With respect to the gaps in the existing literature pointed out at the beginning of this paragraph, the most important conclusions from the studies presented in this thesis, in short, are that:

1) a positive body image is not uncommon in the Dutch population and is, above and beyond the absence of a negative body image, related to more positive sexual experiences
2) a positive general body image may prevent exaggerated self-consciousness of one's body in a sexual context, which in turn facilitates positive sexual experiences
3) (positive) body image is equally strongly associated with sexual experiences in men as in women
4) partner-related cognitions and evaluations, such as romantic attachment and perceived relationship quality, are meaningfully related to positive body image and sexual experiences

Theoretical implications

Looking back, we saw that body image in the context of sexual experiences has attracted scientific attention since Masters and Johnson's (1970) classic perspective on 'spectatoring' and Barlow's (1986) model of anxious self-focus processes during sexual activity. Laboratory studies first showed that cognitively fixating on one's body, rather than focusing on one's sensations and/or sexual partner, can disrupt the sexual response. Subsequently, it was found that the relevant parameter is not the body-focus per se, but rather the valence (i.e., negative or positive) of the body focus that causes it to affect sexual experiences (e.g., Sakheim, Barlow, Beck, & Abrahamson, 1984). During the past two decades, the construct of body image has come to play an increasingly prominent role in theory and research on sexual experiences. The results from the literature review and the empirical studies presented in this thesis have broadened the perspective on the relationship between body image and sexual experiences. Figure 1 depicts the classical perspective (left) as well as the broadened perspective (middle) and the positive perspective (right) based on the results of the studies described in the present thesis and recent work of others.

The broadened perspective

The first notable difference between the classical perspective and the broadened perspective is the large numbers of different aspects of sexuality added in the broadened perspective. Whereas body image was initially linked to physical aspects of sexual functioning, the large number of studies conducted in the past two decades demonstrated that negative body evaluations are not only related to a disrupted sexual response, but also to sexual dissatisfaction, lower frequency and avoidance of sexual activities, less sexual assertiveness, sexual risk behavior, and a negative sexual self-concept (see Chapter 2). Although the large majority of this studies exclusively focused on women, there is recently an increasing attention to men (e.g., Blashill & Safren, 2015; Carvalheira Godinho, & Costa, 2016; Manago, Ward, Lemm, Reed, & Seabrook, 2015; Milhausen, Buchholz, Opperman, & Benson, 2015; Silva, Pascoal, & Nobre, 2016; Træen, Markovic, & Kvalem, 2016). The results of these studies and our study presented in Chapter 6 showed that, as is the case for women, negative body evaluations in men are associated with a broad range of negative sexual experiences.

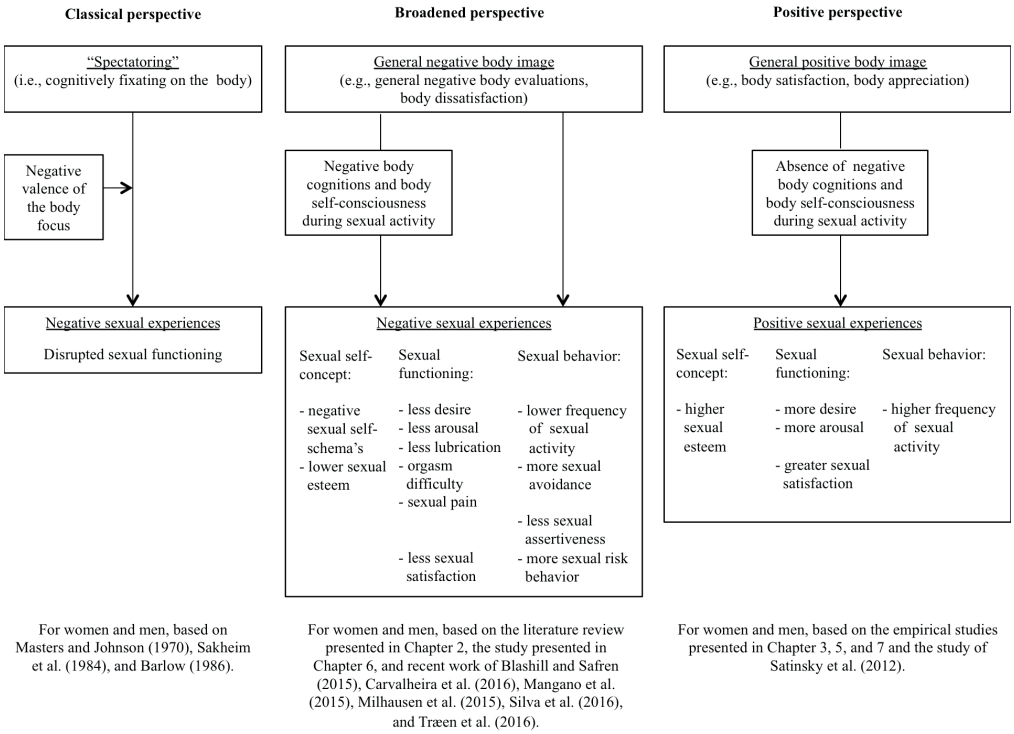

Figure 1. The classical perspective, broadened perspective, and positive perspective on the relationship between body image and sexual experiences.

A second difference between the classical perspective and the broadened perspective is the exclusion of term 'spectatoring', a cognitive process wherein individuals fixate on and monitor personal body parts and/or the adequacy of personal sexual functioning during sexual activity. Monitor and judging one's own body and sexual performance can absorb one's attention which makes it difficult to focus on what is pleasurable and enjoyable about the activity (Barlow, 1986; Masters & Johnson, 1970). However, early research on spectatoring (e.g., Beck, Barlow, & Sakheim, 1983; Sakheim, Barlow, Beck, & Abrahamson, 1984) has not distinguished the content of the cognitive distraction. Dove and Wiederman (2000) were the first in making a distinction between appearance-based distraction and performance-based distraction during sexual activity. Their results showed that both appearance-based distraction and performance-based distraction have a negative effect on sexual functioning and sexual satisfaction. In further research on the relationship between body image and sexual experiences, appearance-based spectatoring was mostly defined as appearance-based cognitive distraction, body self-consciousness during sexual activity, or contextual body image during sexual activity (e.g., Carvalheira et al., 2016; Wiederman, 2000; Yamamiya, Cash, & Thompson, 2006). In the broadened perspective, appearance-based spectatoring is therefore described as negative body cognitions and body self-consciousness during sexual activity. In line with Fredrickson and Roberts' (1997) objectification theory, we found that negative body cognitions and body self-consciousness during sexual activity are key predictors of sexual experiences. Objectifi-

