

**Beauty in the Eye of the Holder:
The Contribution of Body Appreciation to Sexual Health in Adult Women**

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General Abstract

Perhaps one of the most embodied of human experiences, sexuality can be greatly affected by the way in which women perceive their body. Historically, scholars have dedicated their attention to negative facets of body image and how it is associated with poorer female sexual health, while mostly overlooking the positive aspects of this relationship. Similarly, although ageing is a key factor to consider when examining body image and sexual health, only a dearth of studies has attempted to describe the experiences of non-university aged women. To fill these gaps, this research program was designed to investigate the associations between positive *and* negative aspects of body image and explore how each contributes to sexual health in age-varied samples of adult women. Two survey studies were carried out. A total of 215 heterosexual women, aged 18 to 88, participated in the first study. Despite a high statistical overlap between body appreciation (i.e., positive body image) and body dissatisfaction (i.e., negative body image), the former was found to be a greater contributing factor to indicators of sexual health. Specifically, body appreciation was related to improved sexual function, lower sexuality-related distress, and higher sexual satisfaction, even when controlling for body mass index. Although many changes occur to the body as women get older, body appreciation was unrelated to age in this sample. Nevertheless, it was shown to moderate the negative association between age and sexual satisfaction, such that older women with high appreciation for their body reported being significantly more sexually satisfied than those with low body appreciation. While the first study explored the body image and sexual health experiences of adult women in general, the second article focused on the mechanisms through which one is related to the other in midlife and older women specifically. A total of 193 heterosexual women, aged 50 to 83, completed an online survey. Support was provided for the use of objectification theory (Frederickson & Roberts,

1997), a well-established theoretical framework in body image research, in explaining sexual health in midlife and older women. Body self-consciousness during sex partially explained the relationship between body shame, appearance anxiety, and sexual function, distress, and satisfaction. High body appreciation mitigated the detrimental effect of self-objectification constructs (i.e., body surveillance, appearance anxiety) and body self-consciousness during sex on midlife and older women's sexual health. Overall, based on the results of this dissertation, body appreciation appears to serve as a protective factor for improved sexual health. Similar to sexual satisfaction and sexual distress, positive and negative aspects of body image are related, but nonetheless distinct, concepts that should not be used interchangeably. Furthermore, midlife and older women's body image and sexual experiences differ from that of their younger counterparts; systematic generalisation of findings from one group to the other is thus unwarranted. Consideration for these various distinctions is not only required for increased understanding of the complex links between body image and sexuality across adulthood, but also relevant to guide prevention efforts at a sociocultural level and clinical interventions at the individual level.

In loving memory of my mother, Nathalie Roland,
who gave this work a greater purpose and will forever be missed.

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Content of Thesis and Contributions of Authors

The present thesis is composed of a general introduction, two articles, and a general discussion. The general introduction outlines the topic and presents the historical, theoretical, and empirical background for the primary variables of interest. It also specifies the main objectives of the thesis based on current advances in research and remaining gaps in the literature. The first article, entitled *Body Dissatisfaction, Body Appreciation, and Sexual Health in Women across Adulthood*, has been submitted for publication and is currently under review at the *Archives of Sexual Behavior*. The second article, which follows, is entitled "*Out of Objectification Limelight"? The Contribution of Body Appreciation to Sexual Health in Midlife Women*". It will be submitted to the *Journal of Sex Research*. Lastly, the general discussion summarises the findings of both studies, their limitations, and presents potential future directions for research, as well as implications for clinical practice.

With regard to the two articles, both were prepared according to the format requested by the academic journals to which they were or will be submitted. In both articles, the author of the thesis is listed as the primary author, and the thesis supervisor as a co-author. Their respective contribution was as follows. The author of the thesis participated in every step of the thesis, including the literature review, conceptualisation of the thesis, formulation of the ethics applications, implementation of all study procedures and methods, recruitment of participants, data analysis, and writing of the manuscripts and overall thesis. The thesis supervisor's contribution included global oversight of the project and consultation during each step of the thesis.

List of Tables and Figures

GENERAL INTRODUCTION

Table 1. Overview of the Literature on Body Image, Sexual Function, Sexual Distress, and Sexual Satisfaction in Women	33
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STUDY 1

Table 1. Range, Internal Consistency Estimates, Means, and Standard Deviations for All Administered Validated Measures	67
Table 2. Correlation Matrix between Body Image Variables, Sexual Health Indicators, Age, and BMI	70
Table 3. Summary of Hierarchical Regression Analyses Contributing to Indicators of Sexual Health	72
Figure 1. Moderation Effect of Body Appreciation on the Relationship between Age and Sexual Satisfaction in the Total Sample.....	73
Figure 2. Moderation Effect of Body Appreciation on the Relationship between Age and Sexual Satisfaction in Women With and Without Significant Sexual Difficulties .	75

STUDY 2

Table 1. Descriptive Statistics and Correlations of Study Variables	105
Table 2. Summary of Indirect Effects.....	108
Table 3. Summary of Moderating Effect of Body Appreciation on All Hypothesised Relationships	110
Figure 1. Hypothesised Model	97
Figure 2. Final Path Model of the Relationships Between the Variables of Interest	107

Table of Contents

General Abstract	ii
Dedication.....	iv
Acknowledgments	v
Content of the Thesis and Contributions of Authors	vi
List of Tables and Figures	vii
Table of Contents	viii
GENERAL INTRODUCTION.....	1
Understanding Body Image	2
Sociocultural Perspective	3
Feminist Perspective	4
Positive Psychology Perspective.....	6
Sexual Health Defined.....	7
Sexual Function	8
Sexual Distress	10
Sexual Satisfaction	11
Sexual Health and Body Image	12
Trait Body Image and Indicators of Sexual Health	15
Spectatoring and the Mediating Effect of Contextual Body Image	20
Critique of the Existing Literature	26
Body Image and Sexual Health Beyond Emerging Adulthood.....	27
Body Image, Sexual Health, and Ageing.....	28
Critique of the Existing Literature	30
Objectives and Hypotheses	31
STUDY 1: Body Dissatisfaction, Body Appreciation, and Sexual Health in Women across Adulthood	51
Abstract	52
Introduction	53
Body Image and Sexual Health	54
The Influence of Ageing	56
Study Hypotheses	59
Method	60
Participants	60
Procedure.....	62
Measures.....	62
Preliminary Data Analyses.....	67
Results	68
Post-Hoc Analyses.....	74

Discussion	75
Limitations and Future Directions	81
Conclusion	82
Footnotes	84
STUDY 2: Out of "Objectification Limelight"? The Contribution of Body Appreciation to Sexual Health in Midlife Women	85
Abstract	86
Introduction	87
Introducing Objectification Theory	87
Objectification Theory and Sexual Health	88
Objectification Theory and Ageing	90
Adaptive Coping in Older Adulthood	93
The Role of Body Appreciation	94
Study Hypotheses	95
Method	97
Participants	97
Procedure	98
Measures	99
Preliminary Data Analyses	103
Results	105
Discussion	111
Limitations	116
Applied Implications	117
Footnotes	120
GENERAL DISCUSSION.....	121
Summary of Findings	122
An "Integrated" Positive Psychology Perspective	124
Limitations	132
Future Directions.....	136
Clinical Applications	140
Concluding Remarks	142
REFERENCES.....	145
APPENDICES.....	185
Appendix A: Research Ethics Board Approval	185
Appendix B: Notices of Study	190
Appendix C: Consent Forms	204
Appendix D: Study Measures	210

General Introduction

"Taught from infancy that beauty is women's sceptre, the mind shapes itself to the body, and roaming round its gilt cage, only seeks to adorn its prison" (Wollstonecraft, 1792, p.90).

Dated from over two centuries ago, this famous quote by Mary Wollstonecraft highlights not only the chief importance that is allotted to appearance in the lives of women of all ages, but also how this phenomenon is far from recent. From the voluptuous bodies of the Renaissance era to the current appeal for slimness, from the flat-chested flappers of the 1920s to the "bosom mania" of the 1950s (Mazur, 1986), what is considered female beauty has changed and shifted considerably throughout history. Today, the female body is exposed virtually everywhere – on billboards in the street, the glossed pages of any magazines, on television and advertisements. Tremendous sums of money and time are dedicated to grooming, trimming, and caring for the body in hopes of looking better, thinner, and younger.

As one of the most "bodily" actions of human beings, sexuality is particularly affected by the way individuals relate to their body. Sharing and exposing one's physicality to another person in a sexual context can indeed be quite a gruelling experience for many. This is especially true for women whose level of physical appearance is often equated in Western societies with how sexy they look (American Psychological Association, 2007). In fact, despite increasing evidence that men's relationship to their body is beginning to deteriorate with the ever-growing pressures to look muscular and slim (e.g., Grogan, 2007; Pope, Philips, & Olivardia, 2000; Smolak & Stein, 2006), women remain significantly more vulnerable to body image disturbances (e.g., Cash, Morrow, Hrabosky, & Perry, 2004; Feingold & Mazzella, 1998). Women's bodies undergo many changes between pregnancies, menopause, and the gradual process of ageing, hence, women's relationship to their body and sexuality is likely to fluctuate and evolve throughout their adult

life. It is in this context that the present dissertation has set out to explore the intricate relationship between body image and sexual health across women's adulthood.

Understanding Body Image

The study of what we now call “body image” emerged from neurologists and neuropsychologists’ attempts in the early twentieth century to explain such peculiar body-related phenomena as "phantom limb pain" (i.e., residual pain sensations following amputation), "anosognosia" (i.e., unawareness of large parts of the body), or "autopagnosia" (i.e., inability to distinguish the right from the left side of the body; Fisher, 1990). It is not before Schilder's seminal work entitled *The Image and Appearance of the Human Body* (1935) that body image was formulated as a psychosocial construct above and beyond previous physiology-centric definitions. This redefinition set the stage to our current understanding of body image as a multidimensional concept, which encompasses attitudinal, affective, behavioural, and perceptual features. The first and most studied of these features, the *attitudinal* dimension, includes individuals' evaluation of their body, their degree of satisfaction, as well as the psychological importance allotted to these evaluations. Body attitudes are influenced by expectations of what the body should look, feel, or act like. The second dimension, *perception*, refers to the accuracy of the judgment about the body (e.g., body size or shape). *Affect*, the third dimension, corresponds to the emotional reaction to self-evaluations and perception of the body. Lastly, the *behavioural* dimension of body image traditionally refers to the actions that are adopted as a consequence of the representation of the body (Cash & Pruzinsky, 2002; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Examples of such behaviours include avoidance of situations associated with body exposure or increased investment in the body's appearance. Although

empiricists traditionally use this multidimensional definition, many theoretical lenses have been employed to shed light on the complex construct that is body image.

Sociocultural Perspective

Among the most prolific paradigms is the sociocultural model. This theoretical framework contends that physical attractiveness is a social construct and that beauty ideals change as a function of time and culture. These ideals are transmitted to the individuals who exist within this particular social context through a variety of means. Among them, family (e.g., Byely, Archibald, Graber, & Brooks-Gunn, 2000; McCabe & Ricciardelli, 2001), peers (e.g., Shroff & Thompson, 2006; Vincent & McCabe, 2000), and most notably mass media (e.g., Cusumano & Thompson, 1997; Grabe, Ward, & Hyde, 2008; Levine & Murnen, 2009; Perloff, 2014), have been identified as particularly powerful influences.

It was hypothesised that these beauty ideals are eventually internalised (Thompson & Stice, 2001) and become norms by which individuals compare their body (Myers & Crowther, 2009; Schutz, Paxton, & Wertheim, 2002; van der Berg et al., 2007). On this basis, body dissatisfaction is conceptualised as the result of a perceived discrepancy between the actual body and these norms. Considering that beauty ideals are not representative of the average person's body but are rather idealistic standards to attain (Garner, Garfinkel, Schwartz, & Thompson, 1980; Rodin, Silberstein, & Striegel-Moore, 1984), it is not rare for one to observe such discrepancy. As a consequence, body dissatisfaction has become so pervasive in Western culture that some (Rodin et al., 1984) have described it as a "normative discontent". Overall, the sociocultural perspective offers a complex and detailed view of body image processes, which makes it arguably one of the most widely used theoretical frameworks to date.

Feminist Perspective

Derived from a larger social constructionist paradigm, the feminist perspective on body image builds upon the sociocultural model to incorporate the notion of gender to their understanding of body image. This perspective posits that, culturally, men and women are exposed to different influences and expectations that profoundly affect the way in which they relate to their physical selves. Specifically, as eloquently put by McKinley (2011), Western societies have created a duality between the body and mind whereby men are often associated with the mind and women with the body. As such, feminists argue that women's inherent value as human beings is often equated in some cultures with their appearance or degree of physical attractiveness (Bordo, 1993; Kilbourne, 1999; Wolf, 1991). In other words, women are defined as their body (or an ensemble of body parts) and their body becomes who they are in the eyes of society. This perspective further proposes that, through continued exposure and distribution of sexualising content, the female body is treated in society as an object to be glanced at, evaluated, and potentially used or "consumed". In keeping with sociocultural theories of body image, feminists assert that women internalise external ideals and pressures. Thus, ultimately, they begin to relate to their body themselves as an object to be appreciated by others. They then invest copious amounts of time and energy striving to reach the nearly unattainable standards of beauty transmitted through the media, therefore leading to the perpetuation of sexual inequality in Western societies as well as the hindrance of women and girls in general.

Objectification theory. In 1997, the feminist perspective on body image was integrated and synthesised into a formal theory, entitled objectification theory (Fredrickson & Roberts, 1997). It has since contributed significantly to research investigating psychological variables and body image. Objectification theory proposes that cultural messages of objectification transmitted

through media portrayals, comments, or sexual violence against women, lead women to internalise an observer's perspective on their body. Through this process termed *self-objectification*, women learn to habitually monitor their body and its appearance in a way that often usurps some of their conscious attention and cognitive resources away from other tasks. In turn, body surveillance is associated with myriad negative psychological consequences, such as body shame for not meeting cultural beauty ideals; anxiety in the face of potential future appearance evaluations; disruption of peak motivational states by body-related concerns; and reduced awareness of internal physiological sensations and bodily states (e.g., hunger, sexual arousal). Eventually, according to objectification theory, these various negative experiences can accumulate and culminate, for some women, in the development of psychological disorders, specifically depressive episodes, eating disorders, and most relevant for this dissertation, sexual dysfunctions.

Although a more detailed review of the literature of objectification theory will be provided in the introduction to Study 2, its considerable strengths will be highlighted here. First, because it derives from general feminist and sociocultural paradigms, objectification theory is anchored in the individual's context and is mindful of the diverse sociocultural influences that take place within it. This is all the more important because body image research overall was recently urged to be more inclusive of macro-level influences such as gender, ethnicity, or politics (Smolak & Cash, 2011). Second, although the use of objectification theory has been extended to men since its first formulation (e.g., Daniel & Bridges, 2010; Wiseman & Moradi, 2010), the theory was originally generated to be representative of women's unique experience of embodiment. As such, it incorporates notions of gender stereotypes (e.g., how trying not to "throw like a girl" can disrupt and derail one's performance; Young, 1990) and sexual inequality that significantly affect

the reality of girls and women in Western societies but yet were not taken into account in other approaches. Third, considering that objectification theory constitutes a single theory rather than a broader paradigm, it is composed of falsifiable hypotheses that are essential to the construction of valuable experiment-specific research questions. Furthermore, it clearly identifies potential determinants and consequences of body image difficulties, as well as the processes through which these variables are associated with one another. Fourth and lastly, perhaps one of the most interesting and innovative aspects of this theoretical framework is the conceptualisation of body image as not one or an ensemble of dimensions but rather as a multi-levelled experiential construct. According to objectification theory, women observe, treat, relate to, and *experience* their body as an object to be seen and appreciated. In that way, they consent to society stripping them of the right to be subjects in their life or even truly master of their body.

Although objectification theory presents many advantages, it suffers from one major limitation that has also plagued the great majority of conceptual approaches (Cash & Pruzinsky, 2002; Striegel-Moore & Cachelin, 1999). Specifically, objectification theory and much of body image research in general tend to focus strictly on the negative facets of body image (e.g., body dissatisfaction) and how they are related to increased mental health risks. While researchers place most of their attention on negative body image as well as the deleterious consequences that derives from it, little to no light is shed on the healthy and positive aspects of female embodiment that are also of great importance.

Positive Psychology Perspective

A paradigm shift occurred in the conceptualisation of body image during the mid-2000s that helped remedy this oversight in research thus far. Specifically, propelled by the positive psychology movement, which studies the processes and determinants of optimal functioning and

well-being (Seligman & Csikszentmihalyi, 2000), a new construct coined *body appreciation* was introduced (Avalos, Tylka, & Wood-Barcalow, 2005). This opened the door to a more balanced view on body image. Body appreciation, according to these authors, refers to an adaptive facet of body image. It goes above and beyond satisfaction with one's body to encompass notions of respect, favourable opinions despite one's shape or size, rejection of unrealistic ideals, and overall positive regard for one's physical self. As such, body appreciation at least partially reflects an individual's strength and resilience in the face of body imperfections or external pressure to conform to, or seek to attain societal beauty ideals. Further, the notion of self-acceptance despite perceived flaws can potentially serve as a "buffer" (Avalos et al., 2005) and protective factor against sociocultural pressures.

Overall, it seems that body appreciation could complement and fill a gap in the existing literature on body image. Because body appreciation is a construct and not a theory, however, it does not provide researchers with potential explanations of its underlying mechanisms (e.g., how or why is body appreciation associated with specific outcomes), nor of its relationship to other body image facets. Consequently, the integration of body appreciation to existing theories, such as objectification theory, is warranted in order to deepen the understanding of body image and appreciation processes as they relate to sexual health.

Sexual Health Defined

Just as body image is a complex construct to define, so is sexual health. Transformed by the advent of the birth control pill, the LBGT rights movement, and the HIV epidemic, the traditional notion that sexuality and procreation are interchangeable has greatly shifted since the 1960s. As a result, so have the definitions of sexuality in general and sexual health in particular

(Edwards & Coleman, 2004). Currently, the most inclusive definition of the latter is that of the World Health Organisation (WHO, 2006, p. 5), which stated the following:

Sexual health is a state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled.

While the greatest strength of this definition lies in its broadness and all-encompassing quality that makes it so comprehensive, it also renders sexual health especially challenging to operationalize in the context of empirical research. For the purpose of the present dissertation, I focused on three specific variables that, though insufficient to cover all that is comprised in the WHO definition, are central to sexual health. These variables are sexual function, sexual distress and sexual satisfaction.

Sexual Function

Sexual function refers to the degree that one experiences sexual difficulties, which may interfere with an individual's wish to engage in sexual activity. These difficulties can be of biological, psychological or interpersonal nature (Basson et al., 2000) and refer to disturbances in the sexual response cycle. First introduced by seminal researchers Masters and Johnson (1966), the human sexual response cycle is a linear and sequential, four-stage model of physiological changes occurring to the body when sexually stimulated. In 1979, Kaplan elaborated upon Masters and Johnson's work to incorporate the psychological notion of sexual desire. Specifically, she proposed a three-phasic model composed of desire, arousal, and orgasm, with

desire serving as the initial trigger to the overall response cycle. Though its applicability to the female sexual experience has since been greatly debated (Basson et al., 2003), diagnostic manuals, such as the WHO's *International Classification of Diseases-10 (ICD-10)* and the APA's *Diagnostic and Statistical Manual of Mental Disorders, fourth and fifth editions (DSM-IV and DSM-5, respectively)*, mostly mapped onto Kaplan's model in their identification of sexual dysfunctions – though desire and arousal disorders were collapsed into one category in the *DSM-5*. Sexual pain disorders were also added as a subcategory of sexual dysfunctions for they may interfere with desired sexual activity.

In 1998, the American Foundation for Urologic Disease held its first International Consensus Conference for Female Sexual Dysfunction, which aimed at the development of an international model of definitions and classifications of female sexual dysfunctions (Basson et al., 2000). During this conference, experts in the field of female sexuality convened that the designation of the four distinct categories of female sexual dysfunction utilised by the aforementioned diagnostic manuals was required to ensure continuity between research and clinical practice: desire, arousal, orgasmic, and sexual pain disorders. This set the groundwork for the development of a self-report measure of female sexual function, the *Female Sexual Function Index (FSFI; Rosen et al., 2000)*, that is the most widely used to date. The FSFI is composed of six dimensions, namely desire, subjective arousal, lubrication, orgasm, satisfaction, and sexual pain, as well as a total score of sexual function. It has been shown to differentiate successfully between sexually dysfunctional women and control patients (Meston, 2003; Rosen et al., 2000; Wiegel, Meston, & Rosen, 2005). Considering its wide use as well as its strong psychometric properties, the FSFI as a measure and the six-dimensional definition of sexual function is referred to when discussing sexual function in this thesis.

Sexual Distress

A major caveat when discussing sexual function, or more specifically sexual *dysfunction*, is the notion of distress. Specifically, sexual distress refers to the negative affective reaction one may have in response to the self-evaluation of their sexual life (Stephenson & Meston, 2010). According to the *DSM-5*, the criterion of significant distress is a condition *sine qua non* to the diagnosis of sexual dysfunction. Thus, although prevalence rates for "sexual difficulties" have been as high as 43% in women according to a large-scale epidemiological study in the United States (Laumann, Paik, & Rosen 1999), they can be considered dysfunctional only to the extent that they elicit distress in the person who is experiencing them. Consequently, some scholars have reported that the inclusion of sexual distress to outcome measures led to a two-third or more decrease in the prevalence estimates of sexual disorders (Hayes, Dennerstein, Bennett, & Fairley, 2008). For example, in a national survey study conducted of 987 American women, Bancroft and colleagues (2003) found that 44.3% of participants reported sexual problems, defined as the absence or impairment in the sexual response, while only 24.4% of the total sample indicated marked distress in the face of these difficulties.

What these findings suggest is twofold. First, many women experience difficulties related to sexual function yet do not feel distressed by them (Hayes et al., 2008; King, Holt, & Nazareth, 2007). Second, beyond diagnostic considerations, the presence of disturbances in the female sexual response is insufficient to reflect sexual ill-being. Rather, the concept of distress is paramount to the understanding and assessment of negative sexual experiences, as well as to account for transient changes in women's sexual function not necessarily associated with distress (e.g., postpartum period). As such, it seems imperative that it be taken into account in sexuality research at large and the present dissertation in particular. In order to do so, the *Female Sexual*

Distress Scale (FSDS; Derogatis, Rosen, Leiblum, Burnett, & Heiman, 2002), the only validated measure of sexual distress, was used in this thesis research.

Sexual Satisfaction

Although it is essential to assess the presence of sexual difficulties and dysfunctions when examining sexual health, as per the WHO definition, positive aspects of the sexual experience must also be included to attain a more holistic view of this construct. In this regard, the inclusion of sexual satisfaction, referring to psychological contentment with one's sexual experiences and sensations, partner reactions, and general sexual activity (Štulhofer, Buško, & Brouillard, 2010), was considered an important consideration in the planning of the dissertation research.

In the past, it has not been uncommon for researchers to use the concepts of sexual distress and sexual satisfaction interchangeably, such that low levels of satisfaction were equated with high distress, and vice versa (e.g., Impett & Tolman, 2006; Litzinger & Gordon, 2005; Snyder & Berg, 1983). However, in a survey study, Stephenson and Meston (2010) elegantly demonstrated that these are in fact independent concepts that, though correlated, should be measured separately. Thus, just as both adaptive and maladaptive facets should be considered when investigating body image, sexual satisfaction and distress were both measured with respect to dimensions of sexual health in this dissertation.

To conclude, when examined together, sexual function and satisfaction and the absence of sexuality-related distress provide an adequate definition and evaluation of sexual health, necessary for the proposed research project. Further, the WHO notion of a more comprehensive concept of sexuality was, in part, satisfied by the following studies' inclusion of a woman's perception of her body in relation to her sexuality.

Sexual Health and Body Image

Intuitively, body image and sexuality in general are intricately related. After all, how could the way a person perceives his or her body *not* affect the sexual experience with a partner - the time during which the body is at its most exposed to another person's sight, touch, and potentially, judgment? Over the past few decades, there has been an exponential increase in the number of studies investigating this relationship in women through a variety of lenses (see Woertman & van den Brink, 2012 for a comprehensive review). Diverse methodologies have been employed in order to collect qualitative (e.g., Satinsky, Dennis, Reece, Sanders, & Bardzell, 2013) and quantitative data on this phenomenon. As it pertains to quantitative methods more specifically, experimental (Roberts & Gettman, 2004; Seal & Meston, 2007; van Lankveld & Bergh, 2008), quasi-experimental (Meston, 2006), and correlational designs, with data collected in laboratory setting (Seal, Bradford, & Meston, 2009) or through surveys (e.g., Donaghue, 2009; Penhollow & Young, 2008; Pujols, Meston, & Seal, 2010; Weaver & Byers, 2013) have been used.

These studies were conducted among various groups of women, including but not restricted to university students from various countries (e.g., Holt & Lyness, 2007; Tang, Lai, & Chung, 1997; van den Brink, Smeets, Hessen, Talens, & Woertman, 2013), women who were pregnant (Pauls, Occhino, & Dryfhout, 2008; Rados, Vranes, & Sunjic, 2014), in the clinically obese range (Ben Thabet et al., 2014; Werlinger, King, Clark, Pera, & Wincze, 1997), victims of childhood sexual abuse (Wenniger & Heiman, 1998), or diagnosed with a sexual dysfunction (Meston, 2006; Seal & Meston, 2007). Additionally, although this does not concern this dissertation for findings cannot be generalised, much research has explored the specific reality of

women suffering from severe health conditions, such as cancer (e.g., Benedict et al., 2015; Fobair et al., 2006; Mock, 1993) or spinal cord injuries (e.g., Potgieter & Khan, 2005).

Among physically healthy women, body image has been found to be associated with a myriad of sexual outcomes. With respect to psychological outcomes, body satisfaction is related to increased sexual self-esteem and assertiveness, in such way that women who feel more comfortable about their body tend to be also more confident in their sexual encounters (La Rocque & Cioe, 2011; Schooler, Ward, Merriwether, & Caruthers, 2005; Weaver & Byers, 2006). Similarly, body satisfaction (Donaghue, 2009) and self-perceived attractiveness (Wiederman & Hurst, 1998) are associated with positive sexual self-schemas (i.e., positive cognitive representations of the self as sexual; Andersen & Cyranowski, 1994). More specifically, women who relate more positively to their body are more likely to perceive themselves as passionate or romantic in their sexual relationships and more open to new sexual experiences. Furthermore, positive body image has been shown to correlate with liberal attitudes towards sexuality (Faith & Share, 1993; Lemer, Blodgett Salafia, & Benson, 2013; Tang, Lai, & Chung, 1997), while increased investment in the appearance is associated with more traditional attitudes and increased endorsement of sexual double standards (e.g., "men should be more sexually experienced than their wives"; Gillen, Lefkowitz, & Shearer, 2006).

With respect to behavioural outcomes, research shows that women who are more satisfied with their body report more frequent partnered sexual activity, which they are also more comfortable to initiate (Ackard et al., 2000; Trapnell, Meston, & Gorzalka, 1997), as well as more frequent and pleasurable masturbation (Bishop, 2015; Dosch, Ghisletta, & Van der Linden, 2015; Shulman & Horne, 2003) than those who are less satisfied with their appearance. Body image dissatisfaction is also associated with increased propensity to engage in risky sexual

behaviours. More specifically, research shows that women who are dissatisfied with their appearance tended to feel less comfortable to negotiate condom use with their sexual partner (Eisenberg, Neumark-Stainer, & Lust, 2005; Gillen, Lefkowitz, & Shearer, 2006; Littleton, Breitkopf, & Berenson, 2005), either because they feared abandonment as a result of such conversations, perceived fewer sexual partner options, or felt less in control of their sexual relationships (Pinquart, 2009). Similarly, girls and women who reported being satisfied with their weight were less likely to have used drugs or alcohol prior to their last sexual encounter (Akers et al., 2009; Littleton et al., 2005) and more likely to have had a conversation about sexually transmitted infections (STI) with their sexual partner than those who felt over/underweight (Gillen & Markey, 2014; Larson, Clark, Robinson, & Utter, 2012). Overall, the extant literature points towards a significant contribution of body image to the sexual experience of women.

Most pertinent for the present dissertation are studies conducted on the relationship between body image and the three chosen indicators of sexual health. A chronological overview of these studies is provided in Table 1. At first glance, it appears that body image has been operationalized either as a trait (e.g., Holt & Lyness, 2007; Weaver & Byers, 2006) or a contextual variable (e.g., Dove & Wiederman, 2000; Meana & Nunnink, 2006). *Trait body image* refers a woman's general experience of, or relation to her body that is relatively stable across situations. In contrast, *contextual body image* refers to women's experience of their body in a specific situation, which in the present case is partnered sexual activity (e.g., Dove & Wiederman, 2000; Meana & Nunnink, 2006). More specifically, contextual body image can be described as the degree to which women feel self-consciousness of their body during the sexual act (i.e., watching oneself or endorsing body-related cognitions and emotions). Bearing in mind

these various levels of analysis and how they may interplay with each other, the following is an overview and summary of how trait body image and contextual body image relate to indicators of sexual health.

Trait Body Image and Indicators of Sexual Health

A thorough review of the extant literature reveals that, among all three indicators of sexual health, trait body image is most strongly and consistently associated with sexual satisfaction (Algars et al., 2011; Calogero & Thompson, 2009; Dundon & Rellini, 2010; Erbil, 2013; Holt & Lyness, 2007; Hoyt & Kogan, 2001; La Rocque & Cioe, 2011; Meana & Nunnink, 2006; Penhollow & Young, 2008; Pujols, Meston, & Seal, 2010; Rados et al., 2014; Satinsky, Reece, Dennis, Sanders, & Bardzell, 2012; Seal & Meston, 2007; Tang et al., 1997; Traeen, Markovic, & Kvaem 2016; Weaver & Byers, 2013). Indeed, all but four studies published on these variables support a direct relationship between the way women generally feel about, and evaluate their body and the degree to which they experience satisfaction during sexual activity. For instance, in their online survey conducted in a community sample of 154 American women, Pujols and colleagues (2010) found that self-perceived sexual attractiveness contributed to increased sexual satisfaction in women, irrespective of their level of sexual functioning. In other words, even as they reported sexual dysfunctions or problems affecting their sexual response, women could be satisfied with their sexual life to the extent that they perceived themselves to be physically attractive to others. Similarly, breast and genital body image (Algars et al., 2011; Herbenick et al., 2011), including satisfaction with vulvar appearance (Schick et al., 2010), were directly and significantly related to sexual satisfaction in women. Overall, the relationship between trait body image and sexual satisfaction was found to be significant across a wide array

of validated psychometric measures of both variables, as well as among samples of women ranging from moderate to large in size (e.g., $n = 6,201$; Algars et al., 2011).

As for the four studies that did not yield significant results, only one employed a sound methodology (Milhausen, Buchholz, Opperman, & Benson, 2014). In contrast, two of the three remaining studies employed rarely used (Davidson & McCabe, 2005) or unvalidated measures of body image and sexuality (Koch, Mansfield, Thureau, & Carey, 2005), and the last one used retrospective data collected among a small ($n = 32$) and unrepresentative sample of women whose BMI ranged in the obese category and had undergone a weight reduction program (Werlinger et al., 1997). Thus, it is plausible that these inconsistent findings may be partially due to methodological flaws. Another potential explanation for these results (or lack thereof) may be age differences or cohort effects between samples. Indeed, most of the aforementioned studies, which yielded significant associations between trait body image and sexual satisfaction, were conducted among women in their early 20s. Conversely, both Davidson and McCabe (2005) and Koch and colleagues (2005) surveyed mature women (mean ages of 42.3 and 50.0 respectively), whose experience may differ from that of emerging adults. Nevertheless, there is not enough available data on older women's experience at present to ascertain whether these inconsistent results are indicative of an actual trend or the consequence of methodological or sampling error.

Research pertaining to the relationship between trait body image and sexual function is less clear. Indeed, trait body image appears to be associated with sexual function differently based on the dimension of sexual function examined. Among these dimensions, propensity to orgasm is most effectively explained by women's general view of their body. In fact, all but two of the studies (Quinn-Nilas, Benson, Milhausen, Buchholz, & Goncalves, 2016; van den Brink, Smeets, Hessen, & Woertman, 2015) conducted on this relationship attest to a significant effect of trait

body image on women's reported tendency to reach orgasm (Algars et al., 2011; Bishop, 2015; Erbil, 2013; Herbernick et al., 2011; Sanchez & Kiefer, 2007; Satinsky et al., 2012; Seal & Meston, 2007). There is also substantial evidence to support a relationship between trait body image and general sexual function (Erbil, 2013; Herbernick et al., 2011; Koch et al., 2005; Pauls et al., 2008; Satinsky et al., 2012; Seal & Meston, 2007; Wenniger & Heiman, 1998; Werlinger et al., 1997), as measured most often by the total score on the FSFI. Additionally, in their survey study conducted among 207 Portuguese women, 160 of whom had received a formal diagnosis of sexual dysfunction, Nobre and Pinto-Gouveia (2006) found that dysfunctional sexual beliefs including those related to body image (e.g., "Women who are not sexually attractive cannot be sexually satisfied"), significantly discriminated between functional and dysfunctional participants. Few empirical studies did not support the relationship between general sexual function and trait body image (Berman et al., 2003; Milhausen et al., 2014; Reissing, Laliberté, & Davis, 2005), one of which focuses strictly on genital body image (Berman et al., 2003) and thus may not be sufficiently indicative of global, trait body image.