cation theory was originally developed to explain women's experiences as it posits that the treatment of women as sexual objects by men, and in the media, leads women to treating themselves as objects to be evaluated based upon bodily appearance (i.e., self-objectification). Self-objectification is manifested as persistent consciousness of the body and habitual body monitoring, which may interfere with sexual functioning and hinder sexual satisfaction (Fredrickson & Roberts, 1997). Objectification theory is now considered relevant for understanding men's experiences as well given the increased cultural emphasis on men's appearance (Moradi & Huang, 2008; Strelan & Hargreaves, 2005a), which is supported by the results of our study described in Chapter 6 and other recent findings (Silva et al., 2016). Thus, both in men and women, cognitions and self-consciousness of one's body during sexual activity play a key role in understanding the relationship between body image and sexuality.

A third important difference between the classical perspective and the broadened perspective is the addition of general negative body image (i.e., one's general or typical feelings and evaluations about one's body without specifying a particular situational context). In the broadened perspective, a general negative body image is indirectly linked to sexual experiences via negative cognitions and body self-consciousness during sexual activity as well as directly linked to sexual experiences. With respect to the indirect link, the results of our studies presented in Chapter 2 and 6 and other recent findings (Silva et al., 2016) suggest that a general negative body image plays a vulnerability role, predisposing men and women to focus their attention to their body and appearance during sexual activity and therefore be distracted from erotic cues and more prone to have negative sexual experiences. In addition to this indirect link between a general negative body image and negative sexual experiences via negative cognitions and body self-consciousness during sexual activity, our results also suggested a direct link between a general negative body image and sexual experiences. A plausible explanation for this direct link is that in cases of severe negative body image sexual situations and sexual interactions with a partner may be intentionally avoided because of feelings of insecurity. By avoiding sexual activities, negative body evaluations are perpetuated because an experience that may invalidate these evaluations is not likely to occur. Continual body concerns may, in turn, strengthen the avoidance of sexual activities, resulting in an unfortunate cycle.

In sum, based on objectification theory, the results of the studies described in Chapter 2 and 6 of this thesis and recent empirical studies of others, it can be concluded that, both in women and men, negative body cognitions and evaluations are related to a variety of negative sexual experiences, including lower sexual functioning, sexual dissatisfaction, avoidance of sexual activities, sexual risk behavior, and a negative sexual self-concept. Cognitions and self-consciousness of one's body *during sexual activity* serve as an important mechanism by which body image affects sexual experiences. Negative body evaluations may result in exaggerated self-consciousness of one's body in a sexual context which may be distracting, thereby interfering with pleasure of the experience and sexual satisfaction. However, it is important to note that the broadened perspective presented is a simplified representation in terms of interconnections between the domains of sexual experiences and important other variables that may affect body image and sexual experiences, such as partner-related cognitions and evaluations.

The positive perspective

Since relationships between body image and sexual experiences have been almost exclusively

investigated in negative terms in the past, the positive perspective presented in this thesis is a valuable addition to the literature. Positive body image is conceptually distinct from negative body image and is reflected not just by the absence of a negative body image but *also* by the presence of satisfaction, love, respect, acceptance, and appreciation held for one's body (Tylka, 2011). As positive body image is not on the same continuum as negative body image, studying the unique outcomes of positive body image in the context of sexual experiences is important. The results of our studies presented in Chapter 3, 5, and 7 and a recent study of Satinsky, Reece, Dennis, Sanders, and Bardzell (2012) indicated that both in women and men, a positive body image and the absence appearance-related self-consciousness are associated with a variety of positive sexual experiences, including higher sexual self-esteem, better sexual functioning, sexual satisfaction, and higher frequency of sexual activity. Two theoretical models of positive body image –the acceptance model of intuitive eating (Avalos & Tylka, 2006) and the embodiment model of positive body image (Menzel & Levine, 2011)– formulate positive body image, where individuals are connected and attentive to their bodies, as a direct alternative to an objectified body self-consciousness (Fredrickson & Roberts, 1997), where the body is viewed from an observer's perspective and evaluated based on appearance. When applying these models to a sexual context, a positive body image may protect individuals from having negative appearance-related thoughts and exaggerated appearance-related self-consciousness *during sexual activity*, which in turn facilitates positive sexual experiences.

Thus, based on the acceptance model of intuitive eating, the embodiment model of positive body image, and the results of the studies presented in Chapter 3, 5, and 7 of this thesis, it can be concluded that, both in women and men, a positive body image may prevent distraction by negative appearance-related thoughts during sexual activity, which in turn facilitates focusing on sexual pleasure and positive sexual experiences. Again, it is important to note that the positive perspective is a simplified representation in terms of interconnections between the domains of sexual experiences and important other variables that may affect body image and sexual experiences such as partner-related cognitions and evaluations, which we found to be meaningfully related to positive body image and sexual experiences (Chapter 5 and 7). Furthermore, as the study of positive body image is still rather young and few studies have yet examined its relationships with sexual experiences, the positive perspective presented may not be complete. Hopefully, these new insights provide a starting point for future research.

Practical implications

Previous research indicated that sexual problems are common and many people experience dissatisfaction with their sex life (e.g., Frederick, Lever, Gillespie, & Garcia, in press; Vanwesenbeeck, ten Have, & de Graaf, 2014). As many people who undergo therapy for sexual problems are struggling with their physical appearance (Wiederman, 2002), the results from the studies presented in this thesis have potentially important practical implications in the context of clinical treatment of these clients.

First, the well-documented relationships between negative body image and dysfunctional and dissatisfying sexual experiences in the extant literature suggest that incorporating body image intervention into therapy for sexual problems may be useful. Attention to body concerns and body consciousness *during sexual activity* with a partner is of particular importance, as the focus on body concerns during sexual interactions may be distracting, thereby interfering with

pleasure of the experience and sexual satisfaction. Currently, there are no published studies on the assessment of interventions addressing body concerns during sexual activity, which leaves clinicians to rely on general body image interventions (Wiederman & Sarin, 2014). Although body image therapy interventions based on cognitive-behavioral principles were found to be highly effective in modifying negative general body evaluations (Jarry & Ip, 2005), possible positive effects of such intervention on sexual functioning and behavior will be primarily indirect and therefore less optimal. As suggested by Wiederman and Sarin (2014), addressing irrational and inaccurate appearance-related thoughts experienced by the client during sexual activity is a good place to start.