Generally, the extant literature suggests that trait body image is also associated with sexual arousal, with all correlational studies attesting to this relationship (Algars et al., 2011; Erbil, 2013; Herbernick et al., 2011; Quinn-Nilas et al., 2016; Sanchez & Kiefer, 2007; Satinsky et al., 2012; Seal & Meston 2007, van den Brink et al., 2015) but one (Seal, Bradford, & Meston, 2009). In her laboratory study, Meston (2006) reported that the 16 women who had been diagnosed with Female Sexual Arousal Disorder showed a trend toward less body satisfaction ($p = .07$) when compared to the 16 other functional women who comprised her sample. Given the small sample size, it is probable that the lack of significance is imputable to a lack of statistical power rather than the absence of relationship between sexual arousal and trait body image.

Research is more divided regarding the relationship between sexual desire and trait body image. A thorough review of the various studies revealed that, from a conceptual and methodological standpoint, Seal et al.'s study (2009) provided the most solid data in favour of a relationship between trait body image and sexual desire. Specifically, these researchers asked 85 American university students to complete a questionnaire package prior to reading an erotic story. Correlational analyses showed that increased weight esteem and perceived sexual attractiveness are associated with elevated sexual desire scores on the FSFI, as well as increased peaks in reported desire in response to the erotic story. With regards to the other studies that do support a direct relationship between trait body image and sexual desire, three of them focus exclusively on genital and/or breast image (Algars et al., 2011; Berman et al., 2003; Herbenick et al., 2011), while three other used unvalidated measures of both body image and desire (Ben Thabet et al., 2014; Koch et al., 2005) and/or non-representative samples (Ben Thabet et al., 2014; Dosch et al., 2015). In contrast, the studies that did not find any significant association between trait body image and sexual desire (La Rocque & Cioe, 2011; Satinsky et al., 2012; Weaver & Byers, 2013) all employed validated and well-established measures for both variables, as well as more global conceptualisations of body image. Therefore, from a conservative standpoint, it would be preferable to abstain from drawing firm conclusions on a potential relationship between trait body image and sexual desire. On the contrary, it is likely that other factors may be at play, or at least partially mediate the contribution of women's body image to their libido.

With respect to the lubrication and pain dimensions of sexual function, the current literature points towards a significant association with genital body image in particular (i.e., the way women feel about the appearance of their genitalia specifically), as demonstrated by two large

population studies (Algars et al., 2011; Herbenick et al., 2011) conducted among 6,201 Finnish and 2,056 American women, respectively. As it pertains to more global trait body image (i.e., the way women feel about their appearance in general), research is less conclusive. For instance, one survey study (Seal & Meston, 2007) reports a significant relationship between weight concern (but not sexual attractiveness or overall body esteem) and lubrication in women. Conversely, in their exploratory study on body appreciation and sexual function, Satinsky and colleagues (2012) and later van den Brink and colleagues (2015) did not find any association between the way women relate to their body and lubrication. It is quite probable that these inconsistencies result from the disparate conceptualisations of trait body image rather than the absence of a relation between variables.

Similar observations can be made with regard to the current research on trait body image and sexual pain. Indeed, Meston (2006) found that public self-consciousness, that is, a body image-related concept referring to the appraisal of how others view a person, is associated with sexual pain, while other scholars (Satinsky et al., 2012; van den Brink et al., 2015) did not find such association with body appreciation or general body satisfaction (Erbil, 2013). Another potential explanation for these discrepancies in the literature may be that lubrication and sexual pain are likely affected by women's relationship to their body through indirect mechanisms, such as lack of desire or arousal. Overall, research is too scarce and conceptualisations are too inconsistent between studies to allow for sound conclusions to be made regarding the relationships between trait body image, lubrication, and sexual pain.

Lastly, to the best of our knowledge, only one study has been published to date on the relationship between trait body image and sexual distress. Berman and colleagues (2003) recruited 31 American women with a mean age of 38 at a sexual health centre. Their survey

study revealed that women with a more positive genital self-image tended to experience comparatively lower levels of sexual distress, less depressive symptomatology, as well as higher levels of reported sexual desire. No study has been conducted on overall rather than genital body image and sexual distress. Thus, although promising, this study is insufficient on its own to allow for firm conclusions to be made on the potential link between trait body image and sexual distress.

In summary, drawing a clear picture on the relationship between trait body image and indicators of sexual health can be quite a challenging feat. Overall, despite disparate studies and sometimes-inconsistent findings, the extant literature seems to suggest that such relationships exist. To start, there seems to be adequate evidence from the literature to suggest a relationship between trait body image and sexual satisfaction. Conversely, the link between trait body image and sexual function varies by dimension. For instance, studies are nearly unanimous regarding an association with propensity to orgasm specifically. There is also good support for a relationship with general function and arousal. However, research is divided on sexual desire and its association with trait body image. Finally, the dearth of empirical data pertaining to trait body image and lubrication, sexual pain, or sexual distress prevents generalisation. In the light of these various inconsistencies, it may be best to consider other factors that could potentially be at play. Contextual body image is one such factor, which, when compared with trait body image, operates at a more proximal level to indicators of sexual health. As such, its potential mediating role has received some attention and support from the literature.

Spectatoring and the Mediating Effect of Contextual Body Image

When in the midst of sexual intimacy with a partner, it is reasonable to assume that feelings of self-consciousness are not uncommon. For example, a person may worry about their sexual

performance or how pleasing their body looks to their partner. In doing so, they place their mental focus away from physical sensations. This tendency to endorse a spectator's perspective on oneself, or *spectatoring*, was first studied by Masters and Johnson (1970) among males suffering from erectile dysfunctions. The researchers noticed that, irrespective of the root cause for their participants' inability to achieve or maintain an erection, the problem was often perpetuated over time by men's subsequent monitoring of their erectile performance (i.e., "performance pressure"). Indeed, as they were focusing and worrying about their ability to become sexually aroused in the presence of their partner, they were not attentive to the pleasurable sexual stimuli that were occurring, thus ultimately hindering their ability to achieve an erection altogether.

As previously mentioned, men and women are subject to different societal pressures. Thus, while men are expected to perform well as a sexual partner by being readily able to achieve and maintain erections and hold off ejaculation long enough for their partner to experience pleasure, women are expected to serve as alluring visual stimuli (Wiederman, 2001). Consequently, the specific reasons for spectatoring may vary by gender, with men placing most of their focus on their sexual performance and women on their physical appearance. This gender difference was also observed in empirical data: For example, Dove and Wiederman (2000) reported that appearance-based and performance-based cognitive distractions during sexual activity overlapped in women. In other words, the researchers found that participants' evaluation of being a good sexual partner was equated with their perception of looking physically appealing to their partner. Consequently, it appears that the manner in which women relate to their body during the sexual act (i.e., contextual body image) is of particular importance when considering their sexual experience. More specifically, women's tendency to monitor their appearance during

sexual activity, that is to say how self-conscious they may be about their body, as well as how often body-related concerns interfere with their ability to fully immerse themselves into the sexual experience may be at the core of women's spectatoring.

Unfortunately, this propensity for heightened body awareness in the sexual act seems quite pervasive. In fact, Purdon and Holdaway (2006) found in their survey study among female university students that body concerns constitute the third most common type of non-erotic thoughts during sex after fear of intrusion by a third party and STI/pregnancy concerns. On average, weight, thighs, waist, buttocks, and hips are particular foci of attention for women during sexual activity (Cash, Maikkula, & Yamamiya, 2004). For those who have a trait tendency to be more aware of (i.e., frequent monitoring), and/or dissatisfied with their body, contextual body image can become even more of an interference. This was confirmed by a number of correlational studies (Bishop, 2015; Dosch et al., 2015; Meana & Nunnink, 2006; Sanchez & Kiefer, 2007; Schick et al., 2010; Steer & Tiggemann, 2008; van den Brink et al., 2013; Vencill, Tebbe, & Garos, 2015) all reporting that trait body image is related to self-consciousness during sexual activity. Hence, the more a woman feels negatively about her body, the more likely she is to experience appearance-related thoughts and to be bothered by them as they occur during sexual activity.

In turn, contextual body image also appears to be associated with indicators of sexual health. More specifically, body image self-consciousness during sexual activity has been substantiated as a valuable contributor to various sexual function dimensions in women, notably general sexual function (Cash, Maikkula, & Yamamiya, 2004; Purdon & Holdaway, 2006; Steer & Tiggemann, 2008; van den Brink et al., 2013; Vencill et al., 2015), sexual desire (Dosch et al., 2015; Dove & Wiederman, 2000; La Rocque & Cioe, 2011), orgasm (Bishop, 2015; Dove & Wiederman, 2000;

Quinn-Nilas et al., 2016), and arousal (Quinn-Nilas et al., 2016). With respect to general sexual function (Carvalheira, Godinho, & Costa, 2016; Cash et al., 2004; Vencill et al., 2015) and sexual desire (Dosch et al., 2015; La Rocque & Cioe, 2011) in particular, contextual body image has been shown to be a stronger contributing factor than trait body image. This suggests that the way women feel and think about their body *in the moment* more significantly affects their sexual response and libido than how they generally relate to their physical self.

However, as shown by two elegant experimental studies, the relationship between contextual body image and sexual arousal appears to be more complex. In one of these two studies, van Lankveld and Bergh (2008) investigated the simple and interaction effects of trait body image (referred to as trait self-focus by the researchers) and experimentally induced self-consciousness (i.e., contextual body image) on subjective and physiological arousal in women. Forty Dutch women were presented with two erotic film segments. During the presentation of one of these segments, self-consciousness was induced by means of a video camera pointed at the head and upper torso of the participant while the image recorded by the camera was being displayed on the television for five seconds. Analyses of variance showed that experimentally induced body self-consciousness did not affect physiological arousal as measured by vaginal photoplethysmograph. Interestingly however, an interaction effect of trait body image and body self-consciousness was found, such that women with a more pronounced tendency to monitor their body in general and across situations exhibited less genital response when body self-consciousness was induced than other women. There was no effect of trait body image on subjective arousal ratings or physiological arousal when no body self-consciousness was induced.

Similarly, Meston (2006) induced self-consciousness in her samples of sexually functional and dysfunctional women by placing a piece of reflective glass in front a television displaying

segments of an erotic film, such that participants would be able to see a reflected image of their face and shoulders while watching the film. She found that self-focus attention (i.e., experimental condition) caused a significant decrease in physiological arousal among sexually functional, but not sexually dysfunctional women. There was no difference, however, in levels of subjective arousal across condition for either group.

A few inferences can be drawn from these two studies. Firstly, van Lankveld and Bergh's study (2008) attests to the intricate relationship between contextual and trait body image. Further, it suggests that their interaction may constitute the crux of the relationship between body image at large and sexual arousal, such that arousal may be disrupted or decreased by body image self-consciousness during sexual activity only to the extent that women experience poor trait body image. In other words, if a woman relates negatively to her body in general, she will be more strongly affected by appearance-related distractions during sexual activity. Secondly, Meston's (2006) lack of significant variation in physiological arousal among sexually dysfunctional women may be interpreted in that these women experience high body self-consciousness irrespective of the experimentally induced stimulus. Lastly, the fact that subjective arousal was not affected in either study may be potentially due to the absence of a partner during the experiment, which alleviated some of the apprehension these women may usually feel about performing well or looking good in sexual contexts. Although there is not enough data available to ascertain these speculations at present, both studies provide some valuable insight on the relationship between contextual body image and sexual arousal.

With respect to contextual body image and the remaining dimensions of sexual function, namely lubrication and sexual pain, no study has been conducted to date to investigate whether these variables are related. Further, to the best of our knowledge, no data is available on the

relationship between contextual body image and sexual distress. There is some information, however, on sexual satisfaction. Specifically, one study found no relation between the variables (Milhausen et al., 2014), while five other correlational studies did indicate that cognitive distraction due to body awareness during sexual activity can hinder sexual pleasure (Carvalheira et al., 2016; Dove & Wiederman, 2000; Purdon & Holdaway, 2006; Rados et al., 2014). One of these latter studies in particular, conducted by Meana and Nunnink (2006) among 237 female university students, showed that appearance-based cognitive distractions were correlated with sexual satisfaction but not with general sexual function. In other words, body related concerns during sexual activity was found to affect the level of pleasure derived from the experience while it did not necessarily interfere with the sexual response *per se*. Although these particular findings may be inconsistent with the aforementioned studies on contextual body image and sexual function –subjective and objective–, they are concordant with the rest of the extant literature in suggesting that body-related thoughts and concerns during sexual activity can greatly affect the experience of women by usurping their mental focus away from pleasurable sensations.

In summary, various studies lend support to Masters and Johnson's concept of spectating and its deleterious effect on sexual functioning and satisfaction. Even removed from other potential performance-related distractions, intrusive thoughts about one's appearance as well as body self-consciousness during sexual activity are substantiated as contributors to sexual difficulties in women. General sexual function, propensity to orgasm, sexual desire, and sexual satisfaction appear to be most strongly affected. Sexual arousal can also be inhibited by body self-consciousness in sexually functioning women who experience poor trait body image. Due to the absence of data on these variables, no conclusions can be drawn with regards to lubrication, sexual pain, or distress. Nevertheless, there is enough evidence at present to attest to the

mediating role of contextual body image on the relationship between trait body image and indicators of sexual health. Therefore, to summarise the overall literature on our variables of interest, it appears that trait body image is related both directly and indirectly through contextual body image to indicators of sexual health.

Critique of the Existing Literature

While the literature on body image and indicators of sexual health is expansive and the various findings promising, a number of methodological and conceptual shortcomings call for attention (see Table 1). First, the focus of existing studies has been circumscribed to some indicators of sexual health at the expense of others. For instance, while there is substantial evidence to support a link between trait or contextual body image and sexual satisfaction, virtually no researcher has investigated body image and sexual distress. This blatant omission can also be noticed in the dimensions of sexual function explored, with many studies focusing on orgasm or desire and less so on lubrication and pain. Second, as illustrated by the vast array of definitions presented in this introduction alone, researchers utilise very disparate conceptualisations and assessment instruments for body image and indicators of sexual health. As a result, general conclusions cannot be easily drawn. Similarly, the lack of homogeneity in the formulation and measurement of the variables render comparisons and interpretations of inconsistent findings between studies quite challenging. Third, with the exception of two studies (Calogero & Thompson, 2009; Steer & Tiggemann, 2008), both of which were grounded in objectification theory, research on body image and sexual health is mostly devoid of a clear theoretical framework. Although these atheoretical studies remain highly valuable, the addition of a theoretical foundation could have heightened the implication of findings by providing a larger context in which to interpret them. Likewise, a theoretical framework would have been

helpful in providing falsifiable hypotheses to test, thus better orienting research efforts. Fourth, researchers seem to place most of their focus on the negative aspects of body image and its deleterious effects on indicators of sexual health. However, such a negative-oriented view does not tell the whole story on the experience of embodiment or on the manner in which it may relate to, and affect sexuality. Rather, it is essential to take into account positive aspects of body image to complement and enrich one's perspective on this phenomenon.

Lastly, and perhaps most importantly, scholars have tended to rely on student samples, which inherently suffer from significant bias towards educated, healthy, and *young* women. Specifically, our review of the extant literature shows that studies have been conducted in large part on women aged 18 to 25 (see Table 1). This life period, termed "emerging adulthood", refers to the developmental stage between adolescence and adulthood (Arnett, 2000). Emerging adulthood has been shown to be both theoretically and empirically distinct from other stages of adulthood (Arnett, 2000; Santrock, 2008). As such, it has become a special interest group within the Society of Clinical Child and Adolescent Psychology (i.e., Division 53 of the American Psychological Association). In light of this information, it is apparent that generalisation of findings from emerging adult samples to non-university aged women is questionable to say the least. On the contrary, a sole focus on emerging adult's experiences can hardly be representative of the reality of adult women at large and women in the later decades of life in particular.

Body Image and Sexual Health Beyond Emerging Adulthood

Body image and sexual health are not static but evolve and transform across adulthood. As women age, they seek different goals and their life circumstances change. Life events that traditionally take place after emerging adulthood, such as marriage (e.g., Christopher & Sprecher, 2000; Meltzer & McNulty, 2010; Pole, Crowther, & Schell, 2004), pregnancies (e.g.,

Dworkin & Wash, 2004; Mehta, Siega-Riz, & Herring, 2011; von Sydow, 1999), the post-partum transition (e.g., Dean, Wilson, Herbison, Glazener, Aung, & MacArthur, 2008; Kilpela, Becker, Wesley, & Stewart, 2015), motherhood (e.g., Jordan, Capdevila, & Johnson, 2005; Malacrida & Boulton, 2012; Sims & Meana, 2010), menopause (e.g., Bancroft, Loftus, & Long, 2003; Chrisler, 2007; Lindau et al., 2007; Tiggemann, 2004), or widowhood (e.g., Malatesta, Chambless, Pollack, & Cantor, 1988), have all been shown to affect body image and sexuality independently. Therefore, it is not unreasonable to assume that the relationship between the two also change as a function of age and accrued life experience.

Body Image, Sexual Health, and Ageing

Considering the sheer amount of research conducted on body image and sexual health, it is surprising, if not disconcerting, that only a handful of studies have examined how this relationship may be affected by age. To the best of our knowledge, only one study has explicitly compared the body image experience of women of different ages and life stages as it pertains to indicators of sexual health. Specifically, Davidson and McCabe (2005) employed inter-group analyses to examine the relationship between body image and a number of outcome variables, including sexual satisfaction, of 226 Australian women aged 18 to 86. Surprisingly, body image was not found to contribute to sexual satisfaction in any age group, including emerging adult women. These findings, which are inconsistent with the previously mentioned literature on body image and sexual satisfaction among younger women, may be explained by the use of unvalidated measures and low statistical power. Nevertheless, further research is certainly warranted in order to clarify these results and explore how body image affects not only satisfaction but also sexual function and distress across adulthood.

As for the studies investigating the sexual experiences of mature women specifically, they are all but a rarity. Indeed, only a dearth of studies has focused on the relationship between body image and sexual health in midlife and older women. In a German study conducted with 60 women, aged 50 and above, Fooker (1994) found that a positive evaluation of one's body was associated with increased frequency of masturbation, orgasm, and erotic fantasies, as well as more liberal sexual attitudes. More recently, Kliger and Nedelman's retrospective survey study (2006) showed that negative changes in body image were perceived by over half of their sample as the primary reason for a decrease in sexual desire. In contrast, Dundon and Rellini (2010) found that, though correlated with indicators of sexual health, body satisfaction did not uniquely contribute to sexual satisfaction when accounting for changes in sexual function in their sample of women aged 40 to 70. Lastly, in a survey on women's health in the United States (Koch et al., 2005), 307 heterosexual women, aged 39 to 56, were invited to compare their degree of self-perceived attractiveness and sexual function from 10 years prior. Results revealed that women tend to perceive themselves as less attractive than 10 years prior, irrespective of their age or menopausal status. Furthermore, t-test analyses showed that self-perceived attractiveness is related to sexual response, such that a decrease in perceived physical attractiveness is correlated with reports of decreased sexual health (i.e., sexual pleasure, desire, and frequency of sexual activity) when compared to 10 years prior. Alternately, women who perceived themselves as attractive tended to report higher sexual enjoyment, desire, and more frequent sexual activity. The direction between variables was, however, unclear, such that it is unknown whether a healthy sex life in older adulthood leads to improved body evaluations or the other way around.

Critique of the Existing Literature

Despite their paucity and sometimes-conflicting findings, these studies suggest that ageing may bear meaningful consequences to the sexual and body image experiences of women.

Further, it appears that the way women relate to their physical selves continues to contribute to their sexual health as they reach mid- and later adulthood. This being said, a number of methodological limitations must be considered.

To start, research on body image, sexuality, and ageing has utilised a somewhat narrow definition of body image by choosing to focus either on trait body dissatisfaction or perceived body change. Therefore, it is unclear what specific body image variable(s) may constitute the best contributing factors to sexual health indicators and whether these factors vary with age. Furthermore, two out of the four studies conducted among older women specifically employed strictly retrospective, and thus potentially biased data (Kliger & Nedelman, 2006; Koch et al., 2005). As a result, the effect of age on body image and indicators of sexual health is still uncertain. In the same line of thought, although age clearly impacts *physiological* aspects of sexual health (e.g., lubrication) and body image (e.g., body contour, skin elasticity), the impact on the *psychological* aspects (e.g., sexual satisfaction, body appreciation) needs further consideration. The notion of sexual distress requires particular attention for it has been consistently overlooked thus far. As for sexual function and sexual satisfaction, they have frequently been measured using unvalidated instruments. This lack of sound measurement leads to questionable and potentially unreliable results. Thus, further research is required to clarify the potential contribution of body image to sexual health in older women.

Objective and Hypotheses

The purpose of this dissertation was to fill these gaps in the literature and further elucidate the relationship between body image, indicators of sexual health, and ageing in women. Two main objectives guided my investigation. The first was to examine whether body image contributes to sexual function, satisfaction, and distress in women across the adult lifespan. The second was to shed light on what specific dimension of body image may be most helpful in explaining indicators of sexual health among non-university aged women. Of specific focus was to illuminate whether both positive *and* negative, trait *and* contextual, facets of body image all contribute to women's sexual experiences after emerging adulthood. In order to go beyond simple description of phenomena, this thesis research was carried out firmly embedded in a feminist and positive psychology framework. Bearing in mind the methodological and conceptual shortcomings observed in existing research, the following two studies were carried out.

Using a cross-sectional design, Study 1 was an investigation of how various aspects of body image contribute to female sexual function, satisfaction, and distress across the adult lifespan. Specifically, it was hypothesised that negative aspects of body image (i.e., body dissatisfaction) would contribute to worse, and positive aspects of body image (i.e., body appreciation) to better, sexual health outcomes in adult women. It was also anticipated that body appreciation would contribute to indicators of sexual health above and beyond the effect of body dissatisfaction and actual body shape and weight (i.e., Body Mass Index). Additionally, it was expected that with increasing age and life experience, women would gradually become more appreciative of their body. Therefore, body appreciation was expected to moderate the effect of age on sexual satisfaction and sexual distress.

Study 2 was dedicated to the exploration of underlying mechanisms through which body image may impact indicators of sexual health in midlife and older women specifically. For that purpose, body appreciation was integrated into the well-established framework of objectification theory, the only existing theoretical framework with explicit hypotheses pertaining to body image, sexual health, ageing, and their interaction. Specifically, a model whereby (trait) self-objectification processes are associated with increased (contextual) body self-consciousness, which in turn is related to lower sexual function, lower sexual satisfaction, and higher sexual distress, was tested. In this model, it was hypothesised that contextual body image would serve as a mediator between trait body image and indicators of sexual health. Furthermore, body appreciation was expected to attenuate the deleterious effect of self-objectification on indicators of sexual health.

Table 1.

Overview of the Literature on Body Image, Sexual Function, Sexual Distress, and Sexual Satisfaction in Women

Study	Sample Characteristics (n, Age range and mean)	Methodology	Measure(s) of Body Image	Measure(s) of Sexual Variables	Pertinent Results	Comments
Tang, Lai, & Chung (1997)	305 Chinese university students (n =145 women), ? (M =20.5)	Cross-sectional survey	Derogatis Sexual Functioning Inventory (DSFI): Body Image subscale (BI)	All the other subscales of the DSFI	Positive body image was significantly correlated with increased sexual experience, sexual drive, attitudes (more liberal), affects, satisfaction, and feminine gender role definition, but not with one's level of sexual information, fantasies, and psychological symptoms according to the DSFI.	1, 5
Werlinger, King, Clark, Pera, & Wincze (1997)	32 American women with a BMI ranging in the obese category, ? (M =31)	Cross-sectional survey, retrospective data treated as longitudinal	Multidimensional Body-Self Relations Questionnaire (MBSRQ): Appearance Evaluation (AE) and Body Areas Satisfaction Scale (BASS)	DSFI: Sexual Satisfaction (SS), Drive (D), Global Sexual Satisfaction Index (GSSI); Unvalidated items on perceived change in sexual functioning	Sexual drive, sexual functioning, and body image, but not sexual satisfaction, were significantly higher post-treatment than pre-treatment. The most endorsed explanation for the change in sexual functioning was change in sexual behaviour since they lost weight (53% of women), feeling better about their body,	2, 7

					and feeling less depressed/down about their weight.	
Wenninger & Heiman (1998)	104 American women ($n = 57$ with a history of childhood sexual abuse [CSA]; $n = 47$ without such history), 21-55 ($M = 47$)	Cross-sectional survey, inter-group analyses (CSA vs. no CSA)	MBSRQ-AE MBSRQ: Appearance Orientation (AO), Fitness Evaluation (FE), Fitness Orientation (FO), Health Evaluation (HE), Health Orientation, and Illness Orientation (IO) subscales	Unvalidated questionnaire on sexual functioning, comprising items on desire/aversion, arousal, orgasm, and pain	CSA survivors experienced significantly more body image and sexual functioning disturbances than women from the comparison group. After controlling for CSA, fitness evaluation, fitness orientation, and body esteem regarding sexual attractiveness were found to significantly explain variance on sexual functioning measures.	2, 4
Dove & Wiederman (2000)	120 American women, 18-21 ($M = 18.85$)	Cross-sectional survey	Social Awareness Inventory: Self Experience from the Self Perspective subscale, four items on general body dissatisfaction, Cognitive Distraction Scale (CDS)	Sexual opinion Survey (SOS), Sexual Desire Inventory (SDI): Dyadic Sexual Desire factor, Unvalidated measure on orgasm consistency and pretending orgasm, Unvalidated measure of sexual satisfaction	Cognitive distraction (i.e., performance- and appearance-based cognitions, which were found to overlap) during sexual activity significantly explained variance for sexual esteem, sexual satisfaction, orgasm consistency, and pretending orgasm, above and beyond the effect of general affect, sexual desire, general self-focus, sexual attitudes, and body dissatisfaction.	1, 4
						1, 3, 4

Hoyt & Kogan (2001)	288 American university students ($n = 187$ women), ? ($M = 20.71$)	Cross-sectional survey	Body and Relationship Satisfaction Survey: Items on satisfaction with body parts and global appearance	Body and Relationship Satisfaction Survey (BRSS): Item on sex life	Participants who were dissatisfied with their sex life were more dissatisfied with their body appearance than those who were sexually satisfied.	
Berman, Berman, Miles, Pollets, & Powell (2003)	31 American women recruited in a health centre, ? ($M = 38$)	Cross-sectional survey	Genital Self-Image Scale	Female Sexual Function Inventory (FSFI), Female Sexual Distress Scale	Positive genital self-image was associated with lower sexual distress but not with general sexual function. With regards to the subscales of the FSFI, positive genital self-image was only associated with increased desire.	2, 6
Cash, Maikkula, & Yamamiya (2004)	263 American university students ($n = 145$ women), 18-50 ($Mdn = 21$)	Cross-sectional survey	Body Exposure during Sexual Activities Questionnaire (BESAQ), Appearance Schemas Inventory (ASI), MBSRQ-BASS, MBSRQ: Overweight Preoccupation subscale (OP), Unvalidated questionnaire on physical self-consciousness during sexual activity	Sexual Self-Schema Scale (SSSS), Changes in Sexual Functioning Questionnaire (CSFQ)	Anxious/avoidant body focus was more strongly related to sexual functioning than dispositional variables such as body satisfaction, appearance investment, and weight preoccupation. Anxious/avoidant body focus and sexual self-schemas were the only predictors of sexual functioning.	1
Davidson & McCabe	437 Australian individuals (n	Cross-sectional survey, inter-	Body Image and Body Change	Multidimensional Sexual Self	The inclusion of body image variables increased the	3, 4

(2005)	= 226 women), 18-86 ($M = 42.26$)	group analyses (three age groups)	Questionnaire: Body Image Satisfaction and Body Image Importance subscales, Social Physique Anxiety Scale, Physical Appearance Comparison Scale, Unvalidated questionnaires on self- rated attractiveness, body concealment, and body improvement	Concept Questionnaire (MSSCQ): Sexual Self-Efficacy (SE), Sexual Optimism, Sexual Satisfaction (SS) subscales	prediction of sexual optimism among women from the middle age group, but no unique body image predictor was found. Body image variables did not contribute to the prediction of sexual self-efficacy or satisfaction for any age group.	
Koch, Mansfield, Thurau, & Carey (2005)	307 American women, 39-56 ($M = 50$)	Cross-sectional survey, data taken from large population based study on women's health, data dating from 1993, retrospective	Three unvalidated items comparing body attractiveness at the time of the study vs. 10 years prior	One unvalidated item on change in sexual response since 10 years prior, three unvalidated items on sexual satisfaction, one open question on sexuality	67.8% of women reported a significant decrease in sexual functioning (less desire, pleasure, and orgasms) since 10 years ago but maintained high sexual satisfaction. This perception of a decline in sexual functioning and frequency of sexual activity was higher for women with low self-rated attractiveness. There was no correlation between self-rated attractiveness and sexual satisfaction.	3, 4, 7
Reissing Laliberté, & Davis	107 Canadian female university	Cross-sectional survey	Body Attitudes Questionnaire (BAQ)	FSFI, SSSS, Sexual Aversion Scale, Sexual Self-	Body image attitudes were not significantly correlated with sexual functioning. However,	1

(2005)	students, 18-29 ($M = ?$)			Efficacy Scale for Female Functioning	they significantly related to sexual aversion, which in turn was associated with sexual functioning.	
Meana & Nunnink (2006)	457 American university students ($n = 237$ women), 78% of participants aged 18-20 ($M = ?$)	Cross-sectional survey, inter-group analyses (gender differences)	Cognitive Distraction Scale (CDS), DSFI-BI	Global Sexual Functioning Score from the Sexual History Form, DSFI: SI, SE, SA, SS, Symptoms (S), Affect (A), and Fantasy (F) subscales	Negative body image predicted both appearance-based and performance-based distraction. Negative body image and appearance distraction were both correlated with sexual satisfaction, but not with global sexual functioning.	1
Meston (2006)	32 American women ($n = 16$ with diagnosis of sexual dysfunction, $n = 16$ without such diagnosis), ? ($M = 32.3$ and 28.9 , respectively)	Quasi-experimental laboratory study, cross-sectional data	DSFI-BI	FSFI, Sexual Satisfaction Scale for Women, subjective arousal following erotic film presentation, vaginal photoplethysmograph responses (VPA)	Self-focused attention significantly decreased physiological arousal in functional but not dysfunctional women. There was no effect on subjective arousal. Private self-consciousness (awareness of internal bodily sensations) was associated with higher sexual compatibility and orgasm, whereas public self-consciousness (appraisal of how others view oneself) was associated with higher sexual pain. Dysfunctional women showed a trend toward poorer body image.	2

Nobre & Pinto-Gouveia (2006)	207 Portuguese women ($n = 47$ with diagnosis of sexual dysfunction, $n = 160$ without such diagnosis)	Cross-sectional survey, inter-group analyses	Sexual Dysfunctional Beliefs Questionnaire (SDBQ): Body Image Beliefs subscale	FSFI, All the other SDBQ subscales	Sexually dysfunctional women reported significantly more body image beliefs (e.g., "Women who are not physically attractive can't be sexually satisfied") than functional women. In fact, body image beliefs allowed to significantly discriminate between functional and dysfunctional women.	3
Purdon & Holdaway (2006)	97 Canadian university students ($n = 50$ women), ? ($M = 20$)	Cross-sectional survey	Questionnaire developed for the study on non-erotic thought content during sexual activity	Global Measure of Sexual Satisfaction-Revised (GMSEX), Sexual Functioning Questionnaire (SFQ), SOS.	Greater non-erotic thoughts frequency (including those about body appearance) and associated anxiety were associated with lower sexual satisfaction and lower sexual functioning.	1, 3, 4
Holt & Lyness (2007)	174 English university students ($n = 130$ women), 18-22 ($M = 21.5$)	Cross-sectional survey	MBSRQ: AE, AO, BASS, FE, FO, HE, HO, IO, and Self-classified Weight (SW) subscales	Pinney Sexual Satisfaction Inventory	Body image was significantly related to sexual satisfaction. General body image predicted sexual satisfaction. AE and OP subscales both significantly added to the variance in sexual satisfaction. In addition, AE was the only significant predictor of sexual satisfaction in general and OP that of sexual satisfaction with a partner.	1

Sanchez & Kiefer (2007)	320 American individuals ($n = 198$ women), 17-71 ($M = 31.01$)	Cross-sectional survey	Body Image Self-Consciousness Scale (BISC), Objectified Body Consciousness Scale (OBSC): Body Shame subscale	Sexual Arousal Index (SAI): Sexual Intercourse and Oral/Genital subscales, Unvalidated measures on difficulty reaching orgasm and sexual pleasure	Body shame was associated with less arousal and sexual pleasure and more self-consciousness during sex, but not with orgasm difficulty and age. BISC mediated the relationship between body shame, sexual arousal, and sexual pleasure. Body shame had a direct effect on difficulty reaching orgasm but not sexual pleasure.	4
Seal & Meston (2007)	21 American women with a diagnosis of sexual dysfunction, 18-47 ($M = 24.43$)	Experimental laboratory study, cross-sectional	Body Esteem Scale (BES), body awareness induced in the experimental condition	FSFI, subjective arousal, VPA responses	Sexual arousal significantly increased after listening to the erotic audiotapes in both conditions. Subjective arousal scores were higher in the experimental condition (sensate focus); however, there was no difference in the VPA scores. There was no difference in cognitive distraction level between the two conditions. The sexual attractiveness score of the BES was associated with the FSFI total score, arousal, orgasm, and satisfaction but only a trend toward a relationship with lubrication. The weight concern subscale of	2, 5

van Lankveld & Bergh (2008)	40 Dutch women, 18-53 (<i>M</i> = 28.7) * Post- menopausal women were excluded	Experimental laboratory study, cross- sectional	Sexual Self- Consciousness Scale: Sexual Embarrassment and Sexual Self-Focus subscales	FSFI, subjective arousal, VPA responses,	the BES was only associated with the FSFI total score and lubrication, with a trend toward arousal. Lastly, the BES total score was correlated with the FSFI total score, arousal, and orgasm.	3
					Two subgroups were formed based on participants' scores on the SCS (i.e., high vs. low trait sexual self-focus). Membership to either group was unrelated to FSFI. State self-focus did not affect VPA scores. A nearly significant interaction effect of state and trait self-focus was found, such that women with high self-focus exhibited less genital response in the experimental condition than those with low self-consciousness. There was no difference between both subgroups when no self-focus was induced. Subjective arousal did not differ across condition but there was a trend for women with high trait self-focus to report stronger subjective arousal than those with low trait level.	

Pauls, Occhino, & Dryfhout (2008)	107 pregnant American women, ? ($M = 24$)	Cross-sectional survey	BESAQ	FSFI, Unvalidated questionnaire on frequency of specific sexual behaviours	BESAQ scores were found to be mostly unchanged throughout the pregnancy but worsened six months after the delivery. This dip in body image satisfaction was unrelated to BMI. BESAQ was associated with less sexual function (total FSFI score) in the first trimester of the pregnancy only.	2, 5
Penhollow & Young (2008)	408 American university students ($n = 290$ women), ? ($M = ?$)	Cross-sectional survey	BES, BISC	Modified Derogatis Sexual Satisfaction Scale	Concerns about being nude, about partner making negative judgments about their body, fitness, problem areas, strength and build, appearance of eyes and face, and weight were associated with sexual satisfaction. All variables were significant in predicting sexual satisfaction and explained 46% of the variance. Three predictor variables were identified in the best-fit model, namely concerns about being nude, fitness, and exercise frequency.	1
Steer & Tiggemann (2008)	116 Australian female university students, 18-54 ($M = 22.74$)	Cross-sectional survey	Self-Objectification Questionnaire (SOQ), OBSC, BISC	FSFI: Desire, Arousal, Orgasm, and Satisfaction subscales (questions were asked in general	Self-objectification and self-surveillance were not associated with FSFI (general and current), whereas body shame and appearance anxiety were related with less general	1

				terms then in the last four weeks)	(but not current) sexual functioning. BISC was related to body shame, appearance anxiety, general FSFI and current FSFI. BISC fully mediated the relationship between body shame, appearance anxiety, and general FSFI. Path analyses showed that the overall model of Objectification theory held such that self-objectification leads to self-surveillance, which in turn leads to body shame and appearance anxiety, which both lead to BISC, which finally leads to general FSFI. There was a direct effect of self-surveillance on BISC. Being in an exclusive relationship was associated with less BISC. Relationship was a unique predictor of FSFI.	
Calogero & Thompson (2009)	101 English female university students, 18-39 ($M = 22.13$)	Cross-sectional survey	OBSC: Body Shame and Body Surveillance subscales, Social Attitudes Toward Appearance Questionnaire-3: Internalisation-General subscale	Sexual Satisfaction Scale, modified version of Global Self-Esteem Scale	With the exception of BMI, all body image variables were negatively associated with sexual satisfaction. Path analyses showed that internalisation of thin-media ideals leads to more self-surveillance, which leads to	1

					body shame, which in turn leads to less sexual self-esteem and sexual satisfaction. There was also a direct path between body surveillance and sexual satisfaction.	
Seal, Bradford, & Meston (2009)	85 American female university students, 18-22 ($M = 18.9$)	Correlational laboratory study, cross-sectional	BES	FSFI: Desire, Arousal, and Lubrication subscales, Subjective Sexual Arousal Scale	Body esteem was significantly correlated with perceived sexual desire post-erotica, but not with perceived mental or physical arousal. Also, body esteem is associated with the FSFI desire subscale but not with the arousal or lubrication subscales. Specifically, weight concern and sexual attractiveness, but not physical condition, were related to sexual desire on the FSFI. These results held irrespective of BMI.	1
Carvalho & Nobre (2010)	237 Portuguese women, 18-73 ($M = 35.3$)	Cross-sectional survey	SDBQ: Body Image Beliefs subscale	FSFI: Desire subscale	Body image beliefs and automatic thoughts about self/body image did not predict female sexual desire.	3
Meltzer & McNulty (2010)	53 recently married American couples, ? ($M = 23.9$)	Cross-sectional survey	BES	Index of Sexual Satisfaction (ISS)	Perceived sexual attractiveness and low weight concerns were positively correlated with sexual satisfaction. Body image indirectly predicted sexual satisfaction through frequency	

Pujols, Meston, & Seal (2010)	154 American women, 18-49 ($M = 26.03$)	Cross-sectional survey	BES, CDS: Appearance-Based Distractions subscale	FSFI, SSSW	of sexual activity. Body esteem and appearance-based distracting thoughts were associated with sexual satisfaction. These variables also predicted 42.6% of the sexual satisfaction variance, when controlling for level of sexual functioning. Within body esteem, sexual attractiveness was found to be the only significant predictor of sexual satisfaction.	
Schick, Calabrese Rima, & Zucker (2010)	188 American female university students, 18-28 ($M = 19.39$)	Cross-sectional survey	Genital Image Self-Consciousness (BISC modified to focus on genital image)	MSSCQ: SE, SS, and Motivation to Avoid Risky Sex subscales	Vulva appearance dissatisfaction and genital image self-consciousness were associated with less sexual satisfaction. Path analyses showed that genital appearance dissatisfaction leads to genital image self-consciousness during sex, which leads both directly and indirectly through sexual esteem to less sexual satisfaction.	1, 6
Dundon & Rellini (2010)	86 American women, 40-70 ($M = 52.0$)	Cross-sectional survey	BAQ	FSFI	Satisfaction with weight, strength, and degree of attractiveness were positively correlated with sexual satisfaction. However, hierarchic regressions showed	

La Rocque & Cioe (2011)	362 Canadian university students ($n = 264$ women), 18-23 ($M = 19.41$)	Cross-sectional survey	MBSRQ: AE, AO, and BASS, BESAQ	SAS: Sexual Avoidance subscale, Sexual Esteem Scale, Extended Satisfaction With Life Scale: Sexual Satisfaction Subset, Sexual Desire Inventory-2	that body satisfaction does not contribute to sexual satisfaction above and beyond the effect of sexual function, age, and dyadic adjustment. Appearance satisfaction (i.e., AE and BASS) was significantly correlated with all the sexual variables but sexual desire. BESAQ was associated with all the sexual variables as well. A composite score of body image predicted sexual avoidance directly. This relationship was shown to be fully mediated sexual esteem, satisfaction and desire.	1
Algars et al. (2011)	9,532 Finnish twins and their siblings ($n = 6,201$ women), 18-49 ($M = 26.11$)	Cross-sectional survey, inter-group analyses (3 age groups)	DSFI-BI, Unvalidated items on self-perceived breast attractiveness and satisfaction with breast size	FSFI, DSFI: Frequency of sexual activity and behaviours subscales modified	Satisfaction with genital and breasts image was associated with increased desire, arousal, lubrication, orgasm, satisfaction and decreased sexual pain. General body image was related to more satisfaction with genital image and breast size, that is, wishing that one's breasts were smaller or bigger.	3
Herbenick et al. (2011)	2,056 American women, 18-60 ($M = ?$)	Cross-sectional survey	Female Genital Self-Image Scale	FSFI	Positive genital self-image was related to increased sexual arousal, desire, lubrication,	6

Satinsky, Reece, Dennis, Sanders, & Bardzell (2012)	247 American women, 18-58 ($M = 29.8$)	Cross-sectional survey	Body Appreciation Scale	FSFI	orgasm, satisfaction, and decreased sexual pain. It was also correlated with the total score on the FSFI, indicating a positive relation between genital self-image and overall sexual function. More body appreciation was correlated with smaller BMI, more sexual arousal, orgasm, satisfaction, as well as with the total FSFI score, but not with desire, lubrication or pain. Body appreciation also predicted sexual arousal, orgasm, satisfaction, and overall sexual function above and beyond the effect of age and partner status.	
Weaver & Byers (2013)	124 Canadian female university students, ? ($M = 19$)	Cross-sectional survey	Eating Disorder Inventory-2 (EDI-2): Body Dissatisfaction subscale, Body Image Avoidance Questionnaire (BIAQ), Situational Inventory of Body Image Dysphoria	GMSEX, SFQ, Sexuality Scale: Sexual Self-Esteem subscale, Sexual Arousal Inventory and Sexual Anxiety Inventory	Body dissatisfaction (cognitive component of body image) was associated with less sexual assertiveness, esteem, and satisfaction, but not with sexual desire or problems. Body image avoidance was related to all the sexual variables. Situational body dysphoria was correlated with sexual assertiveness, esteem, and problems, but not with desire	1

					or satisfaction. Of all the body image variables, only body image avoidance mediated the relationship between perceived discrepancy between one partner's supposed ideal body for a woman vs. her actual body, and sexual satisfaction.	
van den Brink, Smeets, Hessen, Talens, & Woertman (2013)	319 Dutch female university students, 18-30 ($M = 22.05$)	Cross-sectional survey, inter-group analyses (neutral vs. positive body image)	MBSRQ: AE, AO, and OP, BISC	FSFI, SES, Sexual Frequency Scale	Women from the positive body image group had a significantly lower BMI, less body image investment, overweight preoccupation, BISC, more sexual self-esteem, and better overall sexual function, but not more frequent solo or partnered sex than those from the neutral body image group. Low BISC predicted better overall sexual functioning across the whole sample. Appearance evaluation did not mediate this relationship.	1
Erbil (2013)	193 Turkish women, 18-49 ($M = 30.70$)	Cross-sectional survey	Body Image Scale	FSFI	Body satisfaction was positively related to sexual desire, arousal, lubrication, orgasm, satisfaction, and total sexual function. It was not correlated with sexual pain.	3, 5
Milhausen, Buchholz,	143 young Canadians (n	Cross-sectional survey	Body Esteem Scale for Adolescent and Adults	FSFI, ISS	None of the body image variable predicted sexual satisfaction or	1

Opperman, & Benson (2014)	= 75 women), 18-25 ($M = 20.7$)		(BESAA), BIAQ, BISC		sexual function.	
Rados, Vranes, & Sunjic (2014)	150 pregnant Croatian women in their third trimester of pregnancy, 18-39 ($M = 28.7$)	Cross-sectional survey	BASS, BISC	Sexual satisfaction subscale of the Perceived Quality of Marital Relationships Scale	Body satisfaction and low body self-consciousness during sex both predicted increased sexual satisfaction to a small but significant extent.	4, 2
Ben Thabet et al (2014)	26 Obese Tunisian women, ? ($M = 42.5$)	Cross-sectional survey	Unspecified	Unspecified	A positive view of the body, feeling attractive and young were all positively correlated with sexual desire.	2, 3, 4, 5
Bishop (2015)	374 American women, 18-67 ($M = 24.14$)	Cross-sectional survey	OBCS: Body Surveillance subscale, BISC	GSIS, unvalidated measure of ability to achieve orgasm	Body surveillance was related to increased body self-consciousness during sex and genital body image. Both were in turn correlated with one another and negatively associated with frequency of orgasm. Genital body image was the best predictor of propensity to orgasm in this sample.	4
Dosch, Ghisletta, & Van der Linden	53 Francophone Swiss women, 29-47 ($M = 38.62$)	Cross-sectional survey	MBSRQ-AS, CDS	SDI	Positive body image evaluations predicted higher sexual desire with a partner. Appearance-based distractions during sex	2

(2015)					fully mediated the relationship between body evaluation and dyadic sexual desire.	
Vencill, Tebbe, & Garos (2015)	426 women, 18-66 ($M = 29.81$)	Cross-sectional survey	SATAQ, OBSC: Body Surveillance, BESAQ	FSFI, Sexual Quality of Life Questionnaire (SQoL-F)	Internalisation of cultural standards if beauty was related to increased body surveillance, which in turn predicted higher body self-consciousness during sex. Body self-consciousness during sex fully mediated the relationship between body surveillance and sexual function and quality of life.	
Van den Brink, Smeets, Hessen, & Woertman (2015)	399 Dutch female university students, 18-29 ($M = 21.70$)	Cross-sectional survey	BAS	FSFI	Body appreciation was related to higher sexual desire and subjective arousal. It was not, however, related to lubrication, orgasm, satisfaction, or pain.	1
Quinn-Nilas, Benson, Milhausen, Buchholz, & Goncalves (2016)	88 Canadian women, 18-25 ($M = 20.8$)	Cross-sectional survey	EDI-2: Body Dissatisfaction Subscale, BESAA, BISC	FSFI	Body dissatisfaction predicted lower desire and arousal but not orgasm. Body self-consciousness during sex predicted lower arousal and orgasm, but not desire.	1
Traeen, Markovic, & Kvaalem	568 Norwegian young adults ($n = 270$)	Cross-sectional survey	MBSRQ-AE	New Sexual Satisfaction Scale	Body image was the second most important predictor of sexual satisfaction (after perceived	1

(2016)	women), 18-29 ($M = 23.8$)					intimacy with a partner).	
Carvalheira, Godinho, & Costa (2016)	1,018 Portuguese adults ($n = 493$ women), 18-79 ($M = 34.41$)	Cross-sectional survey	Global Body Dissatisfaction Scale, CDS	Unvalidated survey on sexual difficulties (orgasm, desire, pleasure, pain)	Appearance-based and performance-based cognitive distractions during sex fully mediated the relationship between body dissatisfaction and sexual difficulties.		4

Note. 1 = Student population; 2 = Small or unrepresentative sample; 3 = No validated or rarely used measure of body image; 4 = No validated or rarely used measure of sexual health indicators; 5 = Correlation table only; 6 = Limited to genital body image; 7 = Retrospective data.

Running head: BODY IMAGE AND SEXUAL HEALTH

Body Dissatisfaction, Body Appreciation, and Sexual Health
in Women across Adulthood

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Abstract

Risk and protective factors are equally important to the promotion of sexual health. Yet, in body image and sexuality research, most of the focus has been placed on the deleterious effects of body dissatisfaction and body mass index (BMI) at the expense of more positive dimensions. Furthermore, although age can affect appearance and sexual function, little is known regarding the experience of older women. This study was aimed at comparing how positive body image (operationalized as body appreciation) and negative body image (operationalized as body dissatisfaction) each contribute to indicators of sexual health when controlling for BMI in a sample of age-varied women. Cross-sectional data were collected online from 215 heterosexual women aged 18 to 88. Results revealed that body appreciation contributes to sexual function, satisfaction, and distress, above and beyond the effect of BMI and body dissatisfaction. Body appreciation was not found to fluctuate with age. Further, body appreciation moderated the relationship between age and sexual satisfaction, but not sexual distress. Post hoc analyses revealed that high body appreciation serves as a buffer against age-related changes of sexual satisfaction only in women with clinically significant sexual function difficulties. Increasing body appreciation may be a promising clinical intervention in the treatment of sexual problems in older adult women.

Keywords: body image, body appreciation, sexual satisfaction, distress, sexual function.

Body Dissatisfaction, Body Appreciation, and Sexual Health in Women across Adulthood

Body image is a multidimensional construct, which refers to the way individuals relate to their body. Although it incorporates perceptions, attitudes, emotions, and behaviours related to the body (Cash, 1994), research has historically focused more on negative evaluations of body weight, shape, and overall appearance (Fiske, Fallon, Blissmer, & Redding, 2014; Tiggemann, 2004). In young women, this dissatisfaction with the body has been systematically associated with myriad deleterious mental health outcomes (Bucchianeri & Neumark-Sztainer, 2014) and negative effect on sexual function and satisfaction (Woertman & van den Brink, 2012). More recently, however, a positive discourse on body size diversity has been integrated in the study of body image and its impact on sexuality (e.g., Satinsky, Reece, Dennis, Sanders, & Bardzell, 2012). In keeping with this new paradigm, the purpose of this study was to examine how both negative *and* positive aspects of body image contribute to sexual health among an age-varied sample of adult women.

Although the examination of risk factors, such as body dissatisfaction, is essential to the prevention and treatment of mental health problems, so is the study of protective factors and individual strengths that may mitigate risk and contribute to overall psychological health (Seligman & Csikszentmihalyi, 2000). Consistent with the positive psychology movement, however, positive experiences cannot be merely equated to the absence or the obverse of negative aspects. Indeed, to borrow an example from Duckworth and colleagues (2005), the relief of suffering by itself does not necessarily lead to well-being; it only serves to remove one of the many barriers to well-being. In line with this argument, positive body image is not the strict opposite of negative body image (Avalos, Tylka, & Wood-Barcalow, 2005). Rather, it is a

process above and beyond the absence of negative evaluations of one's appearance that also incorporates a compassionate and adaptive view of the body (Tylka & Wood-Barcalow, 2015a, 2015b). As such, separate concepts and psychometric instruments are required to examine how positive and negative aspects of body image are *each* related to various health attributes (Halliwell, 2015). With this in mind, the present study was designed to explore how body dissatisfaction compares to body appreciation, one of the most well established positive body image concepts to date (Tylka & Wood-Barcalow, 2015b). Body appreciation is defined as the degree to which a person may (a) hold a favourable opinion towards the body; (b) accept the body unconditionally; (c) respect the body by attending to its need and engaging in healthy behaviours; (d) reject unrealistic body ideals portrayed by the media thus protecting body image. Overall, these four aspects together represent an individual's unconditional positive regard for his or her physical self (Avalos et al., 2005) and, as such, may significantly contribute to women's sexual experiences.

Body Image and Sexual Health

Considering that the body is rarely as exposed and vulnerable to another person's gaze than during partnered sexual activity, sexual health can be greatly impacted by the way women feel about their body (Woertman & van den Brink, 2012). One key factor when examining the association between the way women relate to their body and indicators of sexual health is body mass index (BMI, weight in kilograms divided by height in square meter). Research examining the direct relationship between BMI and indicators of sexual health has yielded equivocal results to date. While some studies reported that sexual function and/or satisfaction both decrease as a function of increased BMI (Addis et al., 2006; Esposito et al., 2007; Milhausen, Buchholz, Opperman, & Benson, 2015), others found no significant correlation between the variables

(Bajos, Wellings, Laborde, & Moreau, 2010; Weaver & Byers, 2006). Further research therefore seems necessary in order to disentangle the direct influence of actual body mass from women's relationship to their body (i.e., positive and negative aspects of body image) on indicators of sexual health.

To date, research comparing BMI and body dissatisfaction suggests that the latter is more effective in explaining sexual outcomes (Weaver & Byers, 2006). Body dissatisfaction has been shown to contribute to decreased sexual satisfaction in women (Hoyt & Kogan, 2001; La Rocque & Cioe, 2011; Weavers & Byers, 2013). It is also associated with decreased sexual function (Pauls, Occhino, & Dryfhout, 2008), including lower sexual desire, lowered propensity to orgasm, lower subjective sexual arousal, and decreased lubrication (Koch, Mansfield, Thureau, & Carey, 2005; Sanchez & Kiefer, 2007; Seal, Bradford, & Meston, 2009; Seal & Meston 2007). Lastly, only one study has examined the relationship between body image and sexual distress, but its focus was on genital image as opposed to a more global evaluation of appearance (Berman, Berman, Miles, Pollets, & Powell, 2003).

While the contribution of body dissatisfaction to indicators of sexual health is relatively well substantiated, much remains to be ascertained relative to the unique role of positive body image. To date, only two studies have examined the relationship between body appreciation, sexual function, and sexual satisfaction (Satinsky et al., 2012; van den Brink, Smeets, Hessen, & Woertman, 2015). In the first study published on these variables, Satinsky and colleagues (2012) reported that body appreciation significantly contributed to sexual arousal, satisfaction, frequency of orgasm, and general sexual function, after controlling for age and relationship status. No association was found, however, with sexual desire, pain, or lubrication. In contrast, van den Brink and her colleagues (2015) found that appreciation for the body contributed to

sexual desire and arousal in their sample of Dutch university-age women, while it did not significantly contribute to sexual satisfaction, lubrication, orgasm, or pain.

Given the dearth of research, the role of body appreciation in the sexual experiences of women warrants further clarification. Examining the potential influence of body appreciation on psychological sexuality-related concepts, such as sexual satisfaction and distress, as opposed to more physiological aspects (i.e., sexual function), may be of particular interest. Moreover, it is unclear at this point whether body appreciation contributes to indicators of sexual health above and beyond body dissatisfaction and BMI. Lastly, most of the existing research on body image and sexual health has focused primarily on student samples; an investigation of sexuality and body image with an age-diverse sample is overdue.

The Influence of Ageing

Ageing is a process essential to take into account when investigating body image and sexual health as both are affected by the passage of time. With increased age, the skin becomes drier, looser, and starts to crease. As age spots and wrinkles appear, it becomes harder for women to achieve Western ideals of beauty that demand smooth, blemish-free skin (Chrisler, 2007). Similarly, the body's basal metabolic rate also slows down and weight is redistributed during the peri-menopause and post-menopause, resulting in rounder figures with wider waist circumference that deviate from current beauty standards (e.g., Singh & Singh, 2011). Despite these various physical changes, research is surprisingly unclear on the extent to which age influences body dissatisfaction. Although some large sample studies suggest that women become less satisfied with their body as a function of increased age (Frederick, Peplau, & Lever, 2008; Swami, Hadji-Michael, & Furnham 2008; Swami, Tran, Stieger, & Voracek, 2014), others report no significant correlation between the two variables (Grippio & Hill, 2008; Runfola et al., 2013;

Tiggemann & McCourt, 2013). A potential explanation for the lack of association between body image and ageing may be that as they get older women tend to allot somewhat less importance to physical aspects of the body (i.e., appearance) in favour of caring about body functionality and health (Bailey, Cline, Gammage, 2016; Jankowski, Diedrichs, Williamson, Christopher, & Harcourt, 2014; Roy & Payette, 2012). As a result, they may become more appreciative of their body as it is, a process that may contribute to mitigate the negative association between age and body dissatisfaction.

To date, four studies have been designed to examine specifically the relationship between age and body appreciation, with unclear results. For instance, Augustus-Horvath and Tylka (2011) found that midlife women (aged 40 to 65 in their survey) experienced significantly less body appreciation when compared to emerging adult women (aged 18 to 25) but not when compared to women aged 26 to 39. Swami, Hadji-Michael and Furnham (2008) also reported a small negative correlation between age and body appreciation in their survey of young British women. In contrast, Tiggemann and McCourt (2013) more recently demonstrated a positive correlation between age and body appreciation. They also reported significant group differences, such that older women (aged 51 to 75 in their sample) were significantly more appreciative of their body compared to their younger counterparts. Similarly, Swami and colleagues (2014) reported a small positive correlation between age and body appreciation in their large survey study conducted among 9,667 Western women aged 18 to 90. In general, findings suggesting a positive correlation between body appreciation and age appear more in line with the gerontology literature. Indeed, the decreased importance of appearance in favour of health and functionality (Baker & Gringart, 2009; Deeny & Kirk-Smith, 2000; Janelli, 1986; Reboussin et al., 2000), as well as women's diminished tendency to consider their looks as central to their overall self-worth

as they grow older (Tiggemann & Lacey, 2009) are all indicators of a positive, rather than negative, shift in women's relationship to their body with age.

In addition to changes in body appreciation, age also affects sexual health. Specifically, research shows that sexual function tends to decline with age (e.g., Fugl-Meyer & Fugl-Meyer, 1999; Graziottin, 2007; Lindau et al., 2007), with sexual desire, arousal, lubrication, and frequency of orgasm being most affected (Hayes & Dennersteing, 2005; Lunde, Larsen, Fog, & Garde, 1991). Interestingly, although women may encounter an increasing number of sexual difficulties pertaining to their sexual functioning as they mature, most are not affected by these problems to the same extent as younger women. Indeed, personal distress related to sexuality has been shown to decrease steadily with age (Bancroft, Loftus, & Long, 2003; Hayes & Dennerstein, 2005; Hayes, Dennerstein, Bennett & Fairley, 2008; Shifren, Monz, Russo, Segreti, & Johannes, 2008). The level of sexual satisfaction reported by older women also seems to either remain stable despite changes to their sexual function (Hartmann, Philippsohn, Heiser, & Rüffer-Hesse, 2004; Kingsberg, 2002; Neto & Pinto, 2013) or only moderately decline (Barrientos & Paez, 2006; Dennerstein, Dudley, & Burger, 2001; Lutfey, Link, Rosen, Wiegel, & McKinlay, 2009).

Taken together, these results underscore a change in women's outlook on sexuality with age. In particular, it has been suggested that older women's subjective experience of their sexual health, such as reported sexual distress and satisfaction, may be increasingly dependent upon non-sexuality related parameters when compared to that of younger women (Hartmann et al., 2004). For instance, general well-being, happiness, life situation, or negative mental health states have been shown to contribute to sexual distress above and beyond sexual function (Bancroft et al., 2003; Hartmann et al., 2004). Similarly, Richters and colleagues (2003) have posited that the

decrease in sexual distress may be related to a similar decrease with advancing age in negative appearance-related cognitions during sex. In line with these researchers, we sought to examine whether high body appreciation, an indication of positive body attitudes and ability to relate to oneself adaptively despite perceived deviations from socially defined body ideals, serves as a buffer against the effects of age on sexual distress and satisfaction.

Study Hypotheses

Based on previous research (Berman et al., 2003; Pauls et al., 2008; Weavers & Byers, 2013), we expected that women who are dissatisfied with their general appearance and specific body parts would report lower sexual function (i.e., less sexual desire, subjective arousal, lubrication, orgasm, more sexual pain, and poorer general sexual function), lower sexual satisfaction, and higher sexuality-related personal distress, compared to those who are content with their body. Conversely, we hypothesised that women with high body appreciation would experience increased sexual function (i.e., more sexual desire, subjective arousal, lubrication, orgasm, less sexual pain, and better general sexual function), increased sexual satisfaction, and decreased sexual distress, compared to those with low body appreciation. With regard to the ageing process, we expected that, as women mature and accrue life experience, they develop higher appreciation for their body. We also hypothesised that, while sexual function and satisfaction tend to decline with age, women become less distressed about their sexual lives as they get older. Lastly, we expected that body appreciation would moderate the negative relationship between age and distress, such that it would be greater among those who exhibit higher body appreciation. In other words, we anticipated that the more women experience high appreciation for their body, the less sexual distress they report as they get older. Similarly, we expected that body appreciation would moderate the deleterious effect of age on sexual

satisfaction in such way that it is weaker among those who exhibit higher appreciation for their body.

Method

Participants

Two hundred and fifteen women participated in this study. Eligibility criteria included current involvement in a romantic relationship of at least 12 months and being 18 years of age or older. Given recent empirical evidence indicating that women who self-identify as lesbian or bisexual tend to experience body image (e.g., Morrison, Morrison, & Sager, 2004) and body appreciation (Ramseyer Winter, Satinsky, & Jozkowski, 2015) differently than heterosexual women, eligibility to the present study was restricted to self-identified heterosexual women. Participants were recruited by means of posters in community spaces in the region of Ottawa, Ontario. As well, advertisements were sent through email listservs and posted on social media websites, such as Facebook, LinkedIn, and Twitter, using the authors' laboratory user account. Older adults in particular are more likely to engage in research when approached in person and by a person they trust (e.g., McHenry et al., 2015). Hence, snowball sampling was used for recruitment across age groups to supplement online and poster recruitment and to ensure that an age-diverse sample be recruited. The study was advertised as a brief and anonymous survey investigating the way women relate to their body across adulthood and how this affects their sexual health.

Overall, the mean of age of participants was 38.1 years ($SD = 13.8$, range 18-88), with 34.8% of participants aged 18 to 29, 33% aged 30 to 44, and 32.2% aged over 45 years old. Of this sample, 47.7% of women were married, 35.6% cohabitated with their romantic partner, 14% were living alone, and 2.8% reported "other". When invited to define "other", those who

provided an elaboration (i.e., two out of six participants) described their romantic relationship as polyamorous. Mean relationship length was 8.5 years ($SD = 8.6$, range 1 to 45.8). The sample consisted primarily of women of European descent (88%, Asian = 4%, Mixed Heritage = 4%, African-Canadian = 2%, Aboriginal = 2%). The participants were highly educated with 88% reporting postsecondary education. The majority of the sample self-reported as not very religious (72.8%) while 8.3% of participants described themselves as "very" or "extremely" religious. Among those who provided a religious denomination, 50.9% self-identified as Christian, 20.5% as Agnostic or Atheist, 8% as Spiritual, 2% as Wiccan, and 2% as Jewish. The remaining 16.6% of women reported a large number of other religious affiliations that cannot be aggregated for the purpose of this description (e.g., Taoist, Muslim, Pagan; 0.5% each). In terms of general health indicators, 66% rated their physical health as very good or excellent, and 4.2% as poor. Similarly, 69.3% rated their mental health as very good or excellent whereas 2.3% of participants described it as poor. No additional specification was provided. Eighty percent of participants reported exercising once a month on average, while 18.6% reported never or almost never exercising. Participant's BMI was calculated based on self-reported weight and height. BMI ranged from underweight (BMI = 16.6, underweight cut off: BMI < 18.5) to morbidly obese (BMI = 49.9, obese cut off: BMI > 30), with a mean BMI of 26.1 ($SD = 6.2$), which is situated in the overweight range according to the Centre for Disease Control classification system (normal range: BMI 18.5 to 24.5; overweight range: BMI 25 to 29.5). Specifically, based on their reported BMI, 1.9% of participants were situated within the underweight range, 53.8% within the normal range, 24.5% within the overweight range, and 19.8% within the obese range. Lastly, 22.9% of the women in this sample reported they were postmenopausal (i.e., no menstruation for 12 months or more).

Procedure

Participants were offered the option of completing the study online, or in the traditional pen-and-paper format. If interested in the online option, women were provided access to the content of the study through Fluid Survey, a Canadian Web-based service allowing users to create and publish secure Internet surveys. The survey package opened with an information letter outlining the voluntary nature of the study and the participants' right to withdraw from it at any given time without consequence. In addition, information regarding the purpose and main objectives of the research was provided. Upon confirmation of eligibility and agreement to participate, participants were directed to the content of the study. Following completion of the survey or at any time of termination of the study, participants were provided with references on the topic of sexuality, ageing, and body image, should they wish to explore potential questions and concerns further.

Three participants were interested in the paper format. They were given the option to fill in the survey at the researchers' laboratory or another location of their choosing. The survey package comprised the same information provided in the online option, including a self-addressed and stamped envelope. Participants were not compensated for their participation in this study. This study was formally reviewed and approved by the researchers' university Ethics Review Board.

Measures

Demographic questionnaire. This measure was used to gather information on personal (e.g., age, level of education, ethnicity) and relationship demographics (e.g., relationship status, relationship duration). In addition, information on height and weight was collected in order to calculate the participants' BMI.

Body Appreciation Scale (BAS; Avalos et al., 2005). This self-report questionnaire evaluates the extent to which individuals hold favourable opinions and respect towards their body. It consists of 13 items (e.g., "I feel good about my body") rated on a 5-point scale ranging from 1 (*never*) to 5 (*always*). Responses to each item are averaged to obtain a total score. Higher scores are indicative of greater body appreciation among respondents. The unidimensional structure of the BAS, its test-retest reliability over a three-week period, as well as its internal consistency estimates have been shown to be satisfactory among American (Cronbach's $\alpha = .91$ to $.93$; Avalos et al., 2005), British (Cronbach's $\alpha = .81$; Swami, Hadji-Michael, & Furnham, 2008), and German women (Cronbach's $\alpha = .90$; Swami, Stieger, Haubner, & Voracek, 2008). Furthermore, convergent validity has also been established with many well-respected measures of negative body image (Avalos et al., 2005). This lends further support for the construct validity of the BAS as it demonstrates a statistical association with theoretically different, yet related, constructs. Internal consistency estimates, means and standard deviations for each of the measures utilized in the present study are reported in Table 1.