Moreover, the discovery that positive body image is, above and beyond the absence of a negative body image, related to positive sexual experiences offers further implications for promoting sexual experiences moving away from the traditional focus on negative body image. The demonstrated relationships between negative body image and sexual problems have often led to the recommendation by professionals to reduce negative body image to improve sexual health (e.g., Pujols, Meston, & Bradford, 2010; Seal & Meston, 2007). However, if body image therapies reduce symptoms of negative body image, but do not enhance aspects of positive body image, they may promote a neutral body image at best (e.g., "I don't hate my body anymore, but I tolerate it."). Helping clients adopting a positive body image may help them appreciate and respect their bodies, which may render treatment more effective and lasting (Tylka & Wood-Barcalow, 2015a). Effective body image interventions in developing and maintaining a positive body image may therefore be additionally helpful in building a pleasurable and more satisfying sex life. Although the study of positive body image is still rather young, researchers have recently begun to examine the effectiveness of interventions that are directly derived from the literature on positive body image. In their embodiment model of positive body image, Menzel and Levine (2011) have proposed that engaging in embodying activities, that is, activities which involve a mind-body integration characterized by a feeling of being 'at one' with the body, is key to positive body image. Following this model, Mahlo and Tiggemann (2016) studied the effects of a certain embodied activity (i.e., yoga) and their results indicated that engaging in embodying activities enhances a sense of embodiment, which in turn contributes to a more positive body image. The power of embodied activities lies in reducing the focus on external appearance by increasing the focus on internal experiences and functionality and competencies of the body (Tiggemann, Coutts & Clark, 2014). These findings hold promise for clinical interventions in the context of sexual problems, as sexual activities are preeminently suitable as embodied activities. Such activities emphasize one's physical capabilities and the mind-body connection. Helping clients to change non-helping negative appearance-related thoughts (e.g., "My partner can feel my fat") into helping positive body-functionality thoughts (e.g., "My body feels sexually aroused") through cognitive restructuring may help them using sexual activities as a source of positive body and sexual experiences thus facilitating a continuous beneficial cycle.

It is important to note that our results suggest that body image interventions in the context of sexual problems are likely to be as efficacious for men as for women. Although body concerns during sexual activity tend to be more prevalent in women (Meana & Nunnik, 2006), men's body concerns may equally strongly affect their sexual experiences. For therapists, men's body concerns are less easily identified than women's, because compared to women, men less open-

ly and frequently discuss these concerns with others (e.g., Barwick, Bazzini, Martz, Rocheleau, & Curtin, 2012). Body concerns in men also appear to be more variable. Whereas females who are dissatisfied with their overall body appearance almost invariably wish to be thinner, some men wish to be thinner whereas others wish to gain weight to increase muscularity. Besides, body image is often seen as a women's issue (Tantleff-Dunn, Barnes, & Larose, 2011) and men may be therefore unlikely to disclose distress related to feelings about the appearance of their body. Especially heterosexual men who adhere to traditional masculine gender role norms (e.g., dominant, tough, powerful, and authoritative, including in sexual relationships) might be afraid that if they focus too much on their body, they might be seen as feminine (and/or 'gay') (Murnen & Don, 2012). However, these men are perhaps even more at risk for developing body concerns during sexual activity since conformity to masculine norms is closely connected with a high drive for muscularity (Gattario et al., 2015). Men who conform to masculine gender role norms may also desire to develop their muscularity in line with cultural and gendered ideals in order to demonstrate masculinity to the sexual partners. They experience muscles as important to a 'masculine' sex life (Swami, Diwell, & McCreary, 2014). Prescribed gender roles for men (and women) are still rigid and pervasive in the general population and in novels, films (e.g., *Fifty Shades of Grey*), and Internet pornography (Eaton & Rose, 2011; Ménard & Cabrera, 2011; Sun, Bridges, Johnson, & Ezzell, 2016) and cultural body ideals for men have become increasingly muscular and unattainable masculine (Pope, Phillips, & Olivardia, 2000). This may cause body concerns that are associated with men's sexuality. Thus, it is important that therapists pay attention to potential body image issues in men, and that they acknowledge and address these issues equally with both male and female clients.

Lastly, it is important that clinicians do not focus only on an individual's experiences during sexual activity when the client is involved in a romantic relationship. Instead, adapting a broader focus by taking the partner or romantic context into account, for example through involving romantic partners in individual treatment programs, would be valuable. Clients with body image concerns frequently engage in 'mind-reading' about what the partner thinks and believes. Clinicians working with couples have the opportunity to discuss partner's perceptions of, and reactions to, the body concerns. This may be helpful in addressing the concerns, as the partner's perspective may be more positive than the client assumes (Wiederman & Sarin, 2014). Emotionally focused couple therapy may be useful in addition when there are negative emotions towards the partner or the relationship. This type of therapy can be effective in targeting negative interactions between partners, reprocessing negative emotional experiences of sex, and develop a more secure bond with the partner in order to build on a more satisfying sex life (Johnson & Zuccarini, 2010).

Limitations and directions for future research

Although the presented studies offer further insight in the association between body image and sexual experiences, the results must be considered in light of study limitations. First, data were collected through online surveys. Although participants are likely to feel more comfortable disclosing personal information in an online questionnaire than in a less anonymous setting such as a research lab (Locke & Gilbert, 1995) and internet methods were found to be of at least as good quality as traditional paper-and-pencil methods (Gosling & Mason, 2015; Gosling, Vazire, & Srivastava, 2004), the lack of control over the participant's environment may have affected the responses.

Second, the studies relied on self-reports of body image and sexual experiences, so there could be a social desirability bias. However, although laboratory-based physiological indices of sexual response (e.g., vaginal blood flow) are available, it has been proposed that the most valid way to assess sexual responses is in a naturalistic setting. Self-report technique is the only method currently available for measuring sexual response in an at-home setting (Rosen et al., 2000).