Multidimensional Body-Self Relations Questionnaire (MBSRQ; Brown, Cash & Mikulka, 1990). The MBSRQ is a widely used self-report measure of body image. It is composed of 10 subscales that have been used jointly or separately (e.g., Grippo & Hill, 2008; La Rocque & Cioe, 2011). In line with previous research (e.g., Tiggemann & McCourt, 2013), two of the MBSRQ subscales were used in the present study to measure body satisfaction, specifically the Appearance Evaluation (MBSRQ-AE) and the Body Areas Satisfaction (MBSRQ-BASS) subscales. The MBSRQ-AE is used to assess overall appearance satisfaction and evaluation. The 7-item scale consists of questions such as "I like the way my clothes fit me" and "I dislike my physique". Participants are asked to indicate their level of agreement with each of these

statements on a Likert scale ranging from 1 (*definitely disagree*) to 5 (*definitely agree*). A high score on the AE subscale is suggestive of greater appearance satisfaction. In a sample of over 2,000 males and females (Cash, 1994), the AES demonstrated good internal consistency (.88). The MBSRQ-BASS is a measure of body parts evaluation designed to assess level of satisfaction with both weight-related (e.g., mid torso) and non-weight-related (e.g., face) body areas. Participants are asked to indicate how (dis)satisfied they are with different areas of the body on a scale ranging from 1 (*very dissatisfied*) to 5 (*very satisfied*), with higher scores indicating greater satisfaction. The BASS has an internal consistency of .77 and a test-retest reliability of .86 in a sample of men and women (Cash, 1994). Both the MBSRQ-BASS and the MBSRQ-AE have demonstrated good convergent validity with other established instruments of body image (Cash, 2000). General population norms for women for the MBSRQ-AE and the MBSRQ-BASS (Cash, 1994) are respectively, 3.36 (SD = .87), and 3.23 (SD = .74). Mean scores yielded in the present study are equivalent to those reported in the general population (see Table 1). Given that both subscales are rated on a continuum ranging from dissatisfied to satisfied, scores were reverse coded to reflect levels of body dissatisfaction for clarity purposes.

Female Sexual Function Index (FSFI; Rosen et al., 2000). This self-report questionnaire evaluates female sexual function according to six domains: sexual desire, arousal, lubrication, orgasm, satisfaction, and pain. Participants indicate their responses on a 5- or 6-point scale, where 1 indicates difficulties with a specific domain within the past four weeks (*extremely difficult or impossible*), 5 indicates no difficulties (*not difficult*), and, on some items, 0 represents *no sexual activity*. Items on each of the six scales are weighted and summed to obtain a total score of sexual function, which, if less than 26.55 indicates the presence of clinically significant sexual difficulties (Wiegel, Meston, & Rosen, 2005). The reliability and internal consistency of

the FSFI have been found to be excellent (Cronbach's $\alpha = .89$ to $.96$). Its ability to discriminate between the female sexual arousal disorder and control patients on each of the five domains of sexual function, as well as on the total score, also supports the discriminant validity of the measure. Lastly, divergent validity has also been established using a marital satisfaction measure, that is, the Locke-Wallace Marital Adjustment Test (Rosen et al., 2000). In order to further improve measure validity and score utility, authors have recommended that zero responses (i.e., indications of no sexual activity) be treated as missing values with regard to their respective item response scale and analysed separately (Meyer-Bahlburg & Dolezal, 2007). This was done in the present study. Overall, four women reported that they had not been sexually active in the past four weeks. In addition, 35.8% of the total sample reported a total score below the cut-off, thus suggesting clinically significant sexual dysfunction.

Female Sexual Distress Scale (FSDS; Derogatis, Rosen, Leiblum, Burnett, & Heiman, 2002). This self-report questionnaire was developed in order to assess sexually related personal distress in women. It is composed of 12 items (e.g., "In the last 30 days, how often did you feel frustrated by your sexual problems?"), which are rated on a 5-point scale ranging from 0 (*never*) to 4 (*always*). Scores on each item are summed to produce an overall score for sexual distress, with higher scores being indicative of increased distress with a score of 15 representing the cut-off for clinically significant distress. Internal consistency (Cronbach's $\alpha = .86$ to $.92$) and test-retest reliability over a 4-week period have been found to be satisfactory (Derogatis et al., 2002). This measure also demonstrated good discriminant validity between females with and without sexual dysfunction, and was sensitive to the effect of treatment. In the present sample, 34% of participants reported a clinically significant level of sexual distress.

New Sexual Satisfaction Scale (NSSS; Štulhofer, Buško, & Brouillard, 2010). The NSSS is a 20-item self-report measure aimed at assessing sexual satisfaction. It is composed of two dimensions; the first of which focuses on personal experiences and sensations (e.g., "The quality of my orgasm") while the second reflects respondents' perception of their partner's reactions and sexual activity in general (e.g., "My partner's emotional opening up during sex"). Items are rated on a 5-point scale ranging from 1 (*not at all satisfied*) to 5 (*extremely satisfied*), and summed to obtain a total score for sexual satisfaction. Higher scores are indicative of elevated satisfaction with one's sexual life. The NSSS can be used irrespective of participants' gender, sexual orientation or relationship status. Construct validity was established using seven independent samples with over 2,000 participants, aged 18 to 55, both in Croatia and the United States. Overall, the measure demonstrated good psychometric properties with good convergent validity with other global measures of sexual satisfaction, an internal consistency of .94-.96, and test-retest reliability coefficients ranging from .72 to .84. Although the NSSS comprises two dimensions, separating the subscales did not change the pattern of results meaningfully. Furthermore, hypotheses formulated in this study pertained to sexual satisfaction in general rather than self/partner related sexual satisfaction in particular. As such, only the total NSSS score is reported here.

Table 1

Range, Internal Consistency Estimates, Mean, and Standard Deviation for all Administered Validated Measures

Measure	Range	α	<i>M</i>	<i>SD</i>
Body Appreciation Scale	1-5	.93	3.56	.71
Appearance Evaluation	1-5	.90	3.40	.90
Body Area Satisfaction	1-5	.84	3.36	.70
Female Sexual Distress Scale	6-48	.96	13.62	12.66
FSFI Desire	1.20-6	.90	3.53	1.23
FSFI Arousal	1.20-6	.94	4.55	1.29
FSFI Lubrication	1.50-6	.93	4.99	1.22
FSFI Orgasm	1.20-6	.94	4.57	1.54
FSFI Satisfaction	1.20-6	.84	4.32	1.34
FSFI Pain	2.40-6 ^a	.94	5.24 ^a	1.02
FSFI Total Score	12.40-35.60	.94	27.43	5.14
New Sexual Satisfaction Scale	24-100	.95	67.83	17.04

Note. Appearance evaluation was measured by the MBSRQ-AE subscale and body area satisfaction was measured by the MBSRQ-BASS subscale. FSFI stands for *Female Sexual Function Index*.

^a Higher scores on the Pain subscale of the FSFI are indicative lower levels of sexual pain (i.e., positive sexual outcomes).

Preliminary Data Analyses

All statistical analyses were performed using IBM SPSS, Version 21. To achieve sufficient power for all analyses, G*Power was employed *a priori* to ensure an optimal sample size (Faul, Erdfelder, Buchner, & Lang, 2009). Specifically, we endeavoured to recruit enough participants to appropriately detect a medium effect size ($f^2 = .15$; Cohen, 1992), with an alpha of .05 and a power value of .80. These power values were selected to minimise both Type I and Type II errors and because they are in line with statistical convention in psychological research (Cohen,

1988; Lakens, 2013). Due to recruitment efforts aimed at collecting data from participants of a wide age range, the final sample of 215 exceeded power requirements by over 100 participants and was deemed appropriate.

Collected data were screened for missing values prior to beginning main analyses. Single imputation using the expectation maximization algorithm was employed in order to replace missing data (less than 5% of the dataset, missing at random). Extreme univariate and multivariate outliers were identified (i.e., three or above standard deviations from the mean) by means of boxplots and the Mahalanobis distance, respectively. Sixteen outlier cases were detected and winsorized by matching their value with that of the observation closest to them (e.g., Huber, 1981). Given that the presence of outliers appeared to stem primarily from violations of normality, skewed variables were logarithmically transformed. Following transformations, no univariate or multivariate outliers were detected. In addition, the homogeneity of variance was assessed using the Levene test ($p < .05$). The examination of scatterplots and bivariate scatterplots also showed that both the homoscedasticity and the linearity assumptions were respected. Scores on the BAS, MBSRQ-AE, and MBSRQ-BASS were centred prior to conducting multiple regression analyses to reduce multicollinearity (Tabachnick & Fidell, 2007). Finally, a Holm-Bonferroni correction, with a family-wise alpha significance level set at .05 (displayed as p'), was applied to the correlation matrix to control for Type I errors resulting from multiple comparison testing (Gaetano, 2013; Holm, 1979).

Results

In order to test our hypotheses, the following analyses were conducted. To start, potential associations between body image variables, sexual health indicators, and age were investigated by means of a series of Pearson's correlations, the results of which are displayed in Table 2.

Dissatisfaction with overall appearance and specific body parts (i.e., body dissatisfaction) were both positively, and body appreciation was negatively, related to subjective arousal, orgasm, and the total score on the FSFI. Body dissatisfaction was also negatively, and body appreciation positively, correlated with sexual satisfaction as measured by both the satisfaction subscale of the FSFI and the NSSS. Body dissatisfaction and body appreciation were also significantly correlated with sexual distress, such that high dissatisfaction with one's general appearance and specific body areas are associated with elevated sexual distress, whereas body appreciation is associated with lower distress. Although general appearance dissatisfaction was significantly and negatively correlated with the FSFI lubrication subscale, no such relationship was found with body appreciation ($p' = .09$) or dissatisfaction with specific body parts ($p' = .06$). Similarly, while body appreciation was positively, and dissatisfaction with general appearance negatively, correlated with sexual desire, dissatisfaction with specific body parts was found to be unrelated to this dimension of sexual functioning when correcting for family-wise error ($p' = .11$).

Correlational analyses also provided information pertaining to the relationship between age and other variables of interest. As it pertains to body image variables, age was positively correlated with BMI and negatively correlated with general appearance dissatisfaction. It was not related to body area dissatisfaction ($p = .17$) or body appreciation ($p = .85$), however. Moreover, there was a significant negative association between age and some indicators of sexual health. Specifically, increased age was related to lower sexual desire, poorer subjective arousal, increased difficulties with lubrication, as well as a lower total score on the FSFI. Interestingly, age was negatively associated with sexual satisfaction according to the NSSS but not according to the FSFI satisfaction subscale ($p' = .74$). Age was unrelated to sexual pain ($p' = .26$) and sexual distress ($p' = .44$).

Table 2

Correlation Matrix between Body Image Variables, Sexual Health Indicators, Age, and BMI

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	---												
2. BMI	.19*	---											
3. Body Appreciation	.01	-.39*	---										
4. Appearance Dissatisfaction ^a	.19*	.40*	-.75*	---									
5. Body Area Dissatisfaction ^a	.10	.38*	-.82*	.76*	---								
6. FSFI Desire	-.20*	-.10	.20*	-.18*	-.15	---							
7. FSFI Arousal	-.23*	-.07	.37*	-.32*	-.30*	.59*	---						
8. FSFI Lubrication	-.38*	-.07	.12	-.26*	-.13	.27*	.52*	---					
9. FSFI Orgasm	-.16*	-.01	.26*	-.22*	-.26*	.25*	.58*	.35*	---				
10. FSFI Satisfaction	-.02	-.17*	.44*	-.32*	-.35*	.45*	.57*	.30*	.39*	---			
11. FSFI Pain	-.08	.01	.21*	-.25*	-.18*	.13	.28*	.38*	.15	.34*	---		
12. FSFI Total Score	-.15*	-.05	.35*	-.28*	-.25*	.66*	.79*	.59*	.63*	.72*	.43*	---	
13. Sexual Distress	.01	.05	-.47*	.35*	.35*	-.45*	-.63	-.37*	-.47*	-.78*	-.39*	.73*	---
14. Sexual Satisfaction	-.16*	-.25*	.42*	-.37*	-.38*	.48*	.74*	.45*	.63*	-.77*	.32*	.83*	-.74*

Note. * Denotes a family-wise significance level at $p' < .05$.

^a The MBSRQ-AE and MBSRQ-BASS subscales were recoded to reflect level of body (with general appearance and specific body parts) dissatisfaction rather than satisfaction.

Next, we conducted hierarchical regression analyses to examine whether body appreciation explains unique variance in sexual function, sexual satisfaction, and sexual distress, above and beyond the variance accounted for by BMI, appearance dissatisfaction, and body area dissatisfaction. BMI was entered at stage one to control for objective data on body shape and

weight. The body dissatisfaction variables (i.e., with general appearance and specific body parts) were subsequently entered at stage two, and body appreciation was entered at stage three of the analyses. Regression statistics are presented in Table 3. At stage one (i.e., when entered on its own), BMI significantly contributed to sexual satisfaction, $F(1,176) = 12.28, p \leq .001$, and accounted for 6.5% of the variance. It did not, however, uniquely contribute to the variation in sexual function and sexual distress, $F(1,175) = 3.92, p = .53$, and $F(1,189) = .77, p = .38$, respectively. Introducing body dissatisfaction variables into the model at stage two led to a significant F change for all three indicators of sexual health ($p < .001$). Body dissatisfaction (general and specific to body parts) explained 12.5% of the variance in sexual function, $F(2,173) = 12.42, p < .001$, and 17.7% of the variance of sexual distress, $F(2,187) = 20.24, p < .001$, as well as an additional 11.6% of the variance in sexual satisfaction, $F(2,174) = 12.38, p < .001$. Finally, the addition of body appreciation to the three regression models at stage three explained an additional 2.4% of the variation in sexual function, 5.8% of the variation in sexual distress, and 2.2% of the variation in sexual satisfaction. The F change statistics between stage 2 and 3 were also significant for all three dependent variables, $F(1,172) = 4.92, p = .03$, $F(1,186) = 14.28, p < .001$, and $F(1,173) = 4.75, p = .03$, respectively. When all four independent variables were entered in the model, body appreciation was the only significant contributor to sexual function and sexual distress. Furthermore, neither general appearance dissatisfaction nor body area dissatisfaction was a significant contributor to sexual satisfaction when body appreciation was introduced into the regression model. It is noteworthy that the small size of the R^2 change between stage two and stage three is likely imputable to the conceptual similarity, and thus shared variance, between body dissatisfaction and body appreciation¹.

Table 3

Summary of Hierarchical Regression Analyses Contributing to Indicators of Sexual Health

Variable	β	t	R	R ²	ΔR^2
Dependent variable: Sexual function (FSFI total score)					
<i>Step 1</i>			.05	.00	.00
BMI	-.05	-.63			
<i>Step 2</i>			.36	.13	.13
BMI	.14	-1.72			
Appearance Dissatisfaction	-.20	-1.77			
Body Area Dissatisfaction	-.23	-2.11*			
<i>Step 3</i>			.39	.15	.02
BMI	.15	1.85			
Appearance Dissatisfaction	-.12	-1.00			
Body Area Dissatisfaction	-.05	-.38			
Body Appreciation	.29	2.22*			
Dependent variable: Sexual satisfaction (NSSS)					
<i>Step 1</i>			.26	.07	.07
BMI	-.26	-3.51**			
<i>Step 2</i>			.43	.18	.12
BMI	-.07	-.95			
Appearance Dissatisfaction	-.13	-1.20			
Body Area Dissatisfaction	-.28	-2.57*			
<i>Step 3</i>			.45	.20	.02
BMI	-.07	-.95			
Appearance Dissatisfaction	-.03	-.28			
Body Area Dissatisfaction	-.13	-1.04			
Body Appreciation	.27	2.18*			
Dependent variable: Sexual distress (FSDS)					
<i>Step 1</i>			.06	.00	.00
BMI	.06	.88			
<i>Step 2</i>			.43	.17	.18
BMI	-.15	-2.04*			
Appearance Dissatisfaction	.16	1.58			
Body Area Dissatisfaction	.34	3.38**			
<i>Step 3</i>			.49	.24	.06
BMI	-.15	-2.13*			
Appearance Dissatisfaction	.04	.36			
Body Area Dissatisfaction	.07	.59			
Body Appreciation	-.44	-3.78**			

Note. * $p < .05$, ** $p < .01$

Lastly, we examined the moderating effect of body appreciation on the relationship between age and indicators of sexual health using the bootstrapping *PROCESS* syntax elaborated by Hayes (2013). With respect to the relationship between age and sexual distress, no significant interaction effect of body appreciation was found, $t = -1.56$, $F(1,192) = 2.45$, $p = .12$. However, the interaction effect of age and body appreciation was significant in explaining sexual satisfaction, $t = 2.26$, $F(1,178) = 5.11$, $p = .01$. There was a negative association between age and sexual satisfaction, such that the likelihood of being sexually satisfied decreases with older age. This relationship appears to strengthen linearly as a function of poor body appreciation. More specifically, women who experience low body appreciation (i.e., one or more standard deviation below the mean) in older adulthood tended to report lower levels of sexual satisfaction, $t(177) = 2.91$, $p < .001$, when compared to those with average levels of appreciation for their body, $t(177) = 6.75$, $p < .001$. By contrast, high body appreciation was not found to contribute to this relationship, $t(177) = -1.14$, $p = .16$. Slopes are depicted in Figure 1.

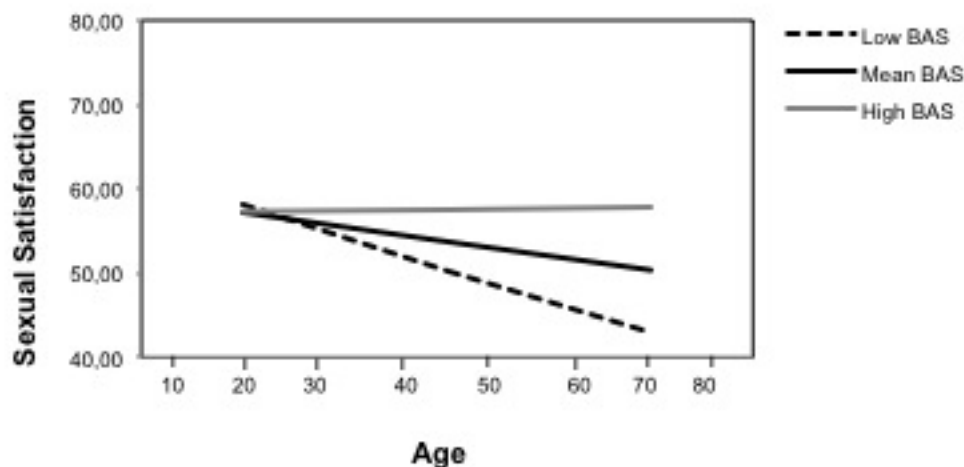


Figure 1. Moderation effect of body appreciation on the relationship between age and sexual satisfaction in the total sample.

Post-Hoc Analyses

The clinical implications of the interaction between age and body appreciation in explaining sexual satisfaction may differ for those with and without clinically significant function-related sexual difficulties. Therefore, to explore whether this interaction varies between women with and without significant sexual difficulties according to the FSFI clinical cut-off (i.e., 26.55 or below on the FSFI total scale), post-hoc moderated moderation analyses were conducted. Specifically, a *PROCESS* syntax for moderated moderation was employed, with sexual satisfaction as measured by the NSSS as the dependent variable, age as the independent variable, body appreciation as the moderator, and presence/absence of sexual function difficulties (i.e., above or below the FSFI cut-off) as the moderator of the moderation, $F(7,152) = 28.11, p < .001$. The moderated moderation was significant, such that the contribution of body appreciation on the relationship between age and sexual satisfaction differs in women with and without significant sexual function difficulties, $t(152) = 2.38, p = .02$. More specifically, body appreciation was a significant moderator of age on sexual satisfaction among women who experience significant sexual function difficulties, $t(152) = 2.78, p = .01$, but not among those without such difficulties, $t(152) = -.90, p = .37$. Among women with significant sexual function difficulties, the effect of age on sexual satisfaction changes based on body appreciation, such that age is negatively associated with sexual satisfaction when body appreciation is low, $\beta = -.43, SE = .13$, but positively associated with sexual satisfaction when body appreciation is high, $\beta = .17, SE = .20$. Slopes are depicted in Figure 2. Overall, the final model accounted for 58.4% of the variance of sexual satisfaction, with the three-way interaction between age, body appreciation, and sexual difficulties explaining a unique 4.6% of variance.

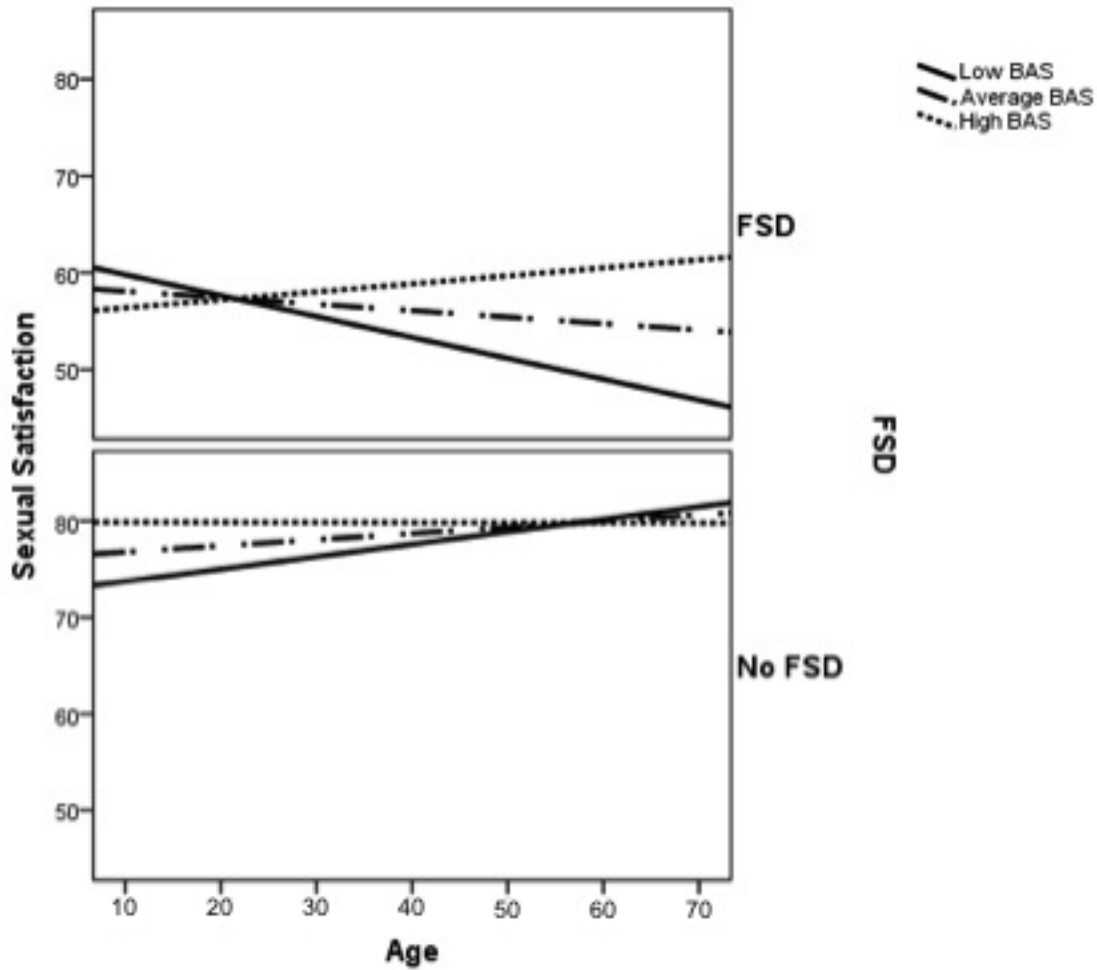


Figure 2. Moderation effect of body appreciation on the relationship between age and sexual satisfaction in women with and without clinically significant sexual difficulties. FSD refers to significant sexual difficulties (FSFI < 26.55), whereas No FSD refers to no significant sexual difficulties (FSFI > 26.55).

Discussion

This study used both positive and negative aspects of body image to explain indicators of sexual health in adult women of various ages. Body appreciation was shown to predict increased sexual function and satisfaction, as well as decreased sexuality-related personal distress, above and beyond the contribution of BMI. Despite the substantial and unexpected statistical overlap

between body appreciation and body dissatisfaction, the former was found to be a greater contributing factor to indicators of sexual health. Furthermore, body appreciation was not found to vary as a function of age, suggesting that women's appreciation for their body may remain stable irrespective of age-related changes to physical appearance. Lastly, body appreciation moderated the relationship between age and sexual satisfaction, but not sexual distress; elevated body appreciation may serve as a buffer against age-related changes to sexual satisfaction in women with, but not in those without clinically significant, function-related sexual difficulties.

As hypothesised and consistent with previous research (e.g., Satinsky et al., 2012), body dissatisfaction was associated with lower, and body appreciation with higher sexual function and satisfaction in women across adulthood. Specifically, high body appreciation and low body dissatisfaction were associated with increased subjective arousal, orgasm, sexual satisfaction overall, and decreased sexual pain. In previous studies (i.e., Satinsky et al., 2012; van den Brink et al., 2015), no relation was found between body appreciation and sexual desire or lubrication. By contrast, there was a significant, positive association between body appreciation and sexual desire, as well as a significant, negative association between dissatisfaction with general appearance (but not with specific body parts) and sexual desire. Consistent with previous research, however, no significant relationship was found between body image variables and lubrication. A potential explanation for this may be that lubrication is an automatic physiological process in response to genital stimulation rather than psychological component of the female sexual response (Dawson, Sawatsky, & Lalumière, 2015). Therefore, it is likely that, if women's relationship to their body does in fact influence lubrication, this relationship is mediated by a number of other factors, e.g., desire, arousal, or appearance-related cognitive distraction during sex.

The present research also constitutes the first attempt to examine how women's general relation to their body may be associated with their level of sexuality-related distress. Specifically, body dissatisfaction was found to be positively, and body appreciation negatively, associated with sexual distress, such that women who are satisfied with, and appreciate their body tend to report lower levels of sexuality-related personal distress. Of note, the direction of the relationship and link of causality between these variables cannot be assumed. Therefore, it is possible that women with low body dissatisfaction and high body appreciation may report less sexual distress not as a function of their positive regard for their body but rather because they experience less sexual problems (i.e., lower FSFI) and thus feel more favourable towards their body. That said, this correlational finding remains important for distress is a required criterion for the diagnosis of sexual dysfunction according to currently used diagnostic manuals, such as the DSM-5 (American Psychiatric Association, 2013). Consequently, the investigation of factors that are likely to play a role in the prevention and treatment of distress is a valuable step towards improved sexual health by targeting a distress-generating aspect of embodied sexual experiences.

This study was also unique in its comparison of the contribution of body appreciation to indicators of sexual health with that of objective data on body shape and weight (i.e., BMI) and body dissatisfaction. Although conceptually distinct, there was a high statistical overlap between body appreciation and body dissatisfaction, as measured in this study with this particular sample. This was evidenced by the high bivariate correlation values, large overlap in explained variance of sexual health indicators, and suppression effect observed when both variables were entered into a single model (i.e., body dissatisfaction becoming non-significant). Many reasons exist that can explain this statistical overlap, including item-level similarities between the instruments used to assess both constructs and sample specific characteristics. Nevertheless, a single study with

this sample size is insufficient to make firm statements about the psychometric properties of the two scales or whether body dissatisfaction and body appreciation represent de facto two ends of the same statistical construct. Rather, future research that examines the factorial structure of the BAS and MBSRQ (AE and BASS subscales), optimally longitudinally and within multiple demographic groups, is required to ascertain whether these instruments may serve as alternative measures of the same construct. Should one-factor structure emerge across the BAS, MBSRQ-AE, and BASS, our results suggest that body appreciation may explain a greater portion of the variance of indicators of sexual health. As such, future researchers could potentially benefit from choosing the BAS over the MBSRQ-AE/BASS when exploring the relationship between women's relationship to their body and sexual health.

It is noteworthy that high correlations within a cross-sectional sample, though informative and notable, are insufficient to warrant collapsing the two concepts at a theoretical or clinical level. As an example, sexual function, sexual distress, and sexual satisfaction also tend to be highly correlated in the literature (with correlations ranging in the present study from $-.73$ to $.83$). Yet, these three variables are meaningfully distinct at a clinical level, communicate different information regarding women's sexual experiences, and relate differently when assessed longitudinally or within clinical vs. nonclinical samples (e.g., Stephenson & Meston, 2010). As such, it would be unreasonable to use these concepts interchangeably. Just as well, body appreciation and body dissatisfaction though highly correlated in the present study, are not two ends of the same continuum. In contrast to body dissatisfaction, body appreciation is not limited to the evaluative dimension of the body experience but also includes affective and behavioural facets (e.g., positive feelings, healthy behaviours) that are integral to the experience of embodiment. Thus, from a theoretical standpoint, treating these two variables as one and the

same would result in an unconscionable loss of nuance, which is ultimately detrimental to empirical research and clinical practice. Future studies should therefore examine correlations between scores on the BAS and other measures of body dissatisfaction to assess whether these other instruments may be more accurate in capturing the meaningful conceptual difference between body appreciation and body dissatisfaction at a statistical level. Overall, these results are helpful in informing best practice for the adequate measurement of body image and sexuality-related constructs.

Next, contrary to our hypothesis, women's appreciation of their body was not found to vary as a function of age. In other words, even as women's bodies change and deviate from societal beauty ideals, women in this study succeeded in maintaining moderate to high levels of body appreciation. This is particularly informative as body dissatisfaction increased with age, thus suggesting that positive and negative body image are indeed distinct processes and that the gap that separates the two widens with age. Although body appreciation did not appear to fluctuate with age from a *quantitative* standpoint in the present study, this does not imply that it remains constant from a *qualitative* perspective. Indeed, the body naturally undergoes a number of changes as women age (e.g., increased hip-to-waist ratio, decrease in skin elasticity). In that context, high (or unchanged) levels of body appreciation could be considered indicative of effective coping with these changes. This is consistent with other studies on body image and ageing indicating that acceptance, a hallmark of body appreciation, is amongst the most used mechanism for coping with age-related changes to the body (e.g., Thompson et al., 1998; Tiggemann, 2004; Webster & Tiggemann, 2003). Therefore, we suggest that although young and older women may experience comparable levels of body appreciation, its contribution to women's psychological well-being may vary with age. Specifically, we propose that although

body appreciation is indicative of self-compassion and rejection of unrealistic beauty ideals for all women, it is especially indicative of resilience and positive coping for older women. This was further reinforced by this study's findings regarding the moderation effect of body appreciation on the relationship between age and sexual satisfaction.

As hypothesised, our findings show that age is negatively correlated with sexual satisfaction, as well as all aspects of sexual function except pain. In other words, with age the women in this study were more likely to report a decrease in desire, subjective arousal, lubrication, orgasm, satisfaction, and overall function. However, we found no relationship between age and sexual distress. In past research, the seemingly incongruous relationship between age and sexual distress has been explained by a decrease in body image related disturbances (Richters et al., 2003). Nevertheless, in this sample body appreciation was not found to moderate the relationship between age and sexual distress, suggesting that other factors may better explicate this apparent shift in the way older women relate to changes in their sexuality.

Also consistent with our hypotheses, body appreciation moderated the relationship between age and sexual satisfaction. Specifically, a negative effect of age on sexual satisfaction appears to be amplified when women experience low body appreciation. In this sample, women with function-related sexual difficulties tended to experience less body appreciation, and the interaction between age and body appreciation was only significant for women who reported clinically significant problems of sexual function. More specifically, women who maintain high levels of body appreciation despite significant sexual difficulties were found to report higher sexual satisfaction even when struggling with sexual difficulties when compared to those who feel poorly about their body. A potential reason may be that these women experience more self-compassion, a more nuanced evaluation of self, as well as increased overall resiliency in the face

of not only appearance-related, but also sexual function-related perceived "imperfections". By contrast, body appreciation did not contribute to sexual satisfaction among women with no reported sexual difficulty, thus suggesting that other factors may be of greater importance for these women.

The results of this study have some applied implications. Clinical interventions such as Masters & Johnson's (1970) *Sensate Focus* exercises and more current, mindfulness-based interventions for low sexual desire, arousal, and pain with sexual activity (Brotto & Heiman, 2007; de Jong, 2009), have demonstrated the beneficial effects of reducing "spectatoring" while increasing attention to pleasurable sensations associated with sensual and sexual stimulation. This study highlights the importance of women's relationship to their body in affecting sexuality negatively (i.e., through body dissatisfaction). Moreover, it also introduces a novel clinical aim to increase sexual health via interventions that assist women to foster a positive and appreciative relationship with their body. Additional interventions focusing specifically on body image in general and body appreciation in particular are therefore promising foci in therapy – especially for older women and particularly those who experience sexual function difficulties.

Limitations and Future Directions

The current study needs to be evaluated in light of some methodological caveats. Since data collection for this study was completed, a revised version of the *Body Appreciation Scale* was published with the aim of rewording gender-specific items (e.g., "unrealistically thin images of women") and body dissatisfaction language (e.g., "despite its imperfections, I still like my body" inherently assuming flaws in the body; Tylka & Wood-Barcalow, 2015a). Hence, results yielded in the present study must be considered with these limitations in mind. Furthermore, the use of correlational data limits causal inferences that can be drawn from our findings. In the present

study, body image variables were postulated to contribute to indicators of sexual health.

Nonetheless, it is similarly likely that positive sexual experiences lead to greater body appreciation and satisfaction, or that each reciprocally influence one another. As such, prospective longitudinal studies are needed to determine causality. Longitudinal studies would also contribute to address another of this study's limitations, the cross-sectional design.

Considering that our findings do not account for cohort effect, there is no certainty regarding the potential fluctuations (or lack thereof) of the variables across time. Further, while one of this study's strengths lies in the reasonably large age range examined, women who participated nevertheless tended, not unlike most body image and sexuality research studies, to majorly consist of healthy, well-educated individuals of European descent. Thus, we recommend in particular that further research examine women from the LGBTQ community and diverse cultural backgrounds. Future studies should also seek to replicate these findings amongst women with a formal diagnosis of sexual dysfunction in order to ascertain the trends observed in the present study.