Third, the samples employed were a samples of Dutch, primarily heterosexual, college students thus unlikely to represent the population as a whole. The extent to which relationships between body image and sexual experiences also apply to non-college students and adults of all ages, sexual orientations, and ethnicities remains uncertain. For example, although body evaluations were found to be relatively stable across the adult life span the importance placed on body shape, weight and appearance is likely to decrease as people age (for a review, see Tiggemann, 2004). Besides, people elder than the typical college student (age 18-25 years) are likely to represent greater diversity with regard to past relationship and sexual experiences. The possibility that such differences affect the relationship between body image and sexual functioning seems likely. Furthermore, the ethnic composition in Dutch college samples is generally more than 90% Caucasian (Centraal Bureau voor de Statistiek, 2016). Previous studies have reported cross-sectional gender and racial/ethnic differences in body image. For example, research suggests that black women are more satisfied with their bodies than are white women (for a meta-analysis, see Roberts, Cash, Feingold, & Johnson, 2006) and that black men are more satisfied with their bodies than are white men (for a review, see Ricciardelli, McCabe, Williams, & Thompson, 2007). Furthermore, Claudat, Warren, and Durette (2012) found in their ethnic diverse US sample that the relationship between general body shame and body image concerns during sexual activity was stronger in European American women than in African American and Latin American women. These findings may suggest that certain cultural factors in non-Western cultures protect against the development of body concerns and its negative effects in a sexual context. Future studies including more diverse samples would be beneficial to the literature.

Lastly, given the cross-sectional nature of these studies, direction of causality could not definitely be determined. Based on previous theorizing and existing research (e.g., Fredrickson & Roberts, 1997; Roberts & Gettman, 2004), we believe that body concerns do, in fact, lead to sexual problems and reduced satisfaction. However, the relationship between body concerns and sexual outcomes could be reversed or reciprocal as there is also evidence that satisfying sexual experiences positively affect one's body image as well (Tantleff-Dunn & Gokee, 2002). Longitudinal studies are needed to further address these issues.

Despite addressing these methodological concerns, future research assessing the effectiveness of interventions addressing body concerns during sexual activity would be an important step forward since such results are currently lacking. Particularly, positive body image intervention has the potential to contribute to treating sexual problems effective and lasting. For example, interventions teaching and training individuals to focus on the functionality of their body during sexual activity, instead of on external appearance, might help them to create a healthier relationship with their body which may positively affect their sexual experiences.

Conclusions

With respect to the main questions of this thesis, it can be concluded that body-related cognitions and evaluations are the most relevant body features in the context of sexual experiences. Whereas negative body cognitions and evaluations are related to sexual problems and dissatisfying sexual experiences, positive body cognitions and evaluations are uniquely related to positive and satisfying sexual experiences. Cognitions and self-consciousness of one's body *during sexual activity* serve as an important mechanism by which body image affects sexual experiences. Negative body evaluations may result in exaggerated self-consciousness of one's body in a sexual context which may be distracting, thereby interfering with pleasure of the experience and sexual satisfaction. On the other hand, positive body evaluations may prevent distraction by negative appearance-related thoughts during sexual activity, which in turn facilitates focusing on sexual pleasure and positive sexual experiences. Besides, partner-related cognitions and evaluations, such as romantic attachment and perceived relationship quality, are meaningfully related to positive body image and sexual experiences. The findings of this thesis show the importance of specific attention for positive body image with potentially fruitful practical implications in the context of clinical treatment of sexual problems.

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Dutch Summary
Samenvatting in het Nederlands

Achtergrond en doel van dit proefschrift

Onderzoek heeft aangetoond dat veel mensen negatieve gedachten en gevoelens over hun uiterlijk hebben. Zo'n negatief lichaamsbeeld gaat vaak gepaard met problemen in het psychisch en sociaal functioneren. Mensen met een negatief lichaamsbeeld hebben bijvoorbeeld meer last van angstige en depressieve gevoelens en vertonen vaker extreem lijngedrag. Daarnaast kunnen zorgen over het uiterlijk hun weerslag hebben op seksuele ervaringen. De eerste aanwijzing voor het bestaan van een verband tussen een negatief lichaamsbeeld en problemen op seksueel gebied werd gevonden door Masters en Johnson in de jaren 70 van de vorige eeuw. In hun observatieonderzoeken naar de seksuele respons en dysfuncties zagen zij dat participanten die tijdens seks sterk gefocust waren op hun eigen lichaamsdelen en hun seksuele prestaties verminderd seksueel opgewonden raakten. Zij verklaarden dit door een fenomeen dat zij *spectatoring* noemden. Door een sterke zelf-focus wordt een zogenaamde toeschouwersrol aangenomen, waarbij de aandacht wordt gefixeerd op angstige gedachten over het lichaam en negatieve verwachtingen over het zijn van een goede seksuele partner. Dit gaat ten koste van aandacht voor plezierige seksuele sensaties en verbondenheid met de partner, hetgeen de fysiologische seksuele respons belemmert. Uit vervolgonderzoek van Barlow en collega's bleek dat *spectatoring* vooral leidt tot een verminderde seksuele respons bij mensen die negatieve gedachten en gevoelens over hun uiterlijk hebben.

In de afgelopen decennia heeft het lichaamsbeeld steeds vaker een plaats gekregen in onderzoek naar seksueel functioneren en andere, niet-fysieke aspecten van seksualiteit. Hoewel door deze toegenomen wetenschappelijke interesse een belangrijke stap is gezet in het begrijpen van de rol van het lichaamsbeeld in een seksuele context, is een overkoepelende interpretatie van de resultaten niet eenvoudig. Het lichaamsbeeld is een complex construct dat bestaat uit meerdere dimensies: de evaluatie van (delen van) het uiterlijk, het belang dat aan het uiterlijk wordt gehecht en de ervaren emoties in relatie tot het uiterlijk. In de meeste studies is echter niet duidelijk gespecificeerd welke dimensie of welk aspect van het lichaamsbeeld is gemeten. Daarbij is er een opmerkelijk grote diversiteit in de gebruikte meetinstrumenten. Dit bemoeilijkt de betekenis en vergelijkbaarheid van bevindingen. Om deze reden was het doel van dit proefschrift om de volgende vragen te beantwoorden. Welke aspecten van het lichaamsbeeld zijn gerelateerd aan seksuele ervaringen? En welke andere variabelen zijn belangrijk voor het begrijpen en verklaren van deze relatie? Om deze vragen te beantwoorden werd eerst een literatuurstudie uitgevoerd. Vervolgens zijn de conclusies van deze studie gebruikt als startpunt voor vijf empirische studies die bijdragen aan meer kennis over de relatie tussen lichaamsbeeld en seksuele ervaringen. In deze samenvatting worden eerst de belangrijkste resultaten van de studies samengevat. Vervolgens worden de theoretische en praktische implicaties van de bevindingen besproken.