Conclusion

It is well established that an important role of psychology research is to identify variables that can be modified through intervention in order to promote resilience and well-being (e.g., Resnick, 2000). In line with the resiliency paradigm, we propose that body appreciation is one such factor amenable to intervention, which could contribute to ameliorate women's relationship to their body. Derailing the observable effects of age or helping a person profoundly change their appearance can be quite a challenging feat. It may be unlikely that women who have experienced years of shame and dislike for their body will concede to becoming satisfied with the way they look. Rather, a more realistic and potentially effective avenue for clinical intervention may be

helping women to appreciate their body for what it is and for what it can do. In this regard, it is hoped that the present study will spur further research to eventually assist in the development of body appreciation-centred interventions, emphasizing its intricate role in sexual health.

Footnotes

¹ Although no specific hypothesis was formulated, a competing model was tested whereby body appreciation was entered on Step 2 and the body dissatisfaction variables were entered on Step 3. In this competing model also, body appreciation was found to retain its statistical significance above and beyond body dissatisfaction.

Running head: BODY IMAGE AND SEXUAL HEALTH IN MIDLIFE WOMEN

Out of "Objectification Limelight"?

The Contribution of Body Appreciation to Sexual Health in Midlife Women

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Abstract

According to objectification theory, women become culturally de-sexualised during midlife and have the opportunity to let go of their propensity to self-objectify. In young women, self-objectification is negatively related to sexual health. Yet, little is known about what could ameliorate this relationship or whether it continues after midlife. Body appreciation (i.e., acceptance and positive regard for the body) has been substantiated as a contributor to improved sexual health in young and older women alike. Hence, this study was designed to examine whether it helps mitigate the deleterious effect of self-objectification on sexual function, satisfaction, and distress in women over the age of 50 ($n = 193$). Path analyses revealed that self-surveillance is related to body shame and appearance anxiety, the latter of which was related to body self-consciousness during sex. In turn, body self-consciousness during sex mediated the relationship between body shame, appearance anxiety, and all three indicators of sexual health. Furthermore, high body appreciation attenuated the negative associations between self-objectification constructs, body self-consciousness during sex, and sexual satisfaction and distress. Overall, this study supports the use of objectification theory in midlife and older women. Sex therapy interventions that incorporate mindfulness and body appreciation principles are discussed.

Keywords: self-objectification, body appreciation, midlife, sexual satisfaction, sexual function, sexual distress

Out of "Objectification Limelight"?

The Contribution of Body Appreciation to Sexual Health in Midlife Women

The midlife period has often been described as a transition for women from visibility to invisibility in the eyes of the media and society at large (Chrisler, 2007). As the body metabolism slows down and weight is redistributed, women over 50 see their physical appearance shift away from the traditional Western beauty ideals of thinness, youth, and the hourglass figure (Tiggemann, 2004). They also experience a number of natural physiological and hormonal changes that can have important impacts on sexuality (e.g., Fugl-Meyer & Fugl-Meyer, 1999; Hayes & Dennersteing, 2005; Lindau et al., 2007; Woloski-Wruble, Oriel, Leefsma, & Hochner-Celnikier, 2010). In a culture that celebrates sexiness and sexual responsiveness (e.g., American Psychological Association, 2007; Tiefer, 2001), it can be particularly challenging for women to adjust to age-related changes to their sexual health. Using an objectification theory framework, this study was designed to shed light on midlife women's unique experience of their sexuality. In addition, we examined the role of body appreciation despite imperfections as a potential buffer against objectifying processes and their impact on female sexual health in women over the age of 50.

Introducing Objectification Theory

Objectification theory (Fredrickson & Roberts, 1997) contends that, following repeated exposure to objectifying material, women and girls begin to endorse an observer's perspective on their body, a process entitled *self-objectification*, and proceed by self-consciously monitoring their body (i.e., body surveillance). Self-objectification is conceptualised as a disposition or trait, which can be more or less pronounced in a person, such that some may internalise an observer's perspective more so than others (Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998). It is also

influenced by the person's context, implying that certain situations, including partnered sexual activity, are more likely to trigger a state of self-objectification (e.g., wearing a swimsuit as opposed to a sweater in public; Frederickson et al., 1998). Self-objectification and body surveillance are, in turn, associated with a number of negative psychological outcomes for women, including body shame (e.g., Calogero & Thomson, 2009; Chen & Russo, 2010), appearance anxiety (e.g., Steer & Tiggemann, 2008; Szymanski & Henning, 2007), disrupted flow experiences (i.e., the state of being fully absorbed into an activity; Csikszentmihalyi, 1990), and deficits in internal body awareness (e.g., Muehlenkamp & Saris-Baglama, 2002). According to the theory, these adverse outcomes can accumulate and become so prominent for some that they eventually result in significant mental health risks, specifically disordered eating, depressed mood, and sexual dysfunctions (Fredrickson & Roberts, 1997).

There has been substantial empirical evidence to support the tenets of objectification theory regarding disordered eating (e.g., Daubenmier, 2005; Muehlenkamp & Saris-Baglama, 2002; Myers & Crowther, 2008; Tylka & Hill, 2004). Similarly, the relationship between self-objectification, or its corollary body surveillance, and depressive mood has been relatively well documented (e.g., Grabe & Jackson, 2009; Miner-Rubino, Twenge, & Fredrickson, 2002; Tiggemann & Kuring, 2004). It is therefore surprising that comparatively very few studies have investigated how female sexual health may be affected by objectifying processes.

Objectification Theory and Sexual Health

Broadly defined, sexual health refers to a state of well-being in relation to sexuality that is not only physical, but also emotional, cognitive, and social in nature. As such, it cannot be reduced to the absence of sexual dysfunction or disease (World Health Organisation, 2006). In order to best capture the multidimensionality of this definition, sexual health is operationalized in

the present study as a state in which women experience high levels of sexual function and satisfaction with their sex life, as well as low levels of sexuality-related distress.

In the first study published on self-objectification and one of these three indicators of sexual health, Steer and Tiggemann (2008) found that self-objectification was related to body surveillance, which was associated with body shame and appearance anxiety. Interestingly, the way women felt about their body in the specific context of sexual activity, an aspect not included within the theory, was shown to fully mediate the relationship between body shame, appearance anxiety, and sexual function. These findings suggested that women who had a high disposition for self-objectification, body shame, and appearance anxiety were more likely to feel self-conscious about their body in the context of sexual activity with a partner. The authors hypothesised that these women consequently struggled to immerse themselves in the sexual experience due to body-related distracting thoughts, resulting in significantly reduced orgasms, desire, lubrication, and sexual satisfaction. This study is important in that it highlights the crucial role played by *contextual* body self-consciousness as the mechanism through which *trait* body shame and appearance anxiety affect female sexual function.

Vencill and colleagues (2015) later replicated these findings in their online survey study of age-diverse adult women. Specifically, they reported a mediating¹ effect of body self-consciousness during sex on the relationship between body surveillance, sexual function, and sexual quality of life. Congruent with Steer and Tiggemann (2008), they found no direct effect of body surveillance on either of the sexual variables, thus further ascertaining the role of contextual body self-consciousness in explaining female sexual function. By contrast, in the only study that did not incorporate a contextual variable in their model, Tiggemann and Williams (2012) reported a small but significant relationship between appearance anxiety, but not body

shame, and sexual function. According to these authors, flow and internal awareness, the two other psychological consequences of body surveillance listed by objectification theory, offered no direct predictive utility to sexual health.

Only one study to date has examined the relationship between self-objectification and sexual satisfaction. Calogero and Thompson (2009) demonstrated that internalisation of sexualising messages leads both directly, and indirectly through body surveillance, to increased body shame. In turn, body surveillance and body shame both contributed directly lower levels of sexual satisfaction. Surprisingly, while objectification theory asserts sexual dysfunctions as an ultimate mental health risk associated with self-objectification, its relation to sexual distress has yet to be explored. This is all the more surprising since sexuality-related personal distress is a required criterion for the diagnosis of sexual dysfunction according to current diagnostic classification manuals (American Psychiatric Association [APA], 2013). Another concerning limitation to current research is the fact that, in all but one study (Vencill et al., 2015), the average age of participants was below 25 years. As such, it is unclear whether the above-mentioned findings could apply to midlife and older women, whose experiences may differ greatly from that of their younger, university-aged peers.

Objectification Theory and Ageing

To our knowledge, objectification theory is the only theory that proposes explicit hypotheses pertaining to the way women relate to their body and ageing. Specifically, the theory posits that menopause and the midlife period more generally provide women with the opportunity to relinquish the internalised observer's perspective on their body (Frederickson & Roberts, 1997). As women age, their body further deviates from Western beauty standards and tend to become less sexually objectified. Women find themselves at a crossroad of sort; according to

objectification theory, the direction they will take is dependent upon two conditions: the extent to which women continue to internalise the objectifying ideals transmitted by society and/or the amount of exposure to contexts in which their own body is objectified. For those who meet one or both of these two conditions, ageing is tantamount to becoming invisible or losing one's worth (Kearney-Cooke & Isaacs, 2004; Tiggemann, 2004). As a result, they may fight and rebuke against any observable age-related changes, sometimes choosing to undergo cosmetic surgeries or engage in unhealthy weight control practices (Slevek & Tiggemann, 2011). For those who are able to distance themselves from feminine societal ideals and avoid objectifying contexts, however, ageing can serve as an escape from objectifying pressures relative to the way they should look. As such, they may progressively cease to see and treat their body as an object to be glanced at, and appraised by others and let go of the propensity to self-objectify. In doing so, the theory postulates that women will engage less frequently in body surveillance due to the fact that they do not feel the need to anticipate others' gaze any longer. In turn, they may experience less body shame and appearance anxiety. Ultimately, it is predicted that these women will be less at risk as they reach midlife for myriad adverse psychological outcomes, including sexual dysfunctions.

Albeit limited, there is some empirical evidence to support both the general use of objectification theory among non-university aged samples (Augustus-Horvath & Tylka, 2009) and the specific age-related hypotheses. For instance, studies have yielded a significant difference in reported self-objectification, body surveillance, and appearance between age groups (Greenleaf, 2005; McKinley, 1999; Szymanski & Henning, 2007; Tiggemann & Lynch, 2001). More specifically, researchers have found that self-objectification and its corollaries were most strongly endorsed by women in their 20s and 30s, then significantly less so by women in their

40s and 50s, while women in their 60s and older reported the least self-objectification (Tiggemann & Lynch, 2001). By contrast, in their sample of women aged 40 to 87, Grippo and Hill (2008) found self-objectification and body surveillance to remain stable between midlife and old age. However, in this study, age was found to moderate the relationship between body surveillance and body dissatisfaction, such that the act of scrutinising one's body was less likely to lead to body dissatisfaction as women grew older. Hence, even as body surveillance remained stable with age, it was suggested that midlife and older women do not report the same negative subjective experiences that may result from such body hyperawareness in their younger counterparts. Similarly, in her research program comparing the experience of undergraduate women with their mothers at a 10-year interval, McKinley (1999, 2006) showed that younger women experience significantly more body surveillance, body shame, and body dissatisfaction as a result of monitoring their appearance, compared to their midlife mothers.

Taken together and consistent with objectification theory, existing empirical data seem to suggest that many women are indeed able to relinquish the observer's perspective on their body. Specifically, findings from various sources indicate that many midlife and older women not only monitor their body less regularly, but also cope with its potential deviations from socially defined ideals differently than younger women. As such, poor self-evaluations of the body do not affect their well-being to the same extent. In fact, research shows that they tend to experience less disordered eating than younger women (Lewis & Cachelin, 2001; Rand & Kuldau, 1991; Tiggemann & Lynch, 2001). No study to date has explored, however, whether women's self-objectification experiences continue to contribute to their sexual health during midlife and later adulthood. Furthermore, very little is known regarding the mechanisms through which some

midlife women are able to cope effectively with age-related changes and the cultural de-sexualisation of their body.

Adaptive Coping in Older Adulthood

Many theories have examined the way ageing men and women adjust to normative age-related changes. According to the dual model of assimilative and accommodative coping (Rothmund & Brandstater, 2003), older adults tend to rely on accommodating coping strategies in order to flexibly adjust personal goals to the changing reality of ageing. This may take the form of re-appraising one's aspirations and self-evaluative standards, using self-enhancing comparisons, or selectively increasing the appeal of certain goals over others. In a similar vein, Heckhausen and Schulz's lifespan theory of control (1995) contends that older adults increasingly revert to secondary control strategies. This type of coping strategy constitutes passive cognitive control mechanisms (e.g., reappraising expectations or importance of goals), which can be employed when active behavioural control (i.e., primary control strategy) is difficult or not possible. What both these theories suggest is that disengaging from unattainable goals is a sign of flexibility and a healthy, valuable part of ageing, which is associated with increased subjective well-being (Wrosch, Scheier, Miller, Schulz, & Carver, 2003).

These general gerontology principles have been applied to explain how women cope with their changing body with increased age. Specifically, Thompson and colleagues (1998) demonstrated that older adults tend to rate appearance as less important and report significantly greater acceptance (labelled as secondary control) of age-related changes to their body compared to their younger counterparts. Further, women who reported a lower propensity for secondary control also tended to report greater actual or intended use of cosmetic surgeries and hair colouring to compensate for age-related changes. In a similar study, Webster and Tiggemann

(2003) found that, compared to younger women, midlife and older women's self-esteem is less dependent upon the way they evaluate their body. The relationship between body dissatisfaction and self-concept was mediated by secondary cognitive strategies. More specifically, older women's ability to adjust their expectations and accept uncontrollable age-related changes to their body served as a buffer against the deleterious effect of body dissatisfaction on their overall sense of self. Hence, based on existing data, acceptance of oneself and the body constitutes a valuable source of resilience in older adults.

The Role of Body Appreciation

Akin to the concept of self-acceptance, *body appreciation* refers to a person's ability to maintain an unconditional positive view of the body; to respect the body by attending to its needs; and, to reject unrealistic beauty standards (Avalos, Tylka, & Wood-Barcalow, 2005). In young and midlife women alike, high body appreciation is associated with improved mental health outcomes (e.g., Augustus-Horvath & Tylka, 2011; Swami, Tran, Stieger, Voracek, & YouBeauty Team, 2014; Tiggemann & McCourt, 2013). Notably, body appreciation has been shown to contribute to increased sexual health; women who appreciate their body tend to experience better sexual function and satisfaction, as well as reduced sexual distress (Robbins & Reissing, under review; Satinsky, Reece, Dennis, Sanders, & Bardzell, 2012; van den Brink, Smeets, Hessen, & Woertman, 2015). These findings remained consistent regardless of participants' age (Satinsky et al., 2012). Further, in a recent study, body appreciation was found to serve as a buffer against the potentially deleterious effect of age on sexuality. Specifically, post-hoc analyses revealed that older women who struggled with clinically significant sexual function difficulties but maintained high body appreciation reported levels of sexual satisfaction identical to those without sexual problems. In contrast, the negative impact of age on sexual

satisfaction was greatly amplified in women who reported low body appreciation (Robbins & Reissing, under review).

In addition to improved sexual health, research suggests that a negative association exists between body appreciation and self-objectification and its associated consequences. Specifically, research has shown that both body surveillance and body shame are negatively associated with body appreciation (Avalos & Tylka, 2006; Avalos et al., 2005). In turn, women who experienced a combination of low self-surveillance and high body appreciation were found to adopt adaptive, rather than disordered, eating strategies and attitudes irrespective of their age (Augustus-Horvath & Tylka, 2011). As such, the interaction of body appreciation and self-objectification was helpful in explaining favourable psychological outcomes in women of all ages. Further research is, however, necessary to ascertain whether body appreciation can moderate the pervasive effects of self-objectification in other life domains, including women's sexuality. Considering that self-acceptance (i.e., secondary control strategy), a facet of body appreciation, is a cornerstone of successful ageing, investigating the protective role of body appreciation in midlife women appears especially warranted.

Study Hypotheses

The overarching objective of this study was to test whether the predictions of objectification theory regarding sexual health can be confirmed in midlife and older women. Specifically, we anticipated a model whereby the trait self-objectification construct of body surveillance is positively associated with body shame and appearance anxiety, both of which are related to increased body self-consciousness during the specific context of sexual activity. In turn, in this model, we expected that body self-consciousness is associated with lower sexual function, lower sexual satisfaction, and higher sexual distress. We further expected that body shame and

appearance anxiety mediate the relationship between body surveillance and body self-consciousness during sex. We also expected that body self-consciousness during sex serves as a mediator between the three trait self-objectification constructs (i.e., body surveillance, body shame, and appearance anxiety) and the three sexual health indicators (i.e., sexual function, sexual satisfaction, and sexual distress). Although some research has shown that body shame and appearance anxiety are not directly but indirectly related to sexual function through body self-consciousness during sex, (Steer & Tiggemann, 2008; Vencill et al., 2015), no information is available pertaining to sexual satisfaction and sexual distress. As such, we examined direct pathways linking body shame and appearance anxiety to sexual satisfaction and sexual distress for exploratory purposes (see Figure 1). Lastly, we expected that body appreciation moderates all hypothesised direct relationships between study variables. Specifically, we expected that the negative relationships between body surveillance, body shame, appearance anxiety, and body self-consciousness during sex are weaker when body appreciation is high. We also anticipated that the detrimental associations between body self-consciousness, sexual satisfaction, sexual function, and distress would be attenuated the more women experience high body appreciation.

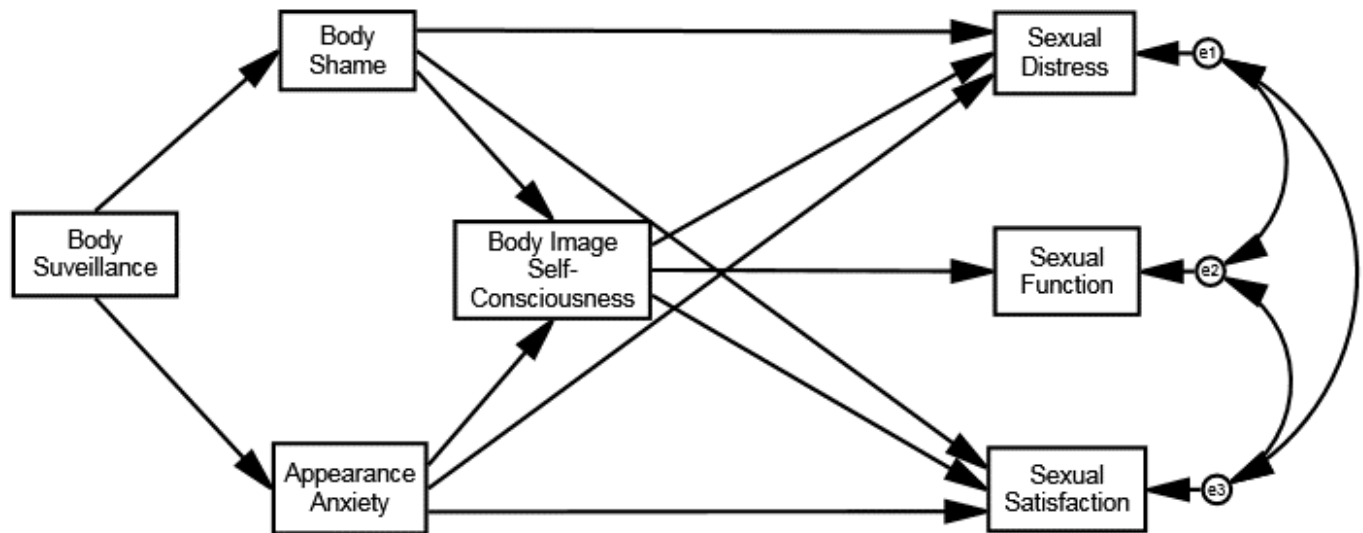


Figure 1. Hypothesised model.

Method

Participants

To take part in this study participants were required to be female, aged 50 years or older, fluent in English, and self-identify as heterosexual. This latter eligibility criteria was decided based upon evidence suggesting that LGBTQ women tend to experience body image and appreciation differently than heterosexual women (e.g., Morrison, Morrison, & Sager, 2004; Winter, Satinsky, & Jozkowski, 2015). In the final sample, composed of 193 women, participants ranged from 50 to 83 years old with a mean age of 56.6 ($SD = 5.8$). Half (50.8%) of the participants were married, 27.9% were involved in a committed relationship, 7.8% reported being single, and 4.5% described their relationship as “other” (e.g., defined by participants as “polyamorous”, or “open relationship”). For those involved in a relationship, relationship length ranged from eight months to 63 years with an average of 19.6 years with their current partner ($SD = 13.8$). This sample was largely composed of women of European descent (97%, Asian =

1.5%, Hispanic = 1.5%). Participants were also quite highly educated, with 78.5% of women reporting post-secondary education. While 52.5% described themselves as either "not at all" or only "slightly" religious, 23.3% being "very" or "extremely" religious. Among those who provided a religious denomination, 45.2% were Christian, 27.4% were Atheist or Agnostic, and 10.1% were Spiritual. The remaining 8.6% of participants reported various religious affiliations that cannot be aggregated, such as Paganism, Islam, or Buddhism (about 0.5% each). Body Mass Index (BMI) was calculated based on participants' reported height and weight ($M = 28.0$, $SD = 6.4$). Based on the Centre for Disease Control BMI classification system, 2.7% of women in this sample were in the underweight range (i.e., $BMI < 18.5$), 35.6% were in the normal range (i.e., BMI between 18.5 and 24.5), 30.6% were in the overweight range (i.e., BMI between 25 and 29.5), and 31.1% were in the obese range (i.e., $BMI > 30$). Lastly, 80.4% of participants were postmenopausal, as defined by the absence of menstruation for over 12 consecutive months.

Procedure

Participants were recruited through email listservs (e.g., listservs that focused on menopause, women's health, and "women 50+" issues), advertisements on social media sites, such as Facebook and Twitter, and popular blogs targeting older women. The study was advertised as a brief, anonymous online survey examining older women's body image and sexual experiences. All recruitment material included a hyperlink to the study's Qualtrics survey, which opened with questions pertaining to inclusion criteria. Those who met these criteria were then taken to an information sheet about the study, its purpose and potential risks. Participants were also explicitly informed of their right to withdraw from the study at any time without consequence. Once participants confirmed consent to the study, they were invited to complete the survey with measures presented in the same order they are listed below. Finally, a resource sheet containing

links to clinical resources and websites in North America, as well as books about body image and sexuality were provided upon completion of, or withdrawal from the survey. No identifying information was collected and participation was not compensated. Study procedures and methods were formally reviewed and approved by the researchers' university Ethics Review Board.

Measures

Body Appreciation Scale (BAS; Avalos et al., 2005). This self-report measure assesses the extent to which individuals maintain a positive regard and respect towards their body. Its 13 items (e.g., "On the whole, I am satisfied with my body") are rated on a 5-point scale ranging from 1 (*never*) to 5 (*always*). Responses on each item are averaged to obtain a total score, with higher scores being indicative of greater body appreciation. The reliability and internal consistency of the BAS's scores have been found to be satisfactory among a variety of population samples, including American (Cronbach's $\alpha = .91$ to $.93$; Avalos et al., 2005), British (Cronbach's $\alpha = .81$; Swami, Hadji-Michael, & Furnham, 2008), German women (Cronbach's $\alpha = .90$; Swami, Stieger, Haubner, & Voracek, 2008) and Canadian women (Cronbach's $\alpha = .93$; Robbins & Reissing, under review). Furthermore, convergent validity has been established with many well-respected measures of negative body image, including the Body Shape Inventory Questionnaire-Revised-10 and the Eating Disorder Inventory-2 (Avalos et al., 2005). In this study, the Cronbach's alpha for this scale was .92.

Objectified Body Consciousness Scale (OBC; McKinley & Hyde, 1996). Two subscales of this widely used self-report questionnaire were employed in order to assess body surveillance and body shame. The *Body Surveillance* subscale is composed of eight items (e.g., "I often worry about whether the clothes I am wearing make me look good"), which measure the frequency with which individuals monitor, and endorse an outsider's perspective on, their body. Internal

consistency of this subscale has been found to be acceptable (Cronbach's $\alpha = .76$ to $.89$) and test-retest reliability to be moderate ($r = .79$) over a 2-week period (McKinley & Hyde, 1996). The *Body Shame* subscale is also composed of eight items (e.g., "When I'm not the size I think I should be, I feel ashamed") and assesses the degree to which individuals experience shame for not meeting cultural standards of beauty, particularly with regard to thinness. Scores on this subscale demonstrated adequate internal reliability, with Cronbach's alphas ranging from $.70$ -. $.84$, and a test-retest reliability of $.78$ over a 2-week period (McKinley & Hyde, 1996). Both subscales are rated on a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), with the option of responding N/A (*not applicable*) if the item does not apply to the participant. Items for both subscales were summed to obtain a total score. Such scores range from 8 to 56 for each subscale, with higher scores indicating more body surveillance and body shame. High scores on these subscales have been shown to be positively associated with a sedentary lifestyle as well as higher scores on the Sociocultural Attitudes Towards Appearance Questionnaire-3, thus providing support for the instrument's convergent validity (Greenleaf & McGreer, 2006). Cronbach's alphas for the *Body Surveillance* and *Body Shame* subscales in this study were $.80$ and $.83$, respectively.

Appearance Anxiety Scale - Brief Version (AAS; Dion, Dion, & Keelan, 1990). This measure examines the frequency at which individuals worry about their appearance and the way their body may look to an external observer. It is composed of 14 items (e.g., "I feel nervous about aspects of my physical appearance") rated on a 5-point scale ranging from 1 (*never*) to 5 (*almost always*). Scores are summed to obtain a total score, which ranges from 14 to 70, with higher scores indicating a greater propensity for appearance anxiety. Scores on this scale have demonstrated good psychometric properties with an internal consistency of $.86$ and test-retest

reliability coefficients of .89 (Dion et al., 1990). The AAS has been shown to be strongly related to public self-consciousness and audience anxiety (Dion et al., 1990). In this study, the Cronbach's alpha was .93.

Body Image Self-Consciousness Scale (BISC; Wiederman, 2000). This self-report questionnaire measures how often an individual may feel self-conscious about the way their body looks during sexual activity with a partner. It was designed for use with participants of different gender, sexual orientation, and varying levels of sexual experience (including no sexual experience). The scale is composed of 15 items (e.g., "I (could) only feel comfortable enough to have sex if it were dark so that my partner could not clearly see my body"), which are rated on a 6-point format ranging from 0 (*never*) to 5 (*always*). The total score consists of the sum of all items and ranges from 0 to 75; higher scores are indicative of an increased tendency to experience self-consciousness during partnered sexual activity. Wiederman (2000) reported satisfactory convergent validity with current body size, self-rated attractiveness, and sexual esteem. The BISC also demonstrated high internal reliability (Cronbach's $\alpha = .94$), as well as good test-retest reliability over a 3-week period ($r = .92$). Similarly, in this study, internal reliability was excellent (Cronbach's $\alpha = .96$).

New Sexual Satisfaction Scale (NSSS; Štulhofer et al., 2010). This self-report measure assesses the degree to which one is satisfied with 1) their own sexual experiences and sensations (e.g., "The intensity of my arousal"), as well as 2) their partner's reaction and sexual activity in general (e.g., "My partner sexual creativity"). The 20 items are rated by respondents on a 5-point scale ranging from 1 (*not at all satisfied*) to 5 (*extremely satisfied*). Scores are summed to produce a total score with higher scores being indicative of increased sexual satisfaction. Scores on the NSSS have been found to maintain high internal consistency (Cronbach's $\alpha = .94$ to .96),

adequate test-retest reliability ($r = .72$ to $.84$), and construct validity across seven independent samples of individuals ($n = 2,000$) in Croatia and the United States. It also demonstrated good convergent validity with other global sexual satisfaction instruments (Štulhofer et al., 2010). Considering that no *a priori* hypothesis had been formulated pertaining to the two dimensions of and that separating the two subscales did not meaningfully change the pattern of results, only the total score was used in the present study (Cronbach's $\alpha = .97$).

Female Sexual Distress Scale (FSDS; Derogatis, Rosen, Leiblum, Burnett, & Heiman, 2002). This questionnaire assesses the extent to which women experience distress regarding their sexuality in general and/or their sexual functioning. Its 12 items (e.g., “In the last 30 days, how often did you feel guilty about sexual difficulties?”) are answered on a 5-point scale ranging from 0 (*never*) to 4 (*always*). Scores are summed to obtain an overall score of sexual distress, with higher scores being indicative of increased distress. The clinical cut-off (>11) of the FSDS has been shown to discriminate between women with and without diagnosed sexual dysfunctions (Derogatis et al., 2002). In this sample, 31.5% ($n = 69$) of women reported clinically significant sexual distress. With regards to its psychometric properties, scores on this scale demonstrated adequate internal consistency (Cronbach's $\alpha = .86$ to $.92$) as well as good test-retest reliability over a 4-week period (Derogatis et al., 2002). Cronbach's alpha in this study was .95.

Female Sexual Function Index (FSFI; Rosen et al., 2000). This 19-item measure examines the extent to which women experience difficulties pertaining to six dimensions of sexual function: sexual desire, subjective arousal, lubrication, orgasm, satisfaction, and pain. Items are answered on various scales, where 1 indicates difficulties with a specific aspect of sexual function (*extremely difficult or impossible*), 5 indicates no difficulties (*not difficult*), and on some items, 0 indicates *no sexual activity*. Items that constitute each of the six subscales are weighted

and summed to produce a total female sexual function score. Higher total scores are indicative of elevated sexual function in women, whereas total scores that are below the cut-off of 26.55 suggest clinically significant sexual function difficulties (Wiegel, Meston, & Rosen, 2005). The FSFI has demonstrated excellent reliability and internal consistency (Cronbach's $\alpha = .89$ to $.96$). It has also been shown to efficiently discriminate between women with and without female sexual dysfunction (Rosen et al., 2000). Although the FSFI was initially designed to evaluate sexual functioning in the preceding four weeks, a modified version that referred to a period of six months prior to participation was employed to better reflect older women's patterns of sexual activity, which are less frequent than their younger counterparts (e.g., Lindau et al., 2007). This modified version has been previously validated and yielded reliability coefficients that were comparable to those obtained with the original scale (Cronbach's $\alpha = .89$ to $.96$; Tracy & Junginger, 2006). In this study, the Cronbach's alpha for the FSFI total score was $.96$.

Demographic questionnaire. This measure was used to gather information on personal (e.g., age, level of education, ethnicity, menopausal status) and relationship demographics (e.g., relationship status, relationship duration). Information on height and weight was also collected to calculate participants' BMI.

Preliminary Data Analyses

The statistical software G*Power was employed *a priori* to ensure an optimal sample size (Faul, Erdfelder, Buchner, & Lang, 2009). In order to appropriately detect a medium effect size ($f^2 = .15$; Cohen, 1992), with an alpha of $.05$ and a power of $.80$, a sample of 150 participants was required. Considering the high risk for attrition in studies enquiring about sensitive matters such as sexuality, we decided to continue to collect data beyond the necessary number of participants. As such, 241 community-dwelling women were recruited for this study.

Using IBM SPSS, Version 23, incomplete data at the scale level was determined by more than 15% missing within the scale; 22 cases were removed accordingly. Zero responses on the FSFI (i.e., the indication of no sexual activity) were treated as missing values and removed from the analyses using this instrument in order to improve measure validity as recommended by Meyer-Bahlburg and Dolezal (2007). T-test analyses were conducted to compare available data from excluded participants with that of participants who were retained for analyses ($n = 193$). No significant difference between group means was found on any of our variable of interest. Given high internal consistency in the final sample, within-person mean substitution was performed for those participants with minimal item-level missing data (Parent, 2013). Next, univariate and multivariate outliers were identified by means of boxplots and the Mahalanobis distance. Four outliers were subsequently transformed by matching their value to that of the observation closest to them (Huber, 1981). A bootstrap procedure with 5,000 replacement samples was employed for all analyses to address non-normality in the sample. Scores were also centred to reduce multicollinearity (Tabashnick & Fidell, 2007). Lastly, a Holm-Bonferroni correction, using an alpha level of .05, was applied to the correlation matrix to avoid Type I errors (Gaetano, 2013; Holm, 1979). Means, standard deviations, and correlations among study variables are presented in Table 1.

Table 1

Descriptive Statistics and Correlations of Study Variables

Variables	1	2	3	4	5	6	7	8
1. Body Surveillance	---							
2. Body Shame	.52*	---						
3. Appearance Anxiety	.59*	.75*	---					
4. Body Appreciation	-.50*	-.69*	-.83*	---				
5. Body self-consciousness	.52*	.65*	.80*	-.71*	---			
6. Sexual Satisfaction	-.29*	-.29*	-.43*	.42*	-.44*	---		
7. Sexual Distress	.40*	.41*	.51*	-.48*	.51*	-.70*	---	
8. Sexual Function	-.20	-.25*	-.30*	.30*	-.30*	.82*	-.72*	---
<i>M</i>	32.9	24.3	35.9	3.7	17.9	79.8	24.1	25.6
<i>SD</i>	9.7	10.0	11.9	.71	16.6	26.1	11.0	5.5
Range	10-55	8-50	14-64	1-5	0-63	20-120	12-53	11.5-33.6

Note. *M* = Mean; *SD* = Standard Deviation.

* Denotes family-wise significance at $p < .05$.