Samenvatting van de resultaten van de studies

In **hoofdstuk 2** is een overzicht gegeven van 57 eerder uitgevoerde studies naar de relatie tussen lichaamsbeeld en seksuele ervaringen. De resultaten van dit literatuuronderzoek tonen aan dat het hebben van negatieve gedachten en gevoelens over het lichaam niet alleen verband houdt met ervaren problemen in het seksueel functioneren, maar ook met seksuele ontevredenheid, verminderd seksueel actief zijn, seksuele vermijding, verminderde seksuele assertiviteit, meer seksueel risicogedrag en een negatief seksueel zelfbeeld. Met name negatieve cognities en zelfbewustzijn van het uiterlijk *tijdens* de seks met een partner interfereren

met seksueel functioneren en seksueel gedrag. In de bestaande literatuur bleek echter weinig aandacht voor 1) *positieve* aspecten van het lichaamsbeeld in relatie tot seksuele ervaringen, 2) het onderscheid tussen algemene gedachten en gevoelens over het lichaam en gedachten en gevoelens over het lichaam die iemand specifiek in seksuele situaties heeft, 3) de relatie tussen lichaamsbeeld en seksuele ervaringen bij mannen en 4) de invloed van de partner op het lichaamsbeeld en seksuele ervaringen. De onderstaande vijf empirische studies werden uitgevoerd om deze lacunes op te vullen.

In **hoofdstuk 3** is gekeken naar hoe lichaamstevredenheid samenhangt met de frequentie van seksueel gedrag, seksueel functioneren en seksueel zelfvertrouwen. Nederlandse studentes (N = 319) namen deel aan een online vragenlijstonderzoek waarin lichaamstevredenheid (MBSRQ-AE), het belang van het uiterlijk (MBSRQ-AO), overgewichtpreoccupatie (MBSRQ-OWP), zelfbewustzijn van het lichaam in seksuele situaties (BISQ), frequentie van seksueel gedrag (SFS), seksueel functioneren (FSFI) en seksueel zelfvertrouwen (SES) werden gemeten. We vonden dat de meerderheid van deze vrouwen een neutrale (i.e. niet uitgesproken negatieve of positieve) lichaamstevredenheid rapporteerde. Bij 30% van deze vrouwen was de mate van lichaamstevredenheid duidelijk hoog. Uit de resultaten van een multivariate variantieanalyse bleek dat de tevreden vrouwen gemiddeld een lagere Body Mass Index hadden, minder belang hechtten aan hun uiterlijk en minder zelfbewustzijn van het lichaam in seksuele situaties rapporteerden in vergelijking met de neutrale vrouwen. Met betrekking tot hun seksuele ervaringen rapporteerden de tevreden vrouwen gemiddeld meer seksueel zelfvertrouwen en een beter algeheel seksueel functioneren. Tenslotte lieten de resultaten van een pad-analyse zien dat een laag zelfbewustzijn van het lichaam in seksuele situaties samenhing met beter algeheel seksueel functioneren, meer seksueel zelfvertrouwen en meer frequent seksueel gedrag met een partner.

In **hoofdstuk 4** is gekeken of de *Body Appreciation Scale* (BAS) hetzelfde construct meet bij Nederlandse en Amerikaanse vrouwen. De BAS meet een positief lichaamsbeeld breder dan enkel in termen van tevredenheid over het lichaam. Met dit instrument kunnen onder meer positieve opvattingen over het lichaam, acceptatie en waardering van het lichaam, respect voor de behoeften van het lichaam en de bescherming van het eigen lichaamsbeeld tegen het onrealistische dunne schoonheidsideaal in kaart worden gebracht. Met behulp van een steekproef van 470 Nederlandse studentes en eerder gepubliceerde data van drie steekproeven van Amerikaanse studentes (n = 181, n = 327, n = 424) werd gekeken of er meetinvariantie was voor de BAS. De resultaten van een multigroep principale componentenanalyse ondersteunden factoriële validiteit en meetinvariantie, waardoor het mogelijk was om verschillen in groepsgemiddelden op de principale componenten te vergelijken. We vonden dat bij de Nederlandse vrouwen de algehele lichaamswaardering gemiddeld iets hoger was dan bij de Amerikaanse vrouwen. De Amerikaanse vrouwen hechtten daarentegen gemiddeld iets minder belang aan hun gewicht en figuur en rapporteerden iets minder invloed van het onrealistische dunne schoonheidsideaal op hun eigen lichaamsbeeld.

In **hoofdstuk 5** is gekeken naar verbanden tussen romantische hechting, een positief lichaamsbeeld en seksueel functioneren bij vrouwen. Nederlandse studentes (N = 399) namen deel aan een online vragenlijstonderzoek waarin romantische hechting (ECR-RS), lichaamswaardering (BAS) en seksueel functioneren (FSFI) werden gemeten. De data bleken goed te

passen bij het getoetste structurele vergelijkingsmodel. De resultaten lieten zien dat weinig angstige hechting gerelateerd was aan meer lichaamswaardering. Meer lichaamswaardering bleek vervolgens verband te houden met meer seksueel verlangen en subjectieve opwinding. Tevens werd aangetoond dat weinig vermijdende hechting direct verband hield met meer seksuele opwinding en lubricatie, een hogere orgasmefrequentie en meer seksuele tevredenheid.

In hoofdstuk 6 is gekeken naar relaties tussen negatieve lichaamsevaluaties, zelfbewustzijn van het lichaam in seksuele situaties en seksuele ontevredenheid bij mannen. Nederlandse mannen (N = 201) tussen de 18 en 44 jaar namen deel aan een online vragenlijstonderzoek. Hierin werden lichaamsevaluaties ten aanzien van gespierdheid (MBAS-M), lichaamsvet (MBAS-BF), lengte (MBAS-H) en genitaliën (MGSIS), de mate van zelfbewustzijn van het lichaam in seksuele situaties (M-BISQ) en seksuele ontevredenheid (GRISS) gemeten. De resultaten van een stapsgewijze multipele regressieanalyse en bootstrapanalyses toonden aan dat negatieve lichaamsevaluaties verband hielden met meer seksuele ontevredenheid via zelfbewustzijn van het lichaam in seksuele situaties. Specifiek vonden we dat meer ontevredenheid over de gespierdheid van het lichaam, de hoeveelheid lichaamsvet en de genitaliën samenhing met meer zelfbewustzijn van het lichaam in seksuele situaties, wat vervolgens samenhing met meer seksuele ontevredenheid. Ontevredenheid over de genitaliën bleek daarnaast ook direct gerelateerd aan meer seksuele ontevredenheid.