Results

Path analysis, a variant of structural equation modelling (SEM), was employed to test the hypothesised model (Byrne, 2009). Specifically, SPSS AMOS 18 using maximum likelihood was used. Various indices of fit were considered to assess proper model specification. First is the generalised likelihood ratio, which is interpreted as a Pearson chi-square statistic; specifically, non-significant chi-square values are indicative of goodness-of-fit in path analysis models. Second, incremental fit indices were measured (i.e., the Comparative Fit Index, CFI; and the Tucker-Lewis Index, TLI). This family of indices examines the amount of improvement in the model fit in comparison to the null model, with values above .90 being indicative of proper model fit (Hu & Bentler, 1999). Third, we examined the Root Mean Square Error of Approximation (RMSEA), which

estimates lack of fit compared to the saturated model (Tabachnick & Fidell, 2007). The RMSEA is calculated with a 90% confidence interval, with values of .08 or below indicating adequate fit and values of .05 or less indicating close model fit (Browne & Cudeck, 1993). Optimally, the lower bound of the confidence interval should equal zero (Kline, 2015). Lastly, the Akaike Information Criterion (AIC) was employed to assess which among competing models presented the best fit, with a lower AIC value being indicative of a preferable model relative to the other(s).

Based on these criteria, results showed that the hypothesised model fit the data well, $\chi^2(6) = 8.54$, $p = .20$, $\chi^2/df = 1.42$, CFI = .99, TLI = .99, RMSEA = .05, 90% CI [.00, .11], AIC = 52.54. We then tested two alternative models to provide further support for the adequacy of the hypothesised model. In the first alternative model, the four body image variables (i.e., body surveillance, body shame, appearance anxiety, and contextual body self-consciousness) were modeled as same-level independent variables, providing a test of the hierarchical relationship between variables. This model proved to be a very poor fit to the data, $\chi^2(6) = 59.44$, $p < .001$, $\chi^2/df = 9.91$, CFI = .99, TLI = -.40, RMSEA = .55, 90% CI [.44, .68], AIC = 113.44. In the second model, contextual body self-consciousness was excluded from analyses in order to assess whether its inclusion improves upon objectification theory's model of female sexual health, $\chi^2(4) = 6.07$, $p = .11$, $\chi^2/df = 1.52$, CFI = .99, TLI = .98, RMSEA = .07, 90% CI [.00, .16], AIC = 54.29. As suggested by their higher AIC values, both alternative models displayed poorer fit to the data when compared to the hypothesised model. Although the differences in fit between the hypothesised and second alternative model are small, these results support the inclusion of a contextual body image variable as an intermediary step within objectification theory's model of sexual health.

With regard to direct effects between study variables, results suggested that body surveillance is positively associated with body shame and appearance anxiety. In turn,

appearance anxiety, but not body shame, was associated with increased body self-consciousness during sexual activity. High body self-consciousness during sex was associated with poorer sexual function and sexual satisfaction, and higher sexually related personal distress. Additionally, appearance anxiety and body shame were both directly and negatively related to sexual satisfaction. Although the relationship between appearance anxiety and sexual distress approached significance ($p = .06$), sexual distress was unrelated to body shame. Standardised path coefficients are displayed in Figure 1.

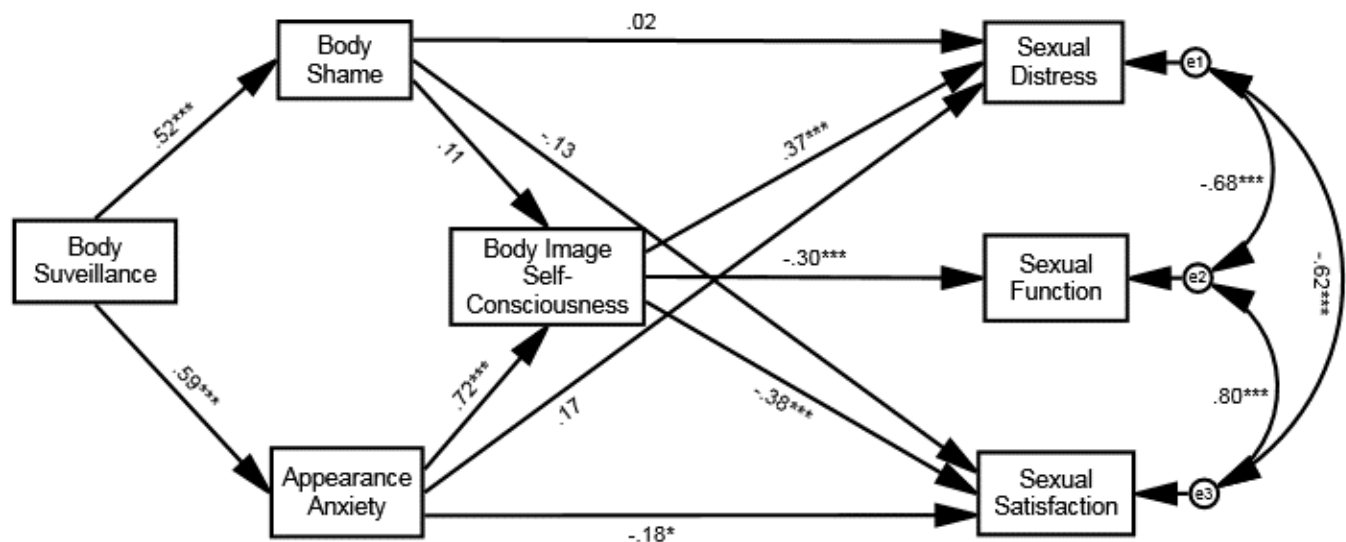


Figure 2. Final path model of the relationships between the variables of interest. * $p < .05$; ** $p < .01$; *** $p < .001$.

Next, we examined indirect effects using 95% bias-corrected confidence intervals. Indirect effects are deemed significant if the confidence interval does not contain a zero (Mallinckrodt, Abraham, Wei, & Russell, 2006). Results showed that body surveillance is indirectly related to body self-consciousness during sexual activity through body shame and appearance anxiety. In turn, body self-consciousness served as a significant mediator between body surveillance and all

three indicators of sexual health, that is, sexual function, distress, and satisfaction. Body self-consciousness also mediated the relationship between appearance anxiety and all three of the sexual variables. Interestingly, body self-consciousness mediated the relationship between body shame and sexual distress, but not between body shame and sexual function or sexual satisfaction. Considering that the direct relationship between body shame and sexual distress was not significant whereas the indirect relationship through body self-consciousness was, it appears that body self-consciousness during sexual activity (i.e., contextual body image) fully mediates the relationship between trait body shame and sexual distress. Standardised indirect effects, bootstrap standard errors, and 95% bias-corrected confidence intervals are reported in Table 2.

Table 2

Summary of Indirect Effects

Independent Variable	Criterion	Standardised Indirect Effect		95% bias corrected CI	
		β	SE	Lower Bound	Upper Bound
Body					
Surveillance	BISC	.10	.00	.08	.12***
	FSFI	-.05	.00	-.13	-.04***
	FSDS	.02	.00	.02	.04***
	NSSS	-.42	.00	-.84	-.38***
Body Shame	FSFI	-.03	.01	-.27	.00
	FSDS	.04	.00	.00	.10*
	NSSS	-.04	.07	-.05	.00
Appearance					
Anxiety	FSFI	-.08	.02	-.15	-.06***
	FSDS	.02	.01	.01	.04
	NSSS	-.37	.14	-.88	-.33***

Note. BISC = Body Image Self-Consciousness; FSFI = Female Sexual Function Index; FSDS = Female Sexual Distress Scale; NSSS = New Sexual Satisfaction Scale. * $p < .05$; ** $p < .01$; *** $p < .001$.

Lastly, the moderating effect of body appreciation on the various hypothesised associations between variables of interest was assessed by means of the *PROCESS* syntax. Specifically, *PROCESS* Model 59 (Hayes, 2013) was selected because it allows for multiple mediators to be entered in series—such that the moderation analyses mirror the hypothesised model—rather than in parallel. Body surveillance was entered as the independent variable; appearance anxiety, body shame, and body self-consciousness during sex were entered simultaneously as mediating variables, and body appreciation as the moderator. Considering that *PROCESS* does not allow for more than one dependent variable at a time, separate analyses were conducted for each of the three indicators of sexual health (Hayes, 2013). The overall model significantly accounted for 27.10% of the variance in sexual satisfaction, $F(9,209) = 8.63, p < .001$, 33.12% of the variance in sexual distress, $F(9,209) = 11.50, p < .001$, and 15.25% of the variance in sexual function, $F(9,193) = 3.66, p < .001$. Body appreciation significantly attenuated the negative relationship between body surveillance and appearance anxiety, but not that between body surveillance and body shame. As well, it moderated the link between appearance anxiety and contextual body self-consciousness, with women with high body appreciation experiencing less self-conscious feelings about their body during sex as a function of trait appearance anxiety. Body appreciation also moderated the manner in which body self-consciousness during sex is related to sexual satisfaction and sexual distress, such that both negative associations were weaker in women with high appreciation for their body. Body appreciation did not, however, moderate the link between contextual body self-consciousness and sexual function (see Table 3).

Table 3

Summary of Moderating Effect of Body Appreciation on All Hypothesised Relationships

	<i>B</i>	<i>SE</i>	<i>t</i>	<i>Lower 95% CI</i>	<i>Upper 95% CI</i>
<i>Outcome: Appearance Anxiety</i>					
Body Surveillance	.81	.19	4.17	.43	1.19***
Body Appreciation	-.3.75	4.19	-.90	-12.01	4.50
Body Surveillance x Body Appreciation	-.27	.12	-2.22	-.51	-.03*
<i>Outcome: Body Shame</i>					
Body Surveillance	.30	.20	1.51	-.09	.68
Body Appreciation	-9.15	4.24	-2.16	-17.51	-.78*
Body Surveillance x Body Appreciation	.03	.12	.25	-.21	.27
<i>Outcome: BISC</i>					
Appearance Anxiety	.15	.04	3.57	.07	.23***
Body Shame	.01	.04	.14	-.08	.08
Body Appreciation	-.04	.85	-.05	-1.71	1.63
Appearance Anxiety x Body Appreciation	-.02	.03	-.83	-.08	-.03*
Body Shame x Body Appreciation	.01	.03	.44	-.04	.06
<i>Outcome: Sexual Function</i>					
BISC	-2.17	1.07	-2.03	-4.27	-.06*
Body Appreciation	4.87	3.76	1.30	-2.54	12.29
BISC x Body Appreciation	1.07	.63	1.69	-.18	2.32
<i>Outcome: Sexual Satisfaction</i>					
Appearance Anxiety	.98	.93	1.05	-.86	2.82
Body Shame	1.96	.75	2.60	.48	3.45**
BISC	-14.05	4.40	-3.20	-22.72	-5.38**
Body Appreciation	22.57	15.79	1.43	-8.55	53.70
Appearance Anxiety x Body Appreciation	-.87	.58	-1.50	-2.01	.27
Body Shame x Body Appreciation	-1.17	.49	-2.38	-2.13	.20
BISC x Body Appreciation	6.44	2.60	2.48	1.32	11.56*
<i>Outcome: Sexual Distress</i>					
Appearance Anxiety	-.03	.04	-.79	-.10	.04
Body Shame	-.05	.03	-1.77	-.11	.01
BISC	.52	.17	3.02	.18	.87**
Body Appreciation	-.60	.62	-.97	-1.83	.63
Appearance Anxiety x Body Appreciation	.03	.02	1.25	-.02	.07
Body Shame x Body Appreciation	.04	.02	1.96	-.00	.08
BISC x Body Appreciation	-.25	.10	-2.41	-.45	-.05*

Note. BISC = Body Image Self-Consciousness. * $p < .05$; ** $p < .01$; *** $p < .001$.

Discussion

The present study was designed to enhance our understanding of midlife women's sexual experiences and the way they relate to their body. Objectification theory is the only theory to date that offers specific hypotheses relative to body image, sexuality, and ageing. To the best of our knowledge, our study constituted the first attempt to test these hypotheses. It was also the first examination of the relationship between self-objectification constructs and sexual distress, a required criterion to the diagnosis of sexual dysfunctions according to the *Diagnostic and Statistical Manual of Mental Disorders, fifth edition* (APA, 2013). Overall, results support the use of objectification theory in explaining sexual health in women over 50, with data displaying good model fit. While body surveillance was indirectly, and appearance anxiety directly, associated with body self-consciousness during sex, body shame was not. Body self-consciousness during sex was also found to mediate the relationship between appearance anxiety and all three indicators of sexual health, that is, sexual function, satisfaction, and distress. It also fully mediated the relationship between body shame and sexual distress. Both, body shame and appearance anxiety, were directly related to sexual satisfaction but not sexual distress, and mediated the relationship between body surveillance and body self-consciousness during sex. Lastly, in this study, body appreciation served as a moderator that attenuated the detrimental relationships between body surveillance, appearance anxiety, and body self-consciousness during sex. It also mitigated the negative associations between body self-consciousness during sex, sexual satisfaction, and sexual distress.

As expected and congruent with existing research conducted with university-aged participants (Calogero & Thompspon, 2009; Steer & Tiggemann, 2008; Tiggemann & Williams, 2012), body surveillance was positively related to body shame and appearance anxiety. In turn, appearance anxiety was positively associated with body self-consciousness during sex, whereas body shame was

not. Albeit exploratory, our analyses also yielded a significant direct pathway between appearance anxiety, body shame, and sexual satisfaction, such that midlife women who experienced high levels of shame and anxiety and shame regarding their body, tended to report lower levels of satisfaction with their sex life. Although the link between appearance anxiety and sexual distress approached significance, there was no direct relation with body shame. The lack of significant findings regarding the effect of body shame stands in contrast to zero-order correlations where both body self-consciousness and sexual distress were positively associated with body shame. Previous studies have shown that it is not uncommon in models where appearance anxiety and body shame are included simultaneously to see the former carry most of the influence over dependent variables (Tiggemann & Kuring, 2004; Tiggemann & Lynch, 2001; Tiggemann & Williams, 2012). In other words, it is likely that body shame would have emerged as a more significant contributor to body self-consciousness during sex and sexual distress, had we not incorporated appearance anxiety in the analyses.

Alternately, our results also suggested that anxiety might affect midlife and older women's body experiences in the context of partnered sexual activity to a greater extent than shame. A potential explanation for this may be that anxiety is by definition associated with hypervigilance to prevent potential threats in the environment and thus has an *outward* focus (e.g., van den Hout & Barlow, 2000). In their seminal research, Masters and Johnson (1970) coined the term *spectatoring* to refer to the tendency to observe oneself during sex from a third person's perspective (i.e., being a "spectator"). This outsider, self-conscious focus is often accompanied by anxious cognitions and performance fears. It has been shown to interfere with the sexual response by directing a person's attention away from the sexual stimuli, resulting in poorer sexual outcomes (e.g., Gates & Galak, 2001; Pazmany, Bergeron, Van Oudenhove, Verhaeghe, & Enzlin, 2013). In women, spectatoring is most often related to appearance concerns (Wiederman, 2001). Therefore, body self-consciousness

during sex can be construed as a proxy measure of spectatoring (Dove & Wiederman, 2000). Our study suggests that women's general propensity to worry about their appearance in their day-to-day life translates into higher levels of spectatoring in the context of partnered sexual activity. In contrast, although body shame can potentially exacerbate fear of judgment by others for not meeting socially prescribed standards of beauty and sexiness, it is not in and of itself as disruptive to the sexual process. Future research is warranted to replicate and test whether this particular finding (or lack thereof) regarding body shame is unique to midlife women or if it is generalizable to younger women as well. Moreover, it is plausible that the potential impact of body shame on sexual health may not be direct, but rather indirect through appearance anxiety, related to body self-consciousness/spectatoring. However, this supposition also requires further investigation.

In addition to highlighting the direct relationship between trait appearance anxiety and contextual body consciousness, our results contributed to substantiate body self-consciousness during sex as a significant mediator within objectification theory's model of sexual health. In so doing, this study confirms findings from previous research that also showed a mediating effect of contextual body self-consciousness on the association between trait self-objectification constructs (i.e., body surveillance, appearance anxiety, and/or body shame) and sexual satisfaction (Calogero & Thompson, 2009) or sexual function (Steer & Tiggemann, 2008; Vencill et al., 2015), and extends them to sexual distress. Such replication of findings among several authors from various countries (i.e., United States, Australia, Canada) using age-diverse samples is important in that it calls for an update of objectification theory in the specific context of sexual health. Indeed, whereas disordered eating and depressive symptomatology can both be explained effectively through general, stable, trait self-objectification constructs, ours and previous research show that sexual dysfunctions require an intermediary, contextual step to better capture women's experiences of their body as they are

engaging in partnered sexual activity. This difference in predictive utility of objectification theory between disordered eating, depression, and sexual dysfunctions has also been highlighted in Tiggemann and Williams' test of the full theoretical model (2012). Specifically, these authors reported that while objectification theory, as originally formulated by Frederickson and Roberts (1997), accounted for 93% of disordered eating variance and 60% of depressive symptomatology variance, it only accounted for 15% of sexual function variance. Thus, expanding the theory to incorporate contextual factors such as body self-consciousness during sex appears warranted in order to further elucidate how self-objectification may affect women's sexual experiences.

Perhaps one of the most important and innovative contributions of this study is the establishment of body appreciation as a moderator of the relationships between self-objectification constructs and sexual health variables in midlife and older women. Our results showed that women who engage in body surveillance are less likely to experience negative self-objectification consequences if they also maintain an unconditional positive regard for their body. More specifically, the link between body surveillance and appearance anxiety, as well as that between appearance anxiety and body self-consciousness during sex, were weaker in women with high body appreciation. Thus, the more women were able to maintain high levels of appreciation for their body despite age-related changes to appearance and functionality, the less body surveillance (i.e., the constant monitoring of their physical self) was associated with appearance anxiety. In other words, although they were attentive to their body, women with high body appreciation did not experience much anxiety in the face of future appearance evaluations from others. Similarly, their general tendency to experience appearance anxiety in their daily life resulted significantly less in feelings of body self-consciousness during partnered sexual activity compared to women with low body appreciation. Hence, even as these

women anticipated that others would pass judgment on their body, this anxiety did not necessarily generalise to the sexual context.

Similarly, body appreciation contributed to mitigate the detrimental relationship between body self-consciousness during sex (i.e., appearance-based spectatoring) and sexual satisfaction and distress in midlife and older women. In other words, the more participants experienced an unconditional positive regard for their body, the less they reported sexual distress and dissatisfaction in relation to being a "spectator" of their body during partnered sexual activity. This finding is in line with the extant literature on mindfulness in general (e.g., Kabat-Zinn, Lipworth, & Burney, 1985) and sexual mindfulness in particular (e.g., Brotto & Heiman, 2007; de Jong, 2009). Specifically, the mindfulness approach contends that when a person is able to stay immersed in the moment, be attentive to his or her feelings and sensations, and refrain from self-judgment (e.g., catastrophic thinking or negative labels), s/he experiences better psychological and sexual outcomes in the face of adversity (e.g., sexual pain, hypo-arousal; Basson, 2012; Brotto, Basson, & Luria, 2008). Considering that body appreciation is self-compassion and acceptance directed at the body, it is akin to the principle of non-judgment that is integral to mindfulness. Therefore, in addition to providing further evidence-based support for the use of mindfulness in treating appearance-based spectatoring in midlife and older women from a clinical perspective, the present study also suggests that the *Body Appreciation Scale* could be potentially useful in measuring non-judgment about the body in future empirical investigations of sexual mindfulness.

Interestingly, while body appreciation helped protect midlife and older women against the deleterious consequences of body self-consciousness during sex on sexual satisfaction and distress in this sample, it did not attenuate its negative association with sexual function. A potential reason for this lack of finding may be that, in contrast to satisfaction or distress, sexual function is mostly

physiological, rather than psychological in nature. With older age and the menopausal transition, a slew of hormonal and biological changes take place that affect sexual function, including most notably lubrication (Graziottin, 2007; Hayes & Dennerstein, 2005; Lindau et al., 2007). Therefore, it is possible that factors that are directly associated with these changes may be more effective than body appreciation in mitigating the effect of spectating on sexual function in older women, such as behavioural compensatory coping strategies (e.g., the use of a lubricant) or the frequency and intensity of performance worries related to lubrication. Further investigation is warranted to investigate these potential moderators. Nevertheless, the current study highlights the need for sex researchers to employ holistic definitions of sexual health that are not limited to sexual function or satisfaction and distress, but rather inclusive of both, psychological and physiological aspects of the sexual experience. This recommendation for best practice, albeit relevant to sex research at large, appears especially justified when investigating sexuality and ageing.

Limitations

Despite this study's contributions to the literature, several limitations must be noted. First, a revised version of the *Body Appreciation Scale* (BAS; Avalos et al., 2005) was published after data collection for this study was completed and could therefore not be used. This particular revision of the BAS was conducted in order to reword gender specific items (e.g., "images of women"), correct appearance dissatisfaction language (e.g., "despite its imperfections, I still like my body"), and include new items based on recent research (Tylka & Wood-Barcalow, 2015a). Consequently, body appreciation, as it is operationalized in the present study, does not fit the most up-to-date definition employed in the field of body image. Second, to optimise sample size, the order of the questionnaires was not randomised. As such, it is possible that scores on the sexual health measures may have been affected by previous questions pertaining to the way one feels (positively or negatively) about their

body. Third, although path analyses require that directionality between variables be specified *a priori*, causality cannot be assumed and may in fact take place in the opposite direction to the one modelled (e.g., improved sexual health outcomes causing women to self-objectify less or be more appreciative of their body). Hence, longitudinal research is necessary to ascertain any potential temporal precedence between our variables of interest. Lastly, given that midlife women who choose to participate in sex research may differ from those who do not, issues of selection must be taken into account. Our participants were indeed largely of European descent, physically healthy, non-religious, and highly educated, thus deviating from the general population in many ways. Caution should therefore be taken to generalise these results beyond the sample used for this study. In particular, research should investigate whether our findings can be replicated in single midlife and older women and/or women from the LGBTQ community, whose experiences may differ from that of our participants.

Applied Implications

Bearing in mind these limitations, this study also has some implications for clinical practice. Our results confirmed objectification theory as a relevant framework for midlife and older women. In addition to its repercussions on sexual health, the systematic de-sexualisation of midlife and older women's body in the media can have implications for their self-esteem, self-worth, and overall mental health (McKinley, 2011). Yet, understandably, most of the existing intervention research aimed at reducing self-objectification has focused on equipping young women with the tools that will allow them to think critically about, and protect themselves against, increasingly sexualising media content for their age group (e.g., Halliwell, Jarman, Risdon, McNamara, & Jankowski, 2015; Impett, Henson, Breines, Schooler, & Tolman, 2011; Levine & Murnen, 2009). Considering that midlife women may struggle with the opposite transition from sexualised object to invisibility, it is likely that they would

also benefit from discussions with clinicians regarding self-objectification. In fact, many of the interventions recommended for younger women, such as promoting body competence over appearance or encouraging participation in embodied activities (e.g., yoga, team sports), could prove effective for women of all ages (Alleva, Martijn, van Breukelen, Jansen, & Karos, 2015; Menzel & Levine, 2011; Tiggemann & Williams, 2012).

Another pertinent finding for clinical practice is the moderating role of body appreciation on the links between negative body image (i.e., self-objectification constructs), appearance-based spectating, and sexual health. In a recent study, Bush and colleagues (2014) demonstrated the efficacy of Eat for Life, a 10-week workplace-based program that incorporated mindfulness practice, as well as body image and intuitive eating interventions in ameliorating body appreciation and healthy eating practices in adult women. This intervention was important in that it was among the first to be directly inspired by the literature on body appreciation and mindfulness (Bush, Rossy, Mintz, & Schopp, 2014; Halliwell, 2015). As mentioned, mindfulness practice has been substantiated as an effective intervention through which women can learn to bypass spectating (or body self-consciousness during sex) and re-immense themselves fully into the sexual experience (Brotto, Basson, & Luria, 2008; Brotto & Heiman, 2007; de Jong, 2009; Mize & Iantaffi, 2013). In light of our results and previous research demonstrating that body self-consciousness during sex is exacerbated by general appearance anxiety or body surveillance (Steer & Tiggemann, 2008; Vencill et al., 2015), it could be helpful for women to participate in interventions that combine both mindfulness and body appreciation principles. As such, developing programs inspired from Eat for Life but applied to sexuality could be a promising step.

To conclude, the present study offers good support for the use of objectification theory among midlife and older women. It also contributes to the literature by further expanding systematic research

on self-objectification to sexual health and well-being. The overall results show that when midlife and older women accept their body regardless of supposed imperfections, hold a favourable regard towards the body, respect its needs, and start rejecting unrealistic ideals of beauty, they can and *do* start re-appropriating their physical self. By stepping out of the theoretical "objectification limelight" and liberating themselves from the constraints of societal pressures and prejudices relative to female appearance, women with high body appreciation are able to let go of self-conscious feelings during partnered sexual activity. It is not unreasonable to expect that the re-appropriation of the body along with this decrease in psychological non-presence during sex can open the door to new and enriched sexual intimacy in the later decades of life.

Footnotes

¹ Traditionally, mediation is a causal statistical method; however, Hayes (2013) argues that theoretical arguments for the model can justify the use of the technique when data collection design does not permit direct causal inferences. Using this reasoning, the term mediation was used throughout this article.

General Discussion

In 1999, a group of 11 English women, aged 45 to 65, shocked the world by appearing in a nude calendar in order to raise funds for Leukemia research. This cheeky calendar was directly contradictory to the implicit rule that the ageing female body must be hidden, or that it can constitute a source of shame, revulsion, or ridicule (Brown & Knight, 2015; Twigg, 2004). By displaying older women performing menial tasks such as baking or gardening in all their naked glory, this calendar also served to contrast these women's concealed sexual nature with society's view of midlife and older women as asexual homemakers (Gott, 2005; Hinchliff & Gott, 2008; Zotos & Tsihla, 2014). Further, it contributed to demonstrate that ageing women's bodies could be considered empowering, beautiful, and used as objects of art.

In the same line of thought, this dissertation was designed with the explicit purpose of shedding light on negative but also *positive* facets of body image experiences of women as they age and their bodies are perceived as deviating from traditional beauty ideals. The focus was to illuminate the underlying processes through which these positive and negative aspects of body image each contribute to indicators of sexual health with increased age. Although a wealth of research has been conducted on emerging adult women (see Woertman & van den Brink, 2012, for a review), little is known on the body image and sexual experiences of their non-university aged counterparts. As such, this research was aimed at addressing this gap by examining how positive and negative body image variables interrelate and together contribute to female sexual function, satisfaction, and distress 1) in general, across adulthood and 2) in women over the age of 50 more specifically. To achieve this goal, two survey studies were conducted. The following summarises each study, its objectives, results, and unique contributions.

Summary of Findings

The overarching purpose of Study 1 was to expand the emergent literature on body appreciation and compare its contribution to indicators of sexual health with that of appearance dissatisfaction, the most commonly employed operationalization of negative body image (Tiggemann, 2004), in an age-varied sample of adult women. Specifically, this study was designed to achieve three primary objectives. The first was to examine the association between body image variables and indicators of sexual health (i.e., sexual function, satisfaction, and sexuality-related distress) when controlling for body mass index (BMI). The second objective was to investigate whether women's appreciation for their body fluctuates as a function of age. The third objective was to examine the association between age and indicators of sexual health, and to elucidate the role of body appreciation in this relationship.

As expected, body dissatisfaction was associated with worse, and body appreciation with better, sexual health outcomes. Furthermore, body appreciation was substantiated as a unique contributor to indicators of sexual health, above and beyond BMI. Despite a significant statistical overlap between body appreciation and body dissatisfaction, the former was found to explain a larger portion of variance and be a greater contributing factor to sexual function, satisfaction, and distress, compared to the latter. Contrary to hypothesis, body appreciation was not associated with age. Older women in our sample maintained levels of appreciation for the body that were both moderately high and comparable to that reported by their younger counterparts. As hypothesised, age was associated with lower sexual satisfaction and lower sexual function (with the exception of sexual pain). It was not, however, related to sexual distress. Interestingly, and consistent with our hypothesis, body appreciation moderated the relationship between age and sexual satisfaction, such that older women with low body appreciation experienced less sexual

satisfaction than those with high body appreciation. Although no *a priori* hypothesis was formulated, post-hoc analyses revealed that when women succeed in maintaining high levels of body appreciation, even when struggling with clinically significant sexual function-related difficulties, they reported levels of sexual satisfaction that were virtually identical to those of women with no sexual function difficulties. Overall, the methodological, conceptual, and empirical strengths of this study included the examination of the incremental value of three distinct facets of body image, the innovative exploration and contrasting of positive and negative aspects of the body image experience as they relate to sexual health, and the use of an age-varied sample.

Although Study 1 offered a bird's eye view of the intricate relationship between body image, age, and sexual health, Study 2 was designed to focus on the specific experience of midlife and older women. Also in contrast with Study 1, designed to answer *whether, which, and for whom* facets of body image contribute to sexual health in women, Study 2 was intended to explore the *how* of these associations, i.e., the underlying mechanisms. Specifically, in this second study, the predictions of objectification theory pertaining to sexual health (Frederickson & Roberts, 1997) were tested for the first time in a sample of non-university aged women. This study was also aimed at clarifying the association between trait self-objectification constructs, body self-consciousness in the specific context of partnered sexual activity, and indicators of sexual health. Lastly, the role of body appreciation in relation to self-objectification and sexual health was examined.

In line with our hypotheses, body surveillance, a proxy measure of self-objectification, was positively associated with body shame and appearance anxiety, the latter of which was associated with increased body self-consciousness during sex. As expected, (contextual) body self-

consciousness during sex in turn mediated the relationship between (trait) appearance anxiety, (trait) body shame, and indicators of sexual health (i.e., sexual function, satisfaction, and distress). Body shame and appearance anxiety mediated the relationship between self-surveillance and body self-consciousness during sex, and were also both directly related to sexual satisfaction but not sexual distress. Lastly, as hypothesised, high body appreciation attenuated the detrimental effect of self-objectification and its corollaries on indicators of sexual health. More precisely, even as they routinely monitored their appearance, midlife and older women with high body appreciation were found to experience less anxiety in the face of potential appraisal by others. As well, their tendency to experience general appearance anxiety resulted less frequently in body self-conscious in the context of partnered sexual activity when compared to women with low appreciation for their body. Furthermore, body appreciation served as a buffer that significantly attenuated the negative associations between body self-consciousness during sex, sexual satisfaction, and sexual distress in midlife and older women. Noteworthy strengths of Study 2 included its firm theoretical foundation, often lacking in human sexuality research (Bancroft, 2009); the examination of a novel moderation model; as well as the population studied (i.e., women over the age 50), a currently underrepresented group in body image and sexuality literatures (e.g., Becker, Diedrich, Jankowski, & Werchan, 2013; Cain et al., 2003).

An "Integrated" Positive Psychology Perspective

Taken together, the results of both studies are embedded in a positive psychology framework. The positive psychology movement developed and quickly gained momentum in the late 1990s in response to the vacuum of research available on the positive aspects of life and the human experience (Seligman & Csikszentmihalyi, 2000). Although it was agreed that increasing

understanding of adaptive psychological characteristics and emotions was long overdue, the movement also garnered criticism for being reactionary and neglecting negative/maladaptive experiences (e.g., Bohart, 2002; Held, 2002; Norem & Chang, 2002). Therefore, scholars have urged for the study of positive and negative aspects of human functioning to be integrated into one *single* approach (Held, 2004; Wood & Tarrier, 2010), which this dissertation accomplished with respect to body image, ageing, and sexual health research. Of these three domains of study, the body image literature has been the most prolific in its investigation of positive dimensions. Interestingly, however, although positive body image has attracted much interest in recent years, studying the interface between positive and negative facets is only beginning. One of the most significant contributions of this research program was the expansion of this nascent body of literature at an empirical (Study 1) and theoretical (Study 2) level.

Above and beyond their valence, it was argued in Study 1 that positive (i.e., body appreciation) and negative (i.e., appearance dissatisfaction) aspects of body image are conceptually distinct –although closely related– processes (Tiggemann & McCourt, 2013; Tylka & Wood-Barcalow, 2015b; Williams, Cash, & Santos, 2004) in young as well as midlife and older women (Bailey, Cline, & Gammage, 2016). This conceptual distinction is particularly important to acknowledge from a methodological standpoint because it goes against the previously widespread (mal)practice of deducing information on positive body image by reversing what is known about the negative (Bailey et al., 2016; Tylka, 2011). It also puts into question the sombre picture that has been drawn for years with respect to the way women relate to their body (e.g., "normative discontent"; Rodin, Silberstein, & Striegel-Moore, 1984). Indeed, although women's concerns with their weight and general dissatisfaction with their body may be widespread (see Fiske, Fallon, Blissmer, & Redding, 2014 for a review of prevalence estimates),

it cannot be inferred that they lack satisfaction, love, and respect for their body, its functionality, and/or health. In fact, in both Study 1 and 2, participants reported relatively high levels of body appreciation irrespective of age, thus suggesting maintenance of relatively positive views of the body regardless of body dissatisfaction.