In hoofdstuk 7 is gekeken naar relaties tussen een positief lichaamsbeeld, seksuele tevredenheid en de ervaren kwaliteit van de partnerrelatie in een steekproef van 151 heteroseksuele koppels. Deze koppels namen deel aan een online vragenlijstonderzoek waarin lichaamswaardering (BAS), seksuele tevredenheid (GRISS) en de ervaren kwaliteit van de partnerrelatie (PRQC) bij beide partners werden gemeten. De dyadische data werden geanalyseerd met behulp van het *actor-partner interdependence mediation model* (APIMeM). In dit model kunnen zowel effecten binnen individuen (bijvoorbeeld het effect van de eigen lichaamswaardering op de eigen seksuele tevredenheid) als partnereffecten (bijvoorbeeld het effect van de eigen lichaamswaardering op de seksuele tevredenheid van de partner) worden berekend. De resultaten toonden aan dat meer lichaamswaardering binnen individuen verband hield met meer seksuele tevredenheid. Meer seksuele tevredenheid hield vervolgens verband met het ervaren van een hogere kwaliteit van de partnerrelatie. Bij mannen en vrouwen bleken deze verbanden even sterk. We vonden echter geen duidelijke evidentie voor het bestaan van partnereffecten. Een positief lichaamsbeeld en seksuele tevredenheid lijken dus met name de eigen ervaren relatiekwaliteit te beïnvloeden en niet de relatiekwaliteit zoals die wordt ervaren door de partner.

In het kort zijn de belangrijkste resultaten van dit proefschrift met betrekking tot de eerder genoemde lacunes als volgt:

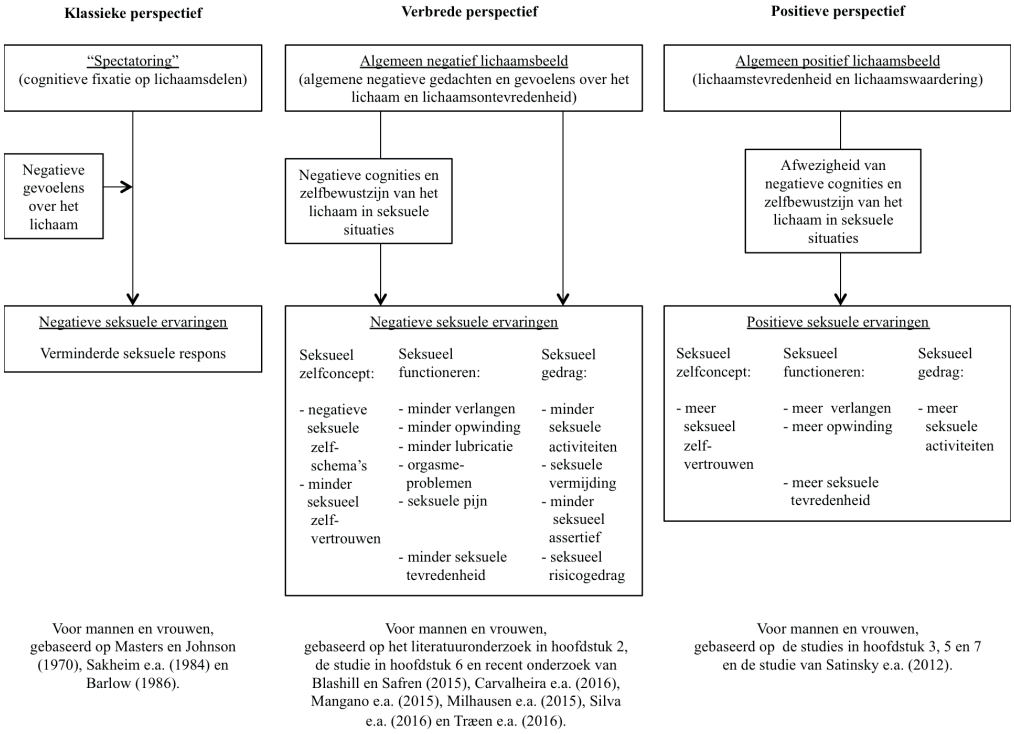
1) Een positief lichaamsbeeld komt relatief veel voor in de Nederlandse populatie en is gerelateerd aan meer positieve seksuele ervaringen
2) Algemene positieve gevoelens en gedachten over het lichaam kunnen een aanhoudend zelfbewustzijn van het lichaam in seksuele situaties voorkomen, hetgeen verband houdt met meer positieve seksuele ervaringen
3) Het lichaamsbeeld is bij mannen net zo sterk gerelateerd aan hun seksuele ervaringen als bij vrouwen

4) Partnergerelateerde factoren zoals romantische hechting en de ervaren kwaliteit van de partnerrelatie zijn gerelateerd aan een positief lichaamsbeeld en positieve seksuele ervaringen

Bij het interpreteren van deze resultaten is het echter belangrijk om rekening te houden met enkele limitaties. Zo zijn alle data verkregen middels zelfrapportage via online vragenlijsten, waardoor niet uitgesloten kan worden dat sociaal wenselijke antwoorden de resultaten hebben beïnvloed. Tevens bestonden de steekproeven grotendeels uit jongvolwassen, heteroseksuele studenten. Vervolgonderzoek zal uit moeten wijzen in hoeverre de resultaten te generaliseren zijn naar andere groepen. Als laatste kan door het gebruik van cross-sectionele designs geen duidelijke uitspraak gedaan worden over de causaliteit van de gevonden relaties.

Theoretische implicaties

De resultaten van dit proefschrift hebben bijgedragen aan een genuanceerder en breder perspectief op de relatie tussen lichaamsbeeld en seksuele ervaringen. In Figuur 1 zijn de belangrijkste nieuwe inzichten, gebaseerd op dit proefschrift en recent ander onderzoek, ten opzichte van het klassieke perspectief (links) samengevat in een verbreed perspectief (midden) en een positieve perspectief (rechts).



Figuur 1. Het klassieke perspectief, het verbrede perspectief en het positieve perspectief op de relatie tussen lichaamsbeeld en seksuele ervaringen.