Similarly, and consistent with previous research (Tiggemann, 2015; Tiggemann & McCourt, 2013), the finding that both positive and negative body image experiences are not only separate but can occur simultaneously also calls for a shift in the way we understand and study body image. For instance, the use of categories rather than continuums to define women's relation to their body (e.g., "positive body image", "negative body image", or "neutral body image/normative discontent" groups; van den Brink, Smeets, Hessen, Talens, & Woertman, 2013; Williams et al., 2004) is no longer appropriate or methodologically sound. Further, because it is clear that women are capable of experiencing both tremendous amount of appearance dissatisfaction *and* gratitude and unconditional love for their body, body dissatisfaction *and* rejection of societally defined beauty ideals, empirical investigations that do not endeavour to measure both positive and negative dimensions of body image are incomplete. Consequently, future empirical enquiries would be wise to include some measurement of resiliency related to body image, even if the primary focus is on the negative. For that purpose, Study 1 has shown that the *Body Appreciation Scale* (Avalos, Tylka, & Wood-Barcalow, 2005), and likely its revised version (Tylka & Wood-Barcalow, 2015a), can constitute a relatively brief and optimal assessment tool for general positive body image.

This dissertation has also in part met the need for a better integration of the positive and the negative aspects of body image at the theoretical level. In recent years, new theories have been created in order to account for both positive and negative aspects of body image, e.g., the

acceptance model of intuitive eating (Augustus-Horvath & Tylka, 2011; Avalos & Tylka, 2006) and the affect regulation model of body image (Webb, Butler-Ajibade, & Robinson, 2014).

Whilst the elaboration of new theoretical frameworks is essential to the advancement of science, updating existing theories also holds advantages. Indeed, from longstanding theories derive large bodies of literature, including many well-validated measurement instruments. Study 2 was one of the first attempts at amending an already well established, but negative-centric theory, to incorporate adaptive dimensions via the inclusion of body appreciation into its model.

Objectification theory (Frederickson & Roberts, 1997) is likely the most respected and widely used theoretical feminist perspective on body image experiences. As such, it was deemed that updating its model would not only be relevant to "integrated" positive psychology but also to the feminist literature at large. Although the main intent was to address the inherent negative bias of objectification theory, Study 2 also served to highlight some other internal issues pertaining to the specific predictions of sexual health. Contrary to eating disorders and depressive mood, the two other explicitly stated mental health risks associated with self-objectification in women (Frederickson & Roberts, 1997), a contextual intermediary step was found to be required to mediate the relationship between trait self-objectification constructs and sexual health (Steer & Tiggemann, 2008; Vencil, Tebbe, & Garos, 2015), and thus explain sexual dysfunctions more effectively (Tiggemann & Williams, 2012).

Furthermore, although the theory was first formulated nearly 20 years ago, Study 2 was the first to test the hypotheses of objectification theory relative to sexual health and ageing. Considering findings from Study 1 and others (Tiggemann & McCourt, 2013) attesting to the increasingly widening gap between positive and negative aspects of body image with older age, to generalise body image models established with emerging adults to older cohorts of women

seemed unwarranted. Hence, this thesis provided valuable insights into the experiences of midlife and older women as they exit (or have exited for some time) the limelight of objectification. Overall, findings supported the use of an updated version of the objectification theory model of sexual health that is inclusive of positive and contextual facets of body image. It is hoped that future studies will make use of this model in explorations of the association between body image processes and sexual health across the adult lifespan.

In addition to body image, this dissertation research also adds to the literature on positive ageing through an integrated positive psychology view of age-related processes. Specifically, this thesis was designed to enhance understanding of age-related changes to sexual health (i.e., decreases in sexual satisfaction and sexual function, including desire, subjective arousal, lubrication, orgasm propensity, but not sexual distress), while *also* providing insight into factors that are associated with increased subjective well-being in the face of these declines (i.e., body appreciation as a protective factor against age-related changes to sexual satisfaction). Positive ageing is partly characterised by an individual's ability to maintain an optimistic viewpoint on issues (e.g., health, functioning, social relationships) even as they are embedded in decline (Hill, 2011; Hill & Mansour, 2008). In both Study 1 and 2, it is shown that, as women's bodies undergo changes to appearance, health, and functionality with increased age, midlife and older women retain a level of appreciation for their body that is quite elevated. In other words, they successfully cultivate a self-compassionate and optimistic viewpoint even when age-related losses take place. Therefore, results of this dissertation suggest that positive ageing with regard to body image is possible and that it is associated with improved sexual health outcomes.

Although body appreciation was not found to fluctuate with age from a quantitative standpoint, the fact that it remains stable even though appearance and functionality change

suggests that midlife and older women's level of appreciation for their body may be heightened from a qualitative standpoint (Study 1). By highlighting older women's increased capacity for self-acceptance in this way, findings from this thesis research are also consistent with existing theories of coping in older adulthood, such as the dual model of assimilative and accommodative coping (Rothermund & Brandstater, 2003) or the lifespan theory of control (Heckhausen & Schulz, 1995). These theories posit that older men and women tend to increasingly endorse cognitive strategies (e.g., acceptance of uncontrollable changes, disengagement from goals that are deemed unattainable) over behavioural strategies (e.g., lifestyle changes) when faced with life's challenges. Likely because they see their body through an unconditionally positive lens, women with high body appreciation successfully cope with age-related body "imperfections" they may perceive. As such, they experience less appearance anxiety, less body self-consciousness during sex, and less negative sexual outcomes (i.e., more sexual satisfaction and less sexual distress) even when focusing on the body during partnered sexual activity (Study 2). Hence, it is conceivable that body appreciation either directly results from, or is the *ipso facto* mechanism through which midlife and older women successfully cope with age-related changes.

Just as body image and gerontology research have been criticised for their bias towards focusing on the negative at the expense of the positive, so has sexuality research. As an illustration, in their content analysis of all articles published in four respected journals in the field of sexuality research (i.e., *The Journal of Sex Research*, *Archives of Sexual Behavior*, *The New England Journal of Medicine*, and *Obstetrics and Gynecology*), Arakawa and colleagues (2013) found that out 606 articles, only 7% examined positive aspects (e.g., sexual satisfaction, positive attitudes towards sex), whereas 58% and 35% investigated negative (e.g., risky sexual behaviours, STIs) and neutral aspects of sexuality (e.g., identity formation, prevalence of various

sexual identities), respectively. To compensate for this bias, scholars have called for more research to promote positive views on sexuality (Galinsky & Sonnenstein, 2011; Halpern, 2010). Because of the use of a definition of sexual health that is inclusive of both negative (i.e., sexual distress) and positive (i.e., sexual satisfaction) dimensions, this dissertation research in part answers this call and fills a gap in the sex research literature.

A contribution of note to an integrated positive psychology view of sexuality is the further support of a differentiation between sexual distress and sexual satisfaction. Previously, it was not unusual for researchers and clinicians to refer to sexual distress and sexual satisfaction interchangeably, with one being conceptualised as the obverse of the other (e.g., Impett & Tolman, 2006; Litzinger & Gordon, 2005; Snyder & Berg, 1983). Stephenson and Meston (2010) were among the first to demonstrate that, albeit intricately related, these two variables are independent concepts. More precisely, these researchers reported a significant difference in the distribution of sexual distress and sexual satisfaction in clinical and nonclinical samples, such that the former was most closely associated with sexual function, while the latter was most closely associated with relational functioning. Similarly, in Study 1 of this dissertation, sexual distress and sexual satisfaction were also found to be differently associated with age, suggesting that an individual's level of satisfaction with his or her sex life may be more sensitive to factors other than sexual function. From a conceptual standpoint, the differentiation between positive and negative facets of sexual health confirms that, just as it is the case for body image processes, variations in sexual *well*-being are not necessarily reflected through variation in sexual *ill*-being, and vice versa. Consideration should therefore be awarded equally, with separate psychometric instruments and analyses—in a true integrated positive psychology fashion.

This dissertation research also contributes to illuminate further the deleterious effect of appearance-related spectatorship on female sexual health (i.e., negative aspect), while offering a potential factor that may help mitigate this negative relationship (i.e., positive aspect). Specifically, it provides further evidence that body self-consciousness during sex is the mechanism through which trait body image variables affect women sexual health (e.g., Cash, Maikkula, & Yamamiya, 2004; La Rocque & Cioe, 2011; Steer & Tiggemann, 2008). Thus, while working towards decreasing appearance anxiety and body shame (two body image variables associated with heightened spectatorship; Study 2) could be useful in a clinical context, it may be more effective to target body self-consciousness during sex directly.

In recent years, there has been a growing body of literature attesting to the efficacy of sexual mindfulness in combatting psychological non-presence (Brotto & Heiman, 2007; de Jong, 2009). In addition to being immersed in the moment, one principle of sexual mindfulness that can be especially beneficial is the ability to accept oneself and refrain from self-judgment (Rosenbaum, 2013). Indeed, when a person is capable of observing adversity during sexual activity (e.g., sexual function-related difficulties) without negative labels or catastrophic thinking *and* stay attuned to the positive aspects of the intimate relationship, a host of favourable outcomes occur. These positive outcomes include most notably improved overall sexual and relationship satisfaction (Khaddouma, Coop Gordon, & Boldena, 2014), increased propensity to orgasm and experience sexual pleasure (Adam, Géonet, Day, & de Sutter, 2014), as well as improved sexual functioning in women with (Mayland, 2005) and without sexual problems (Brotto, Basson, & Luria, 2008; Brotto & Heiman, 2007).

Current findings suggest that body appreciation is a particularly effective way through which it is possible to capture empirically this attitude of non-judgment and self-compassion as it is

directed at the body. As Study 2 shows, when older women experience high appreciation for their body, they tend to report lower levels of appearance-related cognitions during sex, which are amongst the most prevalent non-erotic thoughts for women during sex (Carvalheira, Godinho, & Costa, 2016; Dove & Wiederman, 2000; Purdon & Holdaway, 2006). Perhaps more importantly, in our sample, body appreciation was found to buffer the negative effect of appearance-based spectating on sexual satisfaction and distress, thus providing further evidence of the central role of acceptance and a positive view of self and the body in mindfulness. Overall, increasing appreciation for the body constitutes both an innovative and advantageous avenue through which the principles of sexual mindfulness can be assessed and applied both clinically and empirically.

Limitations

The results of this dissertation need to be considered in light of some limitations, many of which have been delineated in details in the discussion sections of each study. Upon completion of this research, it appears that some of these shortcomings might have been successfully addressed in a number of ways. The following is a review of limitations and alternative methodological choices recommended in retrospect.

To start, one obvious drawback to the present research is its restriction to self-report measures. Study measures have indeed been shown to be occasionally susceptible to response bias, including social desirability (Furnham, 1986), non-response, and poor recall, such that the validity of the content assessed may be affected. Although the average scores obtained across all variables of interest were comparable to those reported in the articles in which the instruments were originally validated, it is not inconceivable that the data collected may have been biased towards reporting higher levels of sexual satisfaction, sexual function, and body appreciation, as well as lower sexual distress, self-objectification, and body dissatisfaction. To circumvent the

aforementioned social desirability bias, which is especially relevant to research on sensitive topics like sexuality, both studies incorporated an item inviting participants to rate their level of honesty during completion of the questionnaires. Although this item was useful in screening for self-reported validity, it would have preferable to include a full social desirability scale and/or employ a mixed method approach, composed of interviews and laboratory experiments.

With respect to experimental designs, there is evidence to suggest that a state of self-objectification can be induced in a laboratory setting. For instance, Frederickson and colleagues (1998) showed that by asking participants to try on a swimsuit rather than a sweater (i.e., the control condition) produced heightened levels of body shame and restraint eating. Using a similar design, it could have been interesting to test whether high body appreciation (assessed via self-report questionnaires at baseline) indeed causes attenuated levels of self-objectification in the experimental condition, or whether experimentally induced self-objectification predicts worse sexual health outcomes. Similarly, the impact of contextual body self-consciousness on women's perception of their sexual response could have been induced by inviting participants to watch an erotic movie segment in front of a mirror (Meston, 2006) or while a video camera is pointing at their faces and upper torso (van Lankveld & Bergh, 2008). In sum, methods alternative to self-report measures exist that may have reduced respondent-based bias in addition to helping draw conclusions pertaining to causality and directionality. Self-report measures nevertheless continue to be amongst the most commonly used and valid method of assessment in psychological research. As such, this dissertation served as a necessary first-step to determine whether more elaborate methods are required to ascertain the protective role of body appreciation.

Another significant limitation to this thesis research is the use of a cross-sectional design. In absence of longitudinal data, it cannot be established whether differences observed between age groups result from changes in chronological age or a cohort effect. Nonetheless, even when a longitudinal design cannot be achieved, some methodological strategies can be employed to improve upon traditional cross-sectional designs. For instance, research has shown that the familial and cultural context in which women are first exposed to body image messages can bear meaningful consequences on body image attitudes in adulthood (Byely, Archibald, Graber, & Brooks-Gunn, 2000; Kichler & Crowther, 2009; Lease, Doley, & Bond, 2015). To control for this and better isolate the contribution of age/cohort effect, some researchers have recruited mother-daughter dyads (McKinley, 1999, 2006) or even grandmother-mother-daughter triads (Kishinevsky, 2004) for their study of body image and ageing. Another potential suggestion for improvement may have been to not only collect cross-sectional data across an age-diverse sample women but also to inquire about perceptions of subjective change with age by means of retrospective data (e.g., Koch, Mansfield, Thureau, & Carey, 2005). Nonetheless, the current findings offer a significant contribution to our understanding of body image processes and how they are associated with indicators of sexual health comparatively in young, midlife, and older women.

With respect to external validity, the current studies have the substantial limitation of sampling from primarily highly educated, heterosexual women of European descent. Hence, it cannot be assumed that the results are generalizable to all women. In particular, exploratory research has suggested that sexual minority women experience significantly greater levels of body appreciation when compared to their heterosexual counterparts (Winter, Satinsky, & Jokowski, 2015). A potential reason for this may be that the LGBTQ culture tends to subscribe to

more flexible body norms and standards of beauty (Alvy, 2013). Similarly, it is possible that, because lesbian and bisexual women have a greater exposure to a wide variety of female bodies, they are more accepting and compassionate when it comes to assessing what is "normal" and beautiful (Tiggemann, 2015). In the same line of thought, women of varying ethno-cultural backgrounds (e.g., British women of Hispanic and African Caribbean descent, Muslim women wearing a hijab) have been found less inclined to internalise Western standards of beauty compared to women of European descent (Swami, Airs, Chouhan, Leon, & Towell, 2009; Swami, Miah, Noorani, & Taylor, 2014). As a result, they tend to adopt broader definitions of beauty, and thus experience higher appreciation for their body (Tiggemann, 2015). Additional research is therefore required to test the extent to which the results of this dissertation apply to sexual minorities and non-Western women. Purposeful advertising is one potential strategy that may help recruit more ethnically diverse samples.

Lastly, from a statistical standpoint, results of this dissertation have been somewhat hindered by a lack of statistical power. Explicitly, it has been shown that, in a typical study, the power to detect moderation effects is significantly lower than the recommended level of .80, but ranges on average from .20 to .34 (Aguinis, Boik, & Pierce 2001). Power is especially reduced when independent and moderator variables are highly correlated (Aguinis, 1995; Aguinis et al., 2001), such as is the case in Study 1 and 2 of this thesis. Consequently, there is a possibility that moderation effects may have not been detected (i.e., Type II error). While this is certainly a shortcoming, it also attests to the relative importance of the interaction effects identified since they were detected despite limited power. Due to midlife and older women being especially challenging a population to recruit for the purpose of sexuality research, the statistical procedures employed in Study 2 were particularly affected by the relatively small sample available.

Specifically, structural equation modelling (SEM) is the gold standard for confirmatory analyses (Byrne, 2009) and would have been preferable to path analyses. Similarly, multigroup analyses conducted between participants with the 25% highest, and 25% lowest levels of reported body appreciation in the sample would have allowed to assess whether model fit varies as a function of body appreciation. Therefore, future studies should seek to replicate Study 2, using SEM and multigroup analyses, with a larger sample to provide a satisfactory test of objectification theory's hypotheses pertaining to self-objectification, sexual health, and ageing. The current findings nevertheless provided an informative first glance at the overall relationships between these constructs.

Future Directions

In spite of the abovementioned limitations, the findings of this dissertation research contributes notably to the extant literature on body image, sexuality, and ageing. Nonetheless, more research is warranted to further elucidate how study variables interrelate. To this end, some suggestions for further examination are presented.

To start, based on some of the findings reported in this dissertation, further exploration of contextual body image processes and their impact on indicators of sexual health seem to be an important area for future consideration. Although much research is available on the contribution of trait body appreciation/positive body image to many areas of functioning, their role at the contextual level is unknown. Yet, just as negative aspects of body image are composed of stable components and state facets, so is positive body image likely to fluctuate based on the context in which a person finds him- or herself (Halliwell, 2015). In all probability, scholars have been hampered in their exploration of contextual aspects of positive body image by the lack of instrument to assess such concepts. Thus, an important first step would be the development and

validation of a contextual body appreciation scale. This tool applied to the sexual context could be inspired from the *Body Image Self-Consciousness Scale* (Dove & Wiederman, 2000). It could also be composed of items from the *Body Appreciation Scale-2* (Tylka & Wood-Barcalow, 2015a) re-worded in a manner similar to the following: "During sexual activity with a partner, I am attentive to my body's needs". Considering the strong association between body self-consciousness during sex and indicators of sexual health, it can be expected that contextual body appreciation may also play a meaningful role and potentially help counteract the detriments of appearance-related spectating on sexual well-being.

Another research direction that needs to be explored is the expansion of this dissertation research to non-age-related causes of physical change. Previous studies have highlighted the many similarities between gradual-onset (i.e., due to age) and sudden-onset (i.e., due to trauma or illness) changes to physical appearance and functionality. For instance, both require an adjustment period during which the body feels "foreign" before possibly moving towards acceptance (Baily, Kline, & Gammage, 2016; Wood-Barcalow, Tylka, & Augustus-Horvath, 2010). Similarly, regardless of whether the change is gradual or sudden, women have qualitatively reported feeling "invisible" due to a shift in the perceived attention received from others (Bailey et al., 2016; Hurd Clarke & Griffin, 2008). In this context, it could be interesting to assess the extent to which sudden changes to the body are processed and affect body appreciation experiences over time. Individuals who undergo severe illnesses and injuries have been found to manage changes to their body by shifting their focus away from appearance and in favour of gratitude for preserved functionality (Wood-Barcalow et al., 2010). Therefore, it can be assumed that, similar to older women, these individuals may experience levels of body appreciation that are either unchanged or even potentially higher than their pre-illness/injury

status (Tiggemann, 2015). However, this assumption needs to be tested. Examining the extent to which body appreciation may help these individuals negotiate the transition from within to outside of the objectification limelight might also hold implications for clinical interventions.

More research is also needed to explore the associations between body image, ageing, and sexual health in men. Over the last 20 years, men have become increasingly pressured to conform to a lean but muscular body ideal, which has been associated with higher appearance concerns and dissatisfaction (e.g., Grogan, 2007; Pope, Philips, & Olivardia, 2000; Smolak & Stein, 2006). However, little is known about the mechanism by which these socially condoned appearance ideals are internalised and how they are related to men's body image experiences in the context of partnered sexual activity specifically, or their sexual experiences in general. This may be especially salient for current and future cohorts of emerging adult men, who have been raised with many more appearance-related social prescriptions compared to their older counterparts (Frederick, Fessler, & Haselton, 2005; Law & Labre, 2002; Leit, Pope, & Gray, 2001). Thus, even as performance concerns during sex have been found to be significantly more prevalent and detrimental for men than appearance concerns (Carvalheira et al., 2016; Dove & Wiederman, 2000; Meana & Nunnink, 2006), it is possible that this tendency has, or will shift as younger cohorts of men become sexually active.

Although body image may only be an emerging issue for heterosexual men, its impact for gay men is already established. Indeed, when comparing the two groups, gay men have been shown to be at greater risk of reporting body dissatisfaction and overweight preoccupations, irrespective of BMI (Frederick & Essayli, 2016; Morrison, Morrison, & Saber, 2004; Peplau, Frederick, Yee, Maisel, Lever, & Ghavami, 2009). In addition to being more prevalent, body dissatisfaction has also been found to be more detrimental to gay men's overall quality of life and

eating behaviours (Kaminski, Chapman, Haynes, & Ows, 2005) compared to that of their heterosexual counterparts (Peplau et al., 2009). This trend appears to generalise to gay men's sexual experiences as well. Specifically, in two large online studies ($n = 2,512$ and $54,865$), up to 42% of gay men reported that feelings about their body had a deleterious effect on the quality of their sexual lives, compared to only 30% of heterosexual women and 22% of heterosexual men (Peplau et al., 2009). Similarly, in a series of five large studies conducted in the U.S., gay men ($n = 4,498$) were significantly more likely to have avoided having sex in the past month due to body dissatisfaction compared to heterosexual men ($n = 111,958$). They also tended to hide more body parts during sex, and did so more frequently than their heterosexual peers (Frederick & Essayli, 2016). Interestingly, no information is available regarding the negative sequelae that such an evaluative focus on the body during sex can potentially have on gay men's sexual health. For instance, it is currently unknown whether and how sexual function is affected or what mitigating factors exist to protect gay men against appearance-based spectating. Moreover, positive aspects of body image, including body appreciation, have never been investigated in gay men despite evidence that their experience of (negative) body image differs from that of heterosexual men (Tiggemann, 2015). Previous studies have shown that both the BAS and the BAS-2 are appropriate for use with a male population (Tylka, 2013; Tylka & Wood-Barcalow, 2015a). Hence, future research that examines the potential moderating effect of body appreciation on appearance-related spectating and body dissatisfaction in gay men is possible to fill these important gaps in the existing literature and help develop targeted clinical interventions.

Clinical Applications

One overarching goal of clinical psychology research is the development, implementation, and monitoring of effective interventions aimed at reducing suffering and improving well-being (Resnick, 2000). In line with this goal, some of the more direct implications of this dissertation research for sex therapy have been outlined in the discussion sections of each study. Among these and perhaps most noteworthy is the suggestion that promoting body appreciation in conjunction with sensate focus and mindfulness-based sex therapy interventions could benefit women in general, and older women with sexual function-related difficulties in particular. More broadly, the current findings underscore the relevance of resiliency-based interventions that are aimed at enhancing positive facets of the human experience. Because older adults experience a number of age-related changes to their sexual function, health, and overall well-being, learning to harness sources of meaning and resiliency during challenging times is especially important for older populations (Hill, 2011). The following is a brief review of clinical strategies that have been shown to promote body appreciation across the adult lifespan and could be promising, if and when combined with sex therapy interventions.

Gratitude, to start, has been defined as a life orientation towards being cognisant and appreciative of the positive in the world (Wood, Froh, & Geraghty, 2010). Derived from this definition and grounded in the positive psychology movement, gratitude interventions constitute a meaning-centred lifespan strategy that has been recommended for young and older adults alike (Duckworth, Steen, & Seligman, 2005; Hill, 2011; Wood & Tarrier, 2010). Applied to body image, gratitude interventions (i.e., keeping daily lists of up to six items for which clients were grateful for a duration of 14 days) were found to be as effective as daily automatic thought records, in reducing body dissatisfaction compared to a matched control group. Participants in

the gratitude group were also twice as likely to complete the intervention compared to the thought record group (Geraghty, Wood, & Hyland, 2010), suggesting that the former may be preferable to reduce attrition. Considering available evidence, it appears that gratitude interventions could also be advantageous in treating couple and sexuality-related difficulties, including changes to sexual function, by way of focusing on the positive.

Similarly, because compassion for, and acceptance of, the body is a cornerstone of body appreciation, this dissertation research also provides further support for the use of compassion-focused interventions. In a recent randomized control trial study, Albertson and colleagues (2014) demonstrated the efficacy of a 3-week self-compassion meditation training in reducing body dissatisfaction and body shame, as well as increasing self-compassion and body appreciation, in a sample of adult women aged 18 to 60. This intervention is cost-efficient and incorporates elements of mindfulness that are already considered gold standard in the treatment of hypoactive sexual desire, arousal, and pain in women (Brotto & Heiman, 2007; de Jong, 2009). Therefore, self-compassion meditation may well be included into current sexual mindfulness therapies.

Another relevant venue for enhancing body appreciation is teaching clients to focus on body functionality (i.e., what the body can do) rather than appearance (i.e., what the body looks like). Focusing on body functionality is not only associated with higher levels of body appreciation but also lower levels of self-objectification (Alleva, Martijn, Van Breukelen, Jansen, & Karos, 2015; Avalos & Tylka, 2006). It has also been shown to protect women against maladaptive beauty ideals transmitted through the media (Alleva, Veldhuis, & Martijn, 2016). According to recent applied research, it is possible to increase women's focus on body functionality by inviting them to write a series of assignments about what their body can do (e.g., the body's physical

capabilities, health, creative endeavours, self-care, and communication with others; Alleva et al., 2015; Alleva et al., 2016). Written assignments are already occasionally used in sex therapy to help clients reflect on their sexual fantasies or past sexuality-related experiences (e.g., Heiman, 2007). Consequently, written assignments that focus on body functionality in the sexual context (e.g., how the sense of smell or touch contribute to the sexual experience) could easily be incorporated into current sex therapy interventions aimed at reducing spectatoring in women.

In sum, many specific, time-limited, and efficient interventions exist that can promote body appreciation while reducing negative aspects of body image (e.g., self-objectification, body dissatisfaction). The current findings suggest that any one of these clinical strategies might be advantageous to augment positive body image, help women experience less self-objectification, and potentially decrease spectatoring during sex through a more adaptive view of the self and the body. As of yet, none of these body image interventions has been directly applied to sexuality-related problems. Evidence-based support is therefore needed to ascertain effectiveness and efficacy of these interventions in improving sexual health. Hopefully this dissertation research will provide impetus for further applied research in this area.

Concluding Remarks

In closing, it is noteworthy that the sociocultural context in which this thesis research is embedded has greatly evolved in the past decade. Pioneered by Dove's Campaign for Real Beauty (Unilever, 2008), the use of body-positive messages has proved to be a sound business strategy in the marketing industry. As such, many companies (Kellogg's Special K, Kotex, Always, Barbie) have since chosen to adopt realistic depictions of the female body to advertise their products, rather than the unrealistic standards that had become normalised and commonplace. Nowadays, mainstream pop artists sing about the cost of beauty ideals, praising

non-traditional beauty archetypes including curvaceous figures, and promote body confidence. Similarly, the habit of digitally modifying the female body into an idealised shape and more youthful appearance (i.e., "Photoshop"), although still routinely endorsed by advertisement companies, has come under increasing scrutiny in social media and other public platforms. In fact, Israel (Knesset, Government of Israel, 2012) and France (French National Assembly, 2015) recently adopted legislations requiring all digitally modified images to come with a disclaimer acknowledging that they have been altered. The fashion industry itself has evolved since Spain, Italy, Israel, and France all passed bills banning underweight models (i.e., BMI < 18) from appearing in runway events and advertisement campaigns (Paxton, 2011). Overall, it is clear that public attitudes towards unrealistic beauty ideals, and perhaps also the objectification of women, are slowly shifting for the better.

Upon completion of this thesis research, it is hoped that the positive change in popular discourse will continue to thrive and eventually expand to include older women, who so far have remained mainly "invisible" from the public sphere and mainstream media (Chrisler, 2007). Body image is a timely and popular issue that does not only concern young adults. Rather, the relationship women develop with their body is lifelong and associated with sexual health and well-being across adulthood. This dissertation was intended to illuminate the manner in which positive and negative aspects of body image interrelate and are associated with sexual function, sexual satisfaction, and sexuality-related distress in young and older women alike. Body appreciation is one such factor that can protect older women against self-objectification and the deleterious effect of age on sexual satisfaction. A positive feature of women's relationship to their body, it is conceptually different from negative facets of body image, such as body dissatisfaction. The gap between these concepts deepens as women grow older and seem to

develop a more compassionate and self-accepting view of their body despite age-related changes. Similarly, positive (i.e., sexual satisfaction) and negative (i.e., sexual distress) aspects of sexual health are not opposite states but rather independent constructs requiring separate investigations and measurement instruments.

In light of these distinctions, it becomes clear that research must account holistically for a range of human experiences and characteristics. An integrated positive psychology perspective appears most suited to conceptualise this perspective. Similarly, clinical practice for sexuality-related problems would likely benefit from expansion, including strength-based interventions augmenting body appreciation. By further enhancing our understanding of the complex association between body image and sexuality across adulthood, it is hoped that this research will help future generations of women step away from the constraints of “objectification limelight” (Frederickson & Roberts, 1997) and the proverbial “gilt cage”(Wollstonecraft, 1792, p. 90).

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Appendix A

Research Ethics Board Approval

File Number: H03-14-16

Date (mm/dd/yyyy): 04/07/2014



Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

Ethics Approval Notice

Health Sciences and Science REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Elke	Reissing	Social Sciences / Psychology	Supervisor
Anne-Rose	Bouaziz	Social Sciences / Psychology	Student Researcher

File Number: H03-14-16

Type of Project: Independent Student Project

Title: Investigating Body Appreciation and Sexual Health in Women Across the Lifespan

Approval Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
04/07/2014	04/06/2015	1a

(1a: Approval, 1b: Approval for initial stage only)

Special Conditions / Comments:
N/A



Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

This is to confirm that the University of Ottawa Research Ethics Board identified above, which operates in accordance with the Tri-Council Policy Statement and other applicable laws and regulations in Ontario, has examined and approved the application for ethical approval for the above named research project as of the Ethics Approval Date indicated for the period above and subject to the conditions listed the section above entitled "Special Conditions / Comments".

During the course of the study the protocol may not be modified without prior written approval from the REB except when necessary to remove participants from immediate endangerment or when the modification(s) pertain to only administrative or logistical components of the study (e.g. change of telephone number). Investigators must also promptly alert the REB of any changes which increase the risk to participant(s), any changes which considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project and safety of the participant(s). Modifications to the project, information/consent documentation, and/or recruitment documentation, should be submitted to this office for approval using the "Modification to research project" form available at: <http://www.research.uottawa.ca/ethics/forms.html>

Please submit an annual status report to the Protocol Officer 4 weeks before the above-referenced expiry date to either close the file or request a renewal of ethics approval. This document can be found at: <http://www.research.uottawa.ca/ethics/forms.html>

If you have any questions, please do not hesitate to contact the Ethics Office at extension 5387 or by e-mail at: ethics@uOttawa.ca.

Signature:

Riana Marcotte
Protocol Officer for Ethics in Research
For Daniel Lagarec, Chair of the Sciences and Health Sciences REB

File Number: H05-15-06

Date (mm/dd/yyyy): 06/15/2015



Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

Ethics Approval Notice

Health Sciences and Science REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

First Name	Last Name	Affiliation	Role
Elke	Reissing	Social Sciences / Psychology	Supervisor
Anne-Rose	Bonazir	Social Sciences / Psychology	Student Researcher

File Number: H05-15-06

Type of Project: PhD Thesis

Title: Out of "Objectification limelight"? The contribution of body appreciation to sexual health in midlife women

Approval Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
06/15/2015	06/14/2016	Ia
(Ia: Approval, Ib: Approval for initial stage only)		

Special Conditions / Comments:
N/A



Université d'Ottawa

Bureau d'éthique et d'intégrité de la recherche

University of Ottawa

Office of Research Ethics and Integrity

This is to confirm that the University of Ottawa Research Ethics Board identified above, which operates in accordance with the Tri-Council Policy Statement (2010) and other applicable laws and regulations in Ontario, has examined and approved the ethics application for the above named research project. Ethics approval is valid for the period indicated above and subject to the conditions listed in the section entitled "Special Conditions / Comments".

During the course of the project, the protocol may not be modified without prior written approval from the REB except when necessary to remove participants from immediate endangerment or when the modification(s) pertain to only administrative or logistical components of the project (e.g., change of telephone number). Investigators must also promptly alert the REB of any changes which increase the risk to participant(s), any changes which considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project and safety of the participant(s). Modifications to the project, including consent and recruitment documentation, should be submitted to the Ethics Office for approval using the "Modification to research project" form available at: <http://research.uottawa.ca/ethics/submissions-and-reviews>.

Please submit an annual report to the Ethics Office four weeks before the above-referenced expiry date to request a renewal of this ethics approval. To close the file, a final report must be submitted. These documents can be found at: <http://research.uottawa.ca/ethics/submissions-and-reviews>.

If you have any questions, please do not hesitate to contact the Ethics Office at extension 5387 or by e-mail at: ethics@uOttawa.ca.

Signature:

Riana Marcotte

Protocol Officer for Ethics in Research

For Daniel Lagarec, Chair of the Health Sciences and Sciences REB

Appendix B

Notices of Study

Mirror, Mirror...

The Human Sexuality Laboratory at the University of Ottawa is conducting a study on *body image* and *sexual health* in women *across the lifespan*.

- *Are you a woman aged 18 years or older?*
- *Are you heterosexual and currently in a relationship?*
- *Has that relationship lasted a year or more?*

If you have answered **YES** to these questions, you are eligible to participate in our study!

The purpose of this research project is to examine the way women relate to their body throughout adulthood and how it may affect their sexual health. We are looking for women of all ages to complete a *brief* and *anonymous* survey.

To get more information or request a hardcopy of the questionnaires

Call Rose at: (613) xxx-xxxx ext. xxxx or

Email: xxxxx@uottawa.ca

To participate online, please go to: <http://fluidsurveys.com/s/MirrorMirror/>



uOttawa

This study has received ethics approval from the University of Ottawa's Research Ethics Board.

Study 1 – Recruitment poster (targeting older women)

Mirror, Mirror...

The Human Sexuality Laboratory at the University of Ottawa is conducting a study on *body image* and *sexual health* in women of *all* ages.

Because mature women relate to their body differently, we are particularly interested in their perspective.