Het verbrede perspectief verschilt van het klassieke perspectief op enkele belangrijke punten. Ten eerste is in het verbrede perspectief een grote hoeveelheid aspecten van seksualiteit toegevoegd. Uit hoofdstuk 2 en 6 van dit proefschrift en recent werk van anderen is gebleken dat een negatief lichaamsbeeld, zowel voor mannen als vrouwen, niet alleen verband houdt met een verminderde fysiologische seksuele respons, maar ook met seksuele ontevredenheid, een negatief seksueel zelfconcept en seksueel gedrag, zoals seksuele vermijding en meer seksueel risicogedrag. Ten tweede is het begrip *spectatoring* in het verbrede perspectief vervangen door negatieve cognities en zelfbewustzijn van het uiterlijk in seksuele situaties, omdat *spectatoring* geen duidelijk onderscheid maakt tussen cognitieve fixatie op het uiterlijk en cognitieve fixatie op de eigen seksuele prestaties. Ten derde is een algemeen negatief lichaamsbeeld toegevoegd in het verbrede perspectief. Uit hoofdstuk 2 en 6 van dit proefschrift en ander recent werk is gebleken dat algemene negatieve gedachten en gevoelens over het lichaam een predispositie kunnen vormen voor het optreden van zelfbewustzijn van het uiterlijk in seksuele situaties. Mannen en vrouwen die hun uiterlijk negatief evalueren zijn kwetsbaar om in seksuele situaties afgeleid te raken door een hyperbewustzijn van het eigen lichaam, waardoor seksuele ervaringen negatief beïnvloed worden. Op grond van de resultaten van dit proefschrift is als laatste ook een directe relatie tussen een algemeen negatief lichaamsbeeld en negatieve seksuele ervaringen in het verbrede perspectief opgenomen. Een mogelijke verklaring voor deze relatie is dat mannen en vrouwen met een extreem negatief lichaamsbeeld intieme en seksuele situaties met een partner geneigd zijn te vermijden. Het verbrede perspectief geeft ten opzichte van het klassieke perspectief een vollediger en meer genuanceerd beeld van de relatie tussen lichaamsbeeld en seksuele ervaringen. Het is echter belangrijk om te vermelden dat dit perspectief een gesimplificeerd beeld geeft van de relaties tussen de verschillende aspecten van seksualiteit en de invloed van andere belangrijke factoren, zoals romantische hechting en de kwaliteit van de partnerrelatie.

Aangezien in eerder onderzoek hoofdzakelijk werd gekeken naar relaties tussen een *negatief* lichaamsbeeld en seksuele ervaringen is het positieve perspectief een waardevolle toevoeging aan de bestaande literatuur. Een positief lichaamsbeeld verschilt conceptueel van een negatief lichaamsbeeld en wordt niet alleen gekenmerkt door de afwezigheid van negatieve gedachten en gevoelens over het lichaam. Ook de *aanwezigheid* van tevredenheid over het uiterlijk en acceptatie en waardering van het lichaam maken deel uit van een positief lichaamsbeeld. Het bestuderen van de unieke uitkomsten van een positief lichaamsbeeld is daarom belangrijk. Uit hoofdstuk 3, 5 en 7 van dit proefschrift en recente studies van anderen is gebleken dat een positief lichaamsbeeld en de afwezigheid van zelfbewustzijn van het uiterlijk in seksuele situaties gerelateerd zijn aan meer seksueel zelfvertrouwen, beter seksueel functioneren, seksuele tevredenheid en meer seksuele activiteiten met een partner. Volgens het acceptatie model van intuïtief eten (Avalos & Tylka, 2006) en het *embodiment* model van een positief lichaamsbeeld (Menzel & Levine, 2011) is een positief lichaamsbeeld een direct alternatief voor het beschouwen van het eigen lichaam als object dat enkel wordt beoordeeld op basis van uiterlijke kenmerken. Volgens de objectificatietheorie (Fredrickson & Roberts, 1997) leidt dit zogenaamde objectificeren van het eigen lichaam tot een verhoogd zelfbewustzijn van het uiterlijk. Het acceptatiemodel van intuïtief eten en het *embodiment* model ondersteunen dat een positief lichaamsbeeld juist beschermend kan werken tegen een verhoogd zelfbewustzijn van het uiterlijk in seksuele situaties, waardoor seks met een partner als positiever en ple-

zieriger wordt ervaren. Het positieve perspectief laat zien dan het hebben van een positief lichaamsbeeld een uniek gunstig effect heeft op seksuele ervaringen. Ook hier is het echter belangrijk om te vermelden dat dit perspectief een gesimplificeerd beeld geeft van de relaties tussen de verschillende aspecten van seksualiteit en de invloed van andere belangrijke factoren, zoals romantische hechting en de kwaliteit van de partnerrelatie. Daarbij is er nog relatief weinig onderzoek gedaan naar effecten van een positief lichaamsbeeld op seksuele ervaringen, waardoor het positieve perspectief waarschijnlijk nog niet volledig is. Hopelijk kunnen de gepresenteerde inzichten een startpunt zijn voor vervolgonderzoek.

Praktische implicaties

Eerder onderzoek heeft aangetoond dat problemen op seksueel gebied veelvoorkomend zijn en dat een grote groep mensen ontevreden is over zijn of haar seksleven. De resultaten van dit proefschrift kunnen mogelijk bijdragen aan het verbeteren van psychologische behandelingen voor cliënten met deze problematiek. Als eerste impliceert de gevonden relatie tussen een negatief lichaamsbeeld en negatieve seksuele ervaringen dat het opnemen van lichaamsbeeldinterventies in de behandeling van seksuele problemen waardevol kan zijn. Clinici kunnen daarvoor gebruik maken van cognitieve-gedragstherapeutische interventiemethoden, die zeer effectief zijn gebleken in het verminderen van negatieve gevoelens en gedachten over het lichaam. Tot op heden is er echter nog geen onderzoek gedaan naar het effect van interventies die specifiek gericht zijn op het verminderen van negatieve cognities en zelfbewustzijn van het uiterlijk *in* seksuele situaties. Dergelijk onderzoek is gewenst, omdat de effectiviteit van lichaamsbeeldinterventies in de behandeling van seksuele problemen zou kunnen worden vergroot wanneer therapeuten zich primair richten op het behandelen van negatieve en irrationele gedachten over het uiterlijk die een cliënt ervaart in seksuele situaties.