To participate, you must be:

- A woman
- Heterosexual
- In a relationship with a man for a year or more

Participation consists in filling a *brief* and *anonymous* survey.

To get more information or request a hardcopy of the questionnaires

Call Rose at: (613) xxx-xxxx ext. xxx or
Email: xxxxx@uottawa.ca

To participate online, please go to:

<http://fluidsurveys.com/s/MirrorMirror/>

This study has received ethics approval from the University of Ottawa's Research Ethics Board.

Study 1 – Recruitment email sample

Object: Study on body image and sexual health

Hello,

My name is Rose Bouaziz. I am a doctoral student in the School of Psychology at the University of Ottawa, as well as a member of the Human Sexuality Research Laboratory.

Our research laboratory is currently conducting a study on how women relate to their body across adulthood and the way it may affect their sexual health. For example, we are interested in exploring whether older women appreciate their body differently than younger women. We are also curious to know the extent to which positive body image is related to sexual wellbeing.

Research to date has mostly conducted among women in their early 20s, which is not representative of older women's experience. It has also focused mostly on the negative aspects of body image while mostly forgetting to look at the benefits of having a positive view of one's body. Through our study, we expect to capture a better picture of this phenomenon, so as to help women who are struggling with body image and sexual issues.

Specifically, we are looking for:

- Women,
- Aged 50+,
- Heterosexual,
- Who are currently involved in a romantic relationship with a man that has lasted one year or more.

Given your active role in the community we would greatly appreciate if you would agree to share the link of our study with women in your chapter. Participation entails filling out a one-time anonymous survey on body image and sexual health. It should take approximately 20 to 30 minutes to complete. You can contact me at xxxxx@uottawa.ca or call +1-613-xxx-xxxx, ext. xxxx if you have any questions or would like more details regarding this study.

The survey can be found at **<http://fluidsurveys.com/s/MirrorMirror/>** and via the website of the Human Sexuality Research Lab at the University of Ottawa: <http://www.socialsciences.uottawa.ca/hslab-labosh/>.

Women who are interested in participating are also welcome to contact me at this email address if they prefer that the study package be mailed to them.

Thank you,

Rose Bouaziz, B.A.
PhD Student in Clinical Psychology
Human Sexuality Research Laboratory
University of Ottawa

Study 1 – Inclusion criteria

Thank you for your interest in this study!

Before we proceed, we would like to ask you a couple questions in order to make sure you are eligible to participate.

- ☞ Are you 18 years of age or older ☐Yes ☐No
- ☞ Are you a female? ☐Yes ☐No
- ☞ Are you heterosexual? ☐Yes ☐No
- ☞ Are you currently involved in a committed romantic relationship that has lasted 12 months or more? ☐Yes ☐No

Study 1 – Resource sheet

Body Appreciation and Sexual Health in Women across the Lifespan

Information and Resource Page

Thank you for participating in this research project!

Some people may feel some discomfort or embarrassment as a result of answering questions related to sexuality or body image dissatisfaction. Please find below a few resources that may be of interest to you.

Psychological Services

Mental Health Helpline - 866-531-2600 (*English*)

866-277-3553 (*Francais*)

Provides information about counselling services and supports in Ontario and Quebec

Tel-aide Outaouais

1-800-567-9699

Dr. Elke Reissing, C.Psych.

Director of the Human Sexuality Laboratory at the University of Ottawa

Tel.: 613-xxx-xxxx, ex. xxxx

Email: Reissing@uottawa.ca

Internet: <http://www.socialsciences.uottawa.ca/hslab-labosh/index.asp>

Gilmour Psychological Services

437 Gilmour St.

Ottawa, ON K2P 0R5

Tel.: 613-230-4709

University of Ottawa: Centre for Psychological Services and Research

Vanier Hall, 4th Floor, 136 Jean-Jacques Lussier, Ottawa, K1N 6N5

Tel.: 613-562-5289

(Note: Doctoral students provide service under the supervision of faculty members. A sliding fee scale is in place.)

Nancy Smith, M.S.W., R.S.W.
 Ottawa Couple and Family Institute
 1869 Carling Avenue, Suite 201
 Ottawa, ON K2H 1E6
 Tel.: xxx

Sandra Levine Slover, M.S.W., R.S.W.
 1800 Bank St., Suite 200
 Ottawa, ON K1V 0W3
 Tel.: xxx

Internet Resources

List of Canadian Distress Centers
<http://www.suicideprevention.ca/in-crisis-now/find-a-crisis-centre-now/>

Find a Psychologist in Your Area
<http://www.cpa.ca/public/findingapsychologist/>

Centre de Prevention de Quebec
<http://www.cpsquebec.ca/liens-utiles/>

Sex Info Online
<http://www.soc.ucsb.edu/sexinfo/>

Canadian Women Health Network
<http://www.cwhn.ca/en>

Sexual Health Network
<http://www.sexualhealth.com/>

American Psychological Association Aging and Human Sexuality Resource Guide
<http://www.apa.org/pi/aging/resources/guides/sexuality.aspx>

National Eating Disorder Information Centre
<http://www.nedic.ca>

Books

Living with your body and other things you hate: How to let go of your struggle with body image using Acceptance Commitment Therapy

Sandoz, E. K., & DuFrene, T. (2014). Oakland, CA: New Harbinger Publications.

Not tonight dear, I feel fat: How to stop worrying about your body and have great sex

Alvear, M. (2013). Naperville, IL: Sourcebooks.

Our Bodies, Ourselves, Revised edition

Boston Women's Health Book Collective, & Norsigina, J. (2011). New York, NY: Touchstone

Sex over 50

Block, J. D., & Bakos, S. C. (1999). Paramus, NJ: Reward Books.

Study 2 – Recruitment poster

Women 50+

WE WANT YOUR PERSPECTIVE!

The Human Sexuality Research Laboratory at the University of Ottawa is conducting a study on *body image* and *sexual health* in women.

This study seeks to examine the relationship between the way women feel about their body and their sexual experiences. Although there is a lot of research on younger women, mature women are often forgotten.

Help us learn more about YOUR body image and sexual health experiences!

To participate, you must be:

- A woman
- Heterosexual
- Aged 50+

Participation consists in filling an *anonymous* research survey.

To participate online, please go to:

http://uottawapsy.az1.qualtrics.com/SE/?SID=SV_3n4W6Y2uBY04diB

For more information, call Rose at: (613) xxx-xxxx ext. xxxx
or Email: xxxxx@uottawa.ca

This study has received ethics approval from the University of Ottawa's Research Ethics Board.

Study 2 – Recruitment email sample

Object: PhD study on body image and sexual health in women 50+

Hello,

My name is Rose Bouaziz. I am a doctoral student in the School of Psychology, as well as a researcher in the Human Sexuality Research Laboratory at the University of Ottawa.

In the context of my PhD dissertation, I am currently conducting a study on how mature women relate to their body and the way this may affect their sexual health. Research to date has mostly focused on younger women whose experience is not representative of that of older women. Therefore, this study aims to improve clinical interventions offered to women of all ages who suffer from body image and sexual health difficulties.

In order to achieve this goal, we are looking for:

- Women,
- Aged 50+,
- Heterosexual,

Given your active role in the community we would greatly appreciate if you would agree to share the link of my study with women who you think may be interested. Participation entails filling out a one-time anonymous survey on body image and sexual health. It should take approximately 15-30 minutes to complete. Please remember that all the information provided will be **anonymous**.

The survey can be found at http://uottawapsy.az1.qualtrics.com/SE/?SID=SV_3n4W6Y2uBY04diB.

You can contact me at xxxxx@uottawa.ca or call +1-613-xxx-xxxx, ext. xxxx if you have any questions or would like more details regarding this study. You can also contact my thesis director, Dr. Elke Reissing at reissing@uottawa.ca.

Thank you,

Rose Bouaziz
PhD Candidate in Clinical Psychology
Human Sexuality Research Laboratory
University of Ottawa

Study 2 – Inclusion criteria

Thank you for your interest in this study!

Before we proceed, we would like to ask you a couple questions in order to make sure you are eligible to participate.

- ☞ Are you a female? ☐Yes ☐No
- ☞ Are you 50 years of age or older? ☐Yes ☐No
- ☞ Are you heterosexual? ☐Yes ☐No

Study 2 – Resource sheet

Body Appreciation and Sexual Health in Women across the Lifespan

Information and Resource Page

Some people may feel some discomfort or embarrassment as a result of answering questions related to sexuality or body image dissatisfaction. Please find below a few resources that may be of interest to you. We also encourage you to talk with your family physician if you need further support.

Psychological Services

For residents of Canada:

- Mental Health Helpline

1-866-531-2600 (*English*)

1-866-277-3553 (*Francais*)

Provides information about counselling services and supports in Ontario and Quebec

- Tel-aide Outaouais

1-800-567-9699

For residents of the United States:

- Crisis Call Center

1-800-273-8255

- National Suicide Prevention Lifeline

1-800-273-8255

- More hotline numbers are available at :

<http://psychcentral.com/lib/common-hotline-phone-numbers/0001302>

For residents of the Ottawa/Gatineau region:

Dr. Elke Reissing, C.Psych.

Director of the Human Sexuality Laboratory at the University of Ottawa

Tel.: 613-xxx-xxxx, ex. xxxx

Email: xxxxx@uottawa.ca

Internet: <http://www.socialsciences.uottawa.ca/hslab-labosh/index.asp>

Gilmour Psychological Services

Dr. Caroline Ostiguy, Ph.D.

Psychologist in private practice specializing in sexual health

437 Gilmour St.

Ottawa, ON K2P 0R5

Tel.: xxx

University of Ottawa: Centre for Psychological Services and Research

Vanier Hall, 4th Floor, 136 Jean-Jacques Lussier, Ottawa, K1N 6N5

Tel.: 613-562-5289

(Note: Doctoral students provide service under the supervision of faculty members. A sliding fee scale is in place.)

Lisa Henry, M.A.

Sexologue clinicienne et psychothérapeute; Clinical Sexologist; BILINGUAL

Psychologues Consultants Y2

125 Wellington, Gatineau (Hull), Québec J8X 2J1

Tel: xxx

Email: xxx

Internet Resources

List of Canadian Distress Centers

<http://www.suicideprevention.ca/in-crisis-now/find-a-crisis-centre-now/>

Find a Psychologist in Your Area

<http://www.cpa.ca/public/findingapsychologist/>

Centre de Prevention de Quebec

<http://www.cpsquebec.ca/liens-utiles/>

Sex Info Online

<http://www.soc.ucsb.edu/sexinfo/>

Canadian Women Health Network

<http://www.cwhn.ca/en>

Sexual Health Network

<http://www.sexualhealth.com/>

American Psychological Association Aging and Human Sexuality Resource Guide

<http://www.apa.org/pi/aging/resources/guides/sexuality.aspx>

National Eating Disorder Information Centre

<http://www.nedic.ca>

Books

Living with your body and other things you hate: How to let go of your struggle with body image using Acceptance Commitment Therapy

Sandoz, E. K., & DuFrene, T. (2014). Oakland, CA: New Harbinger Publications.

Not tonight dear, I feel fat: How to stop worrying about your body and have great sex

Alvear, M. (2013). Naperville, IL: Sourcebooks.

Our Bodies, Ourselves, Revised edition

Boston Women's Health Book Collective, & Norsigina, J. (2011). New York, NY: Touchstone

Sex over 50

Block, J. D., & Bakos, S. C. (1999). Paramus, NJ: Reward Books.

Appendix C

Consent Forms

Study 1 – Information sheet

UNIVERSITY OF OTTAWA INFORMATION SHEET

PROJECT: Investigating Body Appreciation and Sexual Health in Women across the Lifespan

PRINCIPAL INVESTIGATOR: A.-Rose Bouaziz

SUPERVISOR: Dr. Elke Reissing

INFORMATION

Thank you again for your interest in participating in our study!

We know that body image and sexuality are intricately related, particularly for women. However, a lot of the research to date has been geared towards younger women and solely focused on the negative aspects of body image. We do not want to follow in those footsteps. Rather, we hope to collect information on the experience of women from as wide an age range as possible and explore all facets of body image. Your help in this endeavour is greatly appreciated! Ultimately, we expect that this research project will help promote positive body image among women of all ages. We also aim to provide better support for those whose sexual health and wellbeing is affected.

You will note that there are several sections to this study. All of the sections are important to expanding our understanding of this issue. Participating in this study involves filling out a series of questionnaires that will take 20 to 30 minutes to complete. Please complete the questionnaires in one sitting, as you will not be able to save your answer for later (this will protect your anonymity as we do not collect computer addresses).

RISKS

You will be asked some questions regarding your sexual experiences in your intimate relationships. This can cause a range of positive or negative emotions in some people. You are free to withdraw from the study at any time without consequence. In the case that any negative thoughts or feeling persist as a result of your participation in this study, a list of resources will be provided to you. You may also contact Dr. Elke Reissing, who is a licensed psychologist specializing in sexual health, whom you can speak to at no charge.

BENEFITS

You may find it interesting and enriching to reflect on some of the questions and responses. By considering the questions, you may discover new insights because you may have never been prompted to think about the topics. You will also have the opportunity to directly observe and learn about methods commonly used in psychology. Specifically, you will learn how researchers design studies to address psychological issues, thus enhancing your understanding of research methods. You will also help us gain a better understanding of what is relevant to women of all ages within the realm of sexuality and the way it is affected by their body image. Thank you again for giving some of your time to helping researchers and healthcare professionals better understand the experiences of women like you and learn how to better assist them. Your responses will serve to fill many gaps in our knowledge and move this field forward!

CONFIDENTIALITY

The information that you share will remain strictly confidential. The contents will be used only to explore the purpose of the research listed above. Your confidentiality will also be protected because all of your data will be pooled with that of other participants. This means that the specific answers that you give will never be discussed individually, nor will it be possible to track them back to you in any way – only group statistics will be analyzed and reported. Identifying information will not be collected on any of the questionnaires. In addition, this survey will not leave any markers or save anything to your computer and the Internet company hosting the survey will not collect IP addresses (computer addresses) so your confidentiality and anonymity are protected.

CONTACT

If you have questions at any time about the study or the procedures, or you experience any adverse effects as a result of participating in this study you may contact the study supervisor, Dr. Elke Reissing, at the Psychology Department, University of Ottawa, Office VNR 4010, at (613) xxx-xxxx, extension xxxx or xxxxx@uottawa.ca and the principal investigator, A.-Rose Bouaziz at (613) xxx-xxxx, extension xxxx or xxxx@uottawa.ca. This project has been reviewed and approved by the University Research Ethics Board. If you have any questions regarding the ethical conduct of this study, you may contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5, by phone at 613-562-5387 or by email at ethics@uottawa.ca.

PARTICIPATION

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled. Given the anonymous nature of the data you can withdraw from the study by not returning the questionnaire, however, once it has been returned, it will be impossible to track individual questionnaires. You also have the right to not answer any questions you do not feel comfortable answering and still remain in the study.

FEEDBACK AND PUBLICATION

The data obtained from this study will be used to create peer-reviewed scientific publications and will be presented at scholarly conferences of professionals and/or to health care professionals. It will also potentially be used in the context of the principal investigator's doctorate thesis.

By completing and submitting the questionnaire to the researcher, you are agreeing to participate in the proposed research project.

You should print a copy of the consent form to keep for your personal records

Study 2 – Consent form

UNIVERSITY OF OTTAWA INFORMATION SHEET

PROJECT: The contribution of Body Appreciation to Sexual Health in Midlife Women
PRINCIPAL INVESTIGATOR: A.-Rose Bouaziz
SUPERVISOR: Dr. Elke Reissing

INFORMATION

Thank you again for your interest in participating in our study!

We know that body image and sexuality are intricately related, particularly for women. However, a lot of the research to date has been geared towards younger women and solely focused on the negative aspects of body image. We do not want to follow in those footsteps. Rather, we hope to collect information on the experience of more mature women who may feel differently about their body and sexuality than women in their twenties. Your help in this endeavour is greatly appreciated! Ultimately, we expect that this research project will help promote positive body image among women of all ages. We also aim to provide better support for those whose sexual health and wellbeing is affected.

You will note that there are several sections to this study. All of the sections are important to expanding our understanding of this issue. Participating in this study involves filling out a series of questionnaires that will take approximately 45 minutes to complete. Please complete the questionnaires in one sitting, as you will not be able to save your answers for later.

RISKS

You will be asked some questions regarding your sexual experiences in your intimate relationships. This can cause a range of positive or negative emotions in some people. You are free to withdraw from the study at any time without consequence. In the case that any negative thoughts or feeling persist as a result of your participation in this study, a list of resources will be provided to you. You may also contact Dr. Elke Reissing, who is a licensed psychologist specializing in sexual health, for additional information on potential resources in your area.

BENEFITS

You may find it interesting and enriching to reflect on some of the questions and responses. By considering the questions, you may discover new insights because you may have never been prompted to think about the topics. You will also have the opportunity to directly observe and learn about methods commonly used in psychology. Specifically, you will learn how researchers design studies to address psychological issues, thus enhancing your understanding of research methods. You will also help us gain a better understanding of what is relevant to women of all ages within the realm of sexuality and the way it is affected by their body image. Thank you again for giving some of your time to helping researchers and healthcare professionals better understand the experiences of women like you and learn how to better assist them. Your responses will serve to fill many gaps in our knowledge and move this field forward!

CONFIDENTIALITY

This survey is hosted by Qualtrics, an online survey company located in the USA and as such, is subject to U.S. laws. In particular, the US Patriot Act, which allows authorities access to the records of Internet service providers. Qualtrics has met privacy standards for the storage of health care records, as outlined by the Health Insurance Portability and Accountability Act. This survey or questionnaire does not ask for personal identifiers or any information that may be used to identify you. If you choose to participate in the survey, you understand that your responses to the survey questions will be stored and accessed in the USA. The security and privacy policy for the online survey company can be found at the following link:

<http://www.qualtrics.com/security-statement/>

The information that you share will be kept confidential. The contents will be used only to explore the purpose of the research listed above. Your confidentiality will also be protected because all of your data will be pooled with that of other participants. This means that the specific answers that you give will never be discussed individually, nor will it be possible to track them back to you in any way – only group statistics will be analyzed and reported. In addition, this survey will not leave any markers or save anything to your computer. In order to minimize the risk of security breaches and to help ensure your confidentiality we recommend that you use standard safety measures such as signing out of your account, closing your browser and locking your screen or device when you have completed the study.

CONTACT

If you have questions at any time about the study or the procedures, or you experience any adverse effects as a result of participating in this study you may contact the study supervisor, Dr. Elke Reissing, at the Psychology Department, University of Ottawa, Office VNR 4010, at (613) xxx-xxxx, extension xxxx or reissing@uottawa.ca and the principal investigator, A.-Rose Bouaziz at (613) xxx-xxxx, extension xxxx or xxxxx@uottawa.ca. This project has been reviewed and approved by the University Research Ethics Board. If you have any questions regarding the ethical conduct of this study, you may contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5, by phone at 613-562-5387 or by email at ethics@uottawa.ca.

PARTICIPATION

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled. Given the anonymous nature of the data you can withdraw from the study by not returning the questionnaire, however, once it has been returned, it will be impossible to track individual questionnaires. You also have the right to not answer any questions you do not feel comfortable answering and still remain in the study.

FEEDBACK AND PUBLICATION

The data obtained from this study will be used to create peer-reviewed scientific publications and will be presented at scholarly conferences of professionals and/or to health care professionals. It will also potentially be used in the context of the principal investigator's doctorate thesis.

You should print a copy of the consent form to keep for your personal records

- ☐ I consent to participating in this study
- ☐ I do NOT consent to participating in this study

Appendix D

Study Measures

Study 1 – Survey package

SECTION I - Body Image

INSTRUCTIONS: Using the scale below, please circle the answer that best characterises your attitudes or behaviours.

Never	Seldom	Sometimes	Often	Always
1	2	3	4	5

- | | | | | | |
|---|---|---|---|---|---|
| 1. I respect my body. | 1 | 2 | 3 | 4 | 5 |
| 2. I feel good about my body. | 1 | 2 | 3 | 4 | 5 |
| 3. On the whole, I am satisfied with my body. | 1 | 2 | 3 | 4 | 5 |
| 4. Despite its flaws, I accept my body for what it is. | 1 | 2 | 3 | 4 | 5 |
| 5. I feel that my body has at least some good qualities. | 1 | 2 | 3 | 4 | 5 |
| 6. I take a positive attitude toward my body. | 1 | 2 | 3 | 4 | 5 |
| 7. I am attentive to my body's needs. | 1 | 2 | 3 | 4 | 5 |
| 8. My self-worth is independent of my body shape or weight. | 1 | 2 | 3 | 4 | 5 |
| 9. I do not focus a lot of energy being concerned with my body shape or weight. | 1 | 2 | 3 | 4 | 5 |
| 10. My feelings toward my body are positive, for the most part. | 1 | 2 | 3 | 4 | 5 |
| 11. I engage in healthy behaviours to take care of my body. | 1 | 2 | 3 | 4 | 5 |
| 12. I do not allow unrealistically thin images of women presented in the media to affect my attitudes toward my body. | 1 | 2 | 3 | 4 | 5 |
| 13. Despite its imperfections, I still like my body. | 1 | 2 | 3 | 4 | 5 |

INSTRUCTIONS: Now, please indicate your *level of agreement* with the following statements.

	Definitely disagree	Mostly disagree	Neither agree nor	Mostly agree	Definitely agree
14. My body is sexually appealing.	☐	☐	☐	☐	☐
15. I like my looks just the way they are	☐	☐	☐	☐	☐
16. Most people would consider me good looking.	☐	☐	☐	☐	☐
17. I like the way I look without my clothes.	☐	☐	☐	☐	☐
18. I like the way my clothes fit me.	☐	☐	☐	☐	☐

19. I dislike my physique. ☐ ☐ ☐ ☐ ☐
20. I'm physically unattractive. ☐ ☐ ☐ ☐ ☐

INSTRUCTIONS: Please circle according to the scale below *how satisfied or dissatisfied* you are with each of the following areas or aspects of your body.

Very Dissatisfied	Mostly Dissatisfied	Neutral	Mostly Satisfied	Very Satisfied
1	2	3	4	5

- | | | | | | |
|--|---|---|---|---|---|
| 21. Face (facial features, complexion) | 1 | 2 | 3 | 4 | 5 |
| 22. Hair (colour, thickness, texture) | 1 | 2 | 3 | 4 | 5 |
| 23. Lower torso (buttocks, hips, thighs, legs) | 1 | 2 | 3 | 4 | 5 |
| 24. Mid torso (waist, stomach) | 1 | 2 | 3 | 4 | 5 |
| 25. Upper torso (chest or breast, shoulders, arms) | 1 | 2 | 3 | 4 | 5 |
| 26. Muscle tone | 1 | 2 | 3 | 4 | 5 |
| 27. Weight | 1 | 2 | 3 | 4 | 5 |
| 28. Height | 1 | 2 | 3 | 4 | 5 |
| 29. Overall appearance | 1 | 2 | 3 | 4 | 5 |

Thank you for your help so far! This is the end of the body image section.

SECTION II - Sexual Health

In this section, we are going to inquire about your level of sexual satisfaction in your current relationship, your potential sexual problems, and the distress it might cause you. These are intimate questions; however, remember that your answers are anonymous. They will be polled with that of other women to produce general tendencies. We really appreciate your contributions and insight into these questions so that healthcare professionals can better help women who may struggle in these areas.

INSTRUCTIONS: Thinking back to your sex life in the last 6 months, please rate how *satisfied* you were with the following aspects according to this scale:

Not at all Satisfied	A little Satisfied	Moderately Satisfied	Very Satisfied	Extremely Satisfied
1	2	3	4	5

- | | | | | | | |
|---|---|---|---|---|---|------------------------------|
| 1. The intensity of my arousal. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 2. The quality of my orgasms. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 3. My "letting go" and surrender to sexual pleasure during sex. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 4. My focus/concentration during sexual activity. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 5. The way I sexually react to my partner. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 6. My body's sexual functioning. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 7. My emotional opening up during sex. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 8. My mood after sexual activity. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 9. The frequency of my orgasms. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 10. The pleasure I provide to my partner. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 11. The balance between what I give and receive in sex. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 12. My partner's emotional opening up during sex. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 13. My partner's initiation of sexual activity. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 14. My partner's ability to orgasm. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 15. My partner's surrender to sexual pleasure ("letting go"). | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 16. The way my partner takes care of my sexual needs. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 17. My partner's sexual creativity. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 18. My partner's sexual availability. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 19. The variety of my sexual activities. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 20. The frequency of my sexual activity. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |

INSTRUCTIONS: These questions ask about your sexual feelings and responses during the past 4 weeks. Please answer the following questions as honestly and clearly as possible. Your responses will be kept completely confidential. In answering these questions the following definitions apply:

- *Sexual activity* can include caressing, foreplay, masturbation and vaginal intercourse.
- *Sexual intercourse* is defined as penile penetration (entry) of the vagina.
- *Sexual stimulation* includes situations like foreplay with a partner, self-stimulation (masturbation), or sexual fantasy.

CHECK ONLY ONE BOX PER QUESTION.

Sexual desire or interest is a feeling that includes wanting to have a sexual experience, feeling receptive to a partner's sexual initiation, and thinking or fantasizing about having sex.

1. Over the past 4 weeks, how **often** did you feel sexual desire or interest?

- ☐ Almost always or always
- ☐ Most times (more than half the time)
- ☐ Sometimes (about half the time)
- ☐ A few times (less than half the time)
- ☐ Almost never or never

2. Over the past 4 weeks, how would you rate your **level** (degree) of sexual desire or interest?

- ☐ Very high
- ☐ High
- ☐ Moderate
- ☐ Low
- ☐ Very low or none at all

Sexual arousal is a feeling that includes both physical and mental aspects of sexual excitement. It may include feelings of warmth or tingling in the genitals, lubrication (wetness), or muscle contractions.

3. Over the past 4 weeks, how **often** did you feel sexually aroused ("turned on") during sexual activity or intercourse?

- ☐ No sexual activity
- ☐ Almost always or always
- ☐ Most times (more than half the time)
- ☐ Sometimes (about half the time)
- ☐ A few times (less than half the time)
- ☐ Almost never or never

4. Over the past 4 weeks, how would you rate your **level** of sexual arousal ("turn on") during sexual activity or intercourse?

- | | |
|---|--|
| ☐ No sexual activity | ☐ Moderate |
| ☐ Very high | ☐ Low |
| ☐ High | ☐ Very low or none at all |

5. Over the past 4 weeks, how **confident** were you about becoming sexually aroused during sexual activity or intercourse?

- ☐ No sexual activity
- ☐ Very high confidence
- ☐ High confidence
- ☐ Moderate confidence
- ☐ Low confidence
- ☐ Very low or no confidence

6. Over the past 4 weeks, how **often** have you been satisfied with your arousal (excitement) during sexual activity or intercourse?

- ☐ No sexual activity
- ☐ Almost always or always
- ☐ Most times (more than half the time)
- ☐ Sometimes (about half the time)
- ☐ A few times (less than half the time)
- ☐ Almost never or never

7. Over the past 4 weeks, how **often** did you become lubricated ("wet") during sexual activity or intercourse?

- ☐ No sexual activity
- ☐ Almost always or always
- ☐ Most times (more than half the time)
- ☐ Sometimes (about half the time)
- ☐ A few times (less than half the time)
- ☐ Almost never or never

8. Over the past 4 weeks, how **difficult** was it to become lubricated ("wet") during sexual activity or intercourse?

- ☐ No sexual activity
- ☐ Extremely difficult or impossible
- ☐ Very difficult
- ☐ Difficult
- ☐ Slightly difficult
- ☐ Not difficult

9. Over the past 4 weeks, how often did you **maintain** your lubrication ("wetness") until completion of sexual activity or intercourse?

- ☐ No sexual activity
- ☐ Almost always or always
- ☐ Most times (more than half the time)
- ☐ Sometimes (about half the time)
- ☐ A few times (less than half the time)
- ☐ Almost never or never

10. Over the past 4 weeks, how **difficult** was it to maintain your lubrication ("wetness") until completion of sexual activity or intercourse?

- ☐ No sexual activity
- ☐ Extremely difficult or impossible
- ☐ Very difficult
- ☐ Difficult
- ☐ Slightly difficult
- ☐ Not difficult

11. Over the past 4 weeks, when you had sexual stimulation or intercourse, how **often** did you reach orgasm (climax)?

- ☐ No sexual activity
- ☐ Almost always or always
- ☐ Most times (more than half the time)
- ☐ Sometimes (about half the time)
- ☐ A few times (less than half the time)
- ☐ Almost never or never

12. Over the past 4 weeks, when you had sexual stimulation or intercourse, how **difficult** was it for you to reach orgasm (climax)?

- ☐ No sexual activity
- ☐ Extremely difficult or impossible
- ☐ Very difficult
- ☐ Difficult
- ☐ Slightly difficult
- ☐ Not difficult

13. Over the past 4 weeks, how **satisfied** were you with your ability to reach orgasm (climax) during sexual activity or intercourse?

- ☐ No sexual activity
- ☐ Very satisfied
- ☐ Moderately satisfied
- ☐ About equally satisfied and dissatisfied
- ☐ Moderately dissatisfied
- ☐ Very dissatisfied

14. Over the past 4 weeks, how **satisfied** have you been with the amount of emotional closeness during sexual activity between you and your partner?

- ☐ No sexual activity
- ☐ Very satisfied
- ☐ Moderately satisfied
- ☐ About equally satisfied and dissatisfied
- ☐ Moderately dissatisfied
- ☐ Very dissatisfied

15. Over the past 4 weeks, how **satisfied** have you been with your sexual relationship with your partner?

- ☐ Very satisfied
- ☐ Moderately satisfied
- ☐ About equally satisfied and dissatisfied
- ☐ Moderately dissatisfied
- ☐ Very dissatisfied

16. Over the past 4 weeks, how **satisfied** have you been with your overall sexual life?

- ☐ Very satisfied
- ☐ Moderately satisfied
- ☐ About equally satisfied and dissatisfied
- ☐ Moderately dissatisfied
- ☐ Very dissatisfied

17. Over the past 4 weeks, how **often** did you experience discomfort or pain during vaginal penetration?

- ☐ Did not attempt intercourse
- ☐ Almost always or always
- ☐ Most times (more than half the time)
- ☐ Sometimes (about half the time)
- ☐ A few times (less than half the time)
- ☐ Almost never or never

18. Over the past 4 weeks, how **often** did you experience discomfort or pain following vaginal penetration?

- ☐ Did not attempt intercourse
- ☐ Almost always or always
- ☐ Most times (more than half the time)
- ☐ Sometimes (about half the time)
- ☐ A few times (less than half the time)
- ☐ Almost never or never

19. Over the past 4 weeks, how would you rate your **level** (degree) of discomfort or pain during or following vaginal penetration?

- ☐ Did not attempt intercourse
- ☐ Very high
- ☐ High
- ☐ Moderate
- ☐ Low
- ☐ Very low or none at all

Thanks for hanging in there! We really appreciate your participation.

INSTRUCTIONS: Please use the following scale to indicate how often you have experienced what is described below in the last 30 days.

Never	Rarely	Occasionally	Frequently	Always
1	2	3	4	5

In the last 30 days, how often did you feel...

...Distressed about your sex life?	1	2	3	4	5	☐ N/A
...Unhappy about your sexual relationship?	1	2	3	4	5	☐ N/A
...Guilty about sexual difficulties?	1	2	3	4	5	☐ N/A
...Frustrated by your sexual problems?	1	2	3	4	5	☐ N/A
...Stressed about sex?	1	2	3	4	5	☐ N/A
...Inferior because of sexual problems?	1	2	3	4	5	☐ N/A
...Worried about sex?	1	2	3	4	5	☐ N/A
...Sexually inadequate?	1	2	3	4	5	☐ N/A
...Regrets about your sexuality?	1	2	3	4	5	☐ N/A
...Embarrassed about sexual problems?	1	2	3	4	5	☐ N/A
...Dissatisfied with your sex life?	1	2	3	4	5	☐ N/A
...Angry about your sex life?	1	2	3	4	5	☐ N/A

SECTION III - Demographics

Welcome to the last section! We hope you feel proud and satisfied at being able to help move this field forward.

For this section, we would like to describe the participants as a group compare to the general population. Remember that your answers are confidential and anonymous and will only be used in group format to describe all the participants together. Just like all the other sections, this one is also important so we can draw the right kind of conclusions about what patterns we see.

1. What is your current age in years? _____ .
2. How tall are you? _____ ft _____ inches --- _____ meter _____ cm.
3. What is your current weight? _____ pounds --- _____ kilograms.

4. What is your highest level of education?

- ☐ Grade school
- ☐ High school
- ☐ College/University degree
- ☐ Graduate degree

5. What is your approximate household income?

- ☐ Under 25,000
- ☐ 25,000 - 49,999
- ☐ 50,000 - 79,999
- ☐ 80,000 - 119,999
- ☐ Over 120,000

6. What is your ethnicity (example: Caucasian, Aboriginal): _____

7. How religious would you describe yourself?

- ☐ Not at all
- ☐ A little
- ☐ Somewhat
- ☐ Very
- ☐ Extremely

8. If you are religious, what is your religious affiliation?

If you are not religious, please indicate what best describes your position toward religion (example: no religion, atheist, etc.) _____

9. How would you describe your current, overall physical health? (Please circle).

1	2	3	4	5
Poor Excellent