Bovendien impliceert de unieke relatie tussen een *positief* lichaamsbeeld en positieve seksuele ervaringen dat het belangrijk is dat lichaamsbeeldinterventies bij de behandeling van seksuele problemen niet enkel gericht zijn op het verminderen van negatieve gedachten en gevoelens over het lichaam. Wanneer er niet ook specifiek aandacht wordt besteed aan het opbouwen van een positief lichaamsbeeld dan lijkt het krijgen van een neutraal lichaamsbeeld (e.g. “Ik haat mij lichaam niet meer, maar ik tolereer het”) het hoogst haalbare. Cliënten helpen bij het opbouwen van een positief lichaamsbeeld, zoals het leren waarderen en respecteren van hun lichaam, kan zorgen voor een positiever en langduriger behandeleffect. Het inzetten van interventies die specifiek gericht zijn op het opbouwen en behouden van een positief lichaamsbeeld zou dus een waardevolle toevoeging kunnen zijn in de behandeling van seksuele problemen. Recent onderzoek heeft aangetoond dat het doen van zogenaamde *embodied activities* - activiteiten die zich richten op het verbinden van lichaam en geest, zoals yoga – bijdraagt aan het krijgen van een positief lichaamsbeeld. De kracht van dit soort activiteiten ligt in het verminderen van de focus op het uiterlijk door meer aandacht voor interne lichaamservaringen en fysieke prestaties en functionaliteit van het lichaam. Deze bevindingen zijn bruikbaar voor de toepassing van lichaamsbeeldinterventies in de behandeling van seksuele problemen. Het helpen van cliënten bij het omzetten van niet-helpende negatieve gedachten over hun uiterlijk (e.g. “Mijn partner kan voelen dat ik dik ben”) in helpende positieve gedachten over de functionaliteit van het lichaam (e.g. “Mijn lichaam voelt seksueel opgewonden”) door cognitieve herstructureringstechnieken kan bijdragen aan het gebruiken van seksuele activiteiten als een bron van positieve lichamelijke en seksuele ervaringen.

Het is belangrijk om te vermelden dat lichaamsbeeldinterventies in de behandeling van seksuele problemen even effectief voor vrouwen als mannen lijken te zijn. Hoewel een negatief lichaamsbeeld meer voorkomt bij vrouwen, is de relatie tussen het lichaamsbeeld en seksuele ervaringen bij mannen even sterk. Voor therapeuten is een negatief lichaamsbeeld bij mannen echter moeilijker te herkennen. Onderzoek heeft uitgewezen dat mannen zorgen over hun uiterlijk minder openlijk en frequent bespreken met anderen. Veel mannen beschouwen een negatief lichaamsbeeld als een "vrouwenprobleem". Mede door het heersende mannelijke schoonheidsideaal, dat in de afgelopen tijd steeds gespierder is geworden, komt lichaamsontevredenheid bij mannen echter in toenemende mate voor. Het is daarom belangrijk dat therapeuten ook bij mannelijke cliënten alert zijn op eventuele lichaamsbeeldproblemen. Daarnaast is belangrijk dat therapeuten zich niet enkel richten op de individuele ervaringen van de cliënt wanneer deze een partnerrelatie heeft. Het betrekken van de partner in de behandeling zou een waardevolle toevoeging kunnen zijn. Onderzoek heeft aangetoond dat cliënten met een negatief lichaamsbeeld geneigd zijn te denken dat hun partner net zo negatief denkt over hun lichaam als zij zelf. De veelal positievere blik van de partner kan cliënten helpen om in seksuele situaties minder zorgen te ervaren over hun lichaam. Emotiegerichte koppeltherapie is tenslotte aan te bevelen wanneer er naast seksuele problemen ook andere problemen in de partnerrelatie bestaan. Deze therapie is effectief gebleken in het aangaan of herstellen van een veilige en ondersteunende verbondenheid tussen partners, wat een positief effect kan hebben op de seksuele ervaringen van beide partners.

Conclusie

Met betrekking tot de hoofdvragen van dit proefschrift kan geconcludeerd worden dat uiterlijkgerelateerde cognities en evaluaties belangrijke lichaamsbeeldaspecten zijn in de context van seksuele ervaringen. Waar negatieve gedachten en gevoelens over het uiterlijk gerelateerd zijn aan seksuele problemen en seksuele ontevredenheid, zijn positieve gedachten en gevoelens over het uiterlijk uniek gerelateerd aan positieve seksuele ervaringen. Cognities en zelfbewustzijn van het uiterlijk *tijdens* de seks met een partner geven een belangrijke verklaring voor de relatie tussen gedachten en gevoelens over het uiterlijk en seksuele ervaringen. Negatieve gedachten en gevoelens over het lichaam kunnen zorgen voor afleidende uiterlijkgerelateerde gedachten en zelfbewustzijn van het uiterlijk *in* seksuele situaties, die vervolgens interfereren met seksueel functioneren en seksueel gedrag. Aan de andere kant kunnen positieve gedachten en gevoelens over het lichaam afleidende uiterlijkgerelateerde gedachten in seksuele situaties voorkomen, wat seksueel plezier en seksuele tevredenheid faciliteert. Daarnaast is gebleken dat romantische hechting en de ervaren kwaliteit van de partnerrelatie gerelateerd zijn aan een positief lichaamsbeeld en positieve seksuele ervaringen. De bevindingen van dit proefschrift tonen aan dat het van belang is om specifiek aandacht te besteden aan een positief lichaamsbeeld in de context van seksuele ervaringen. Hiermee kunnen lichaamsbeeldinterventies bij de behandeling van seksuele problemen in de toekomst mogelijk optimaal worden ingezet.

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Curriculum Vitae

Femke van den Brink was born on July 28th , 1984, in Amersfoort, The Netherlands. In 2002 she completed high school at Meridiaan College, 't Hooghe Landt, Amersfoort. After high school, she studied Psychology at Utrecht University. In 2007 she finished her bachelor in Clinical and Health Psychology, after which she started the master Clinical Psychology. Her master thesis consisted of a large survey study focusing on body image in the Dutch population under the supervision of Prof. Liesbeth Woertman. In 2008, she graduated cum laude. Between 2007 and 2012 Femke held jobs at Regionaal Expertise Centrum cluster 4 onderwijs 't Gooi, Utrecht, West Veluwe, Arbeidstrainingscentrum Mulock Houwer, Universitair Medisch Centrum Utrecht, and GGZ Centraal Fornhese. In 2011, she started her Ph.D. project as an external Ph.D. candidate. Since 2012, Femke works as a teacher at the department of Clinical Psychology of Utrecht University.

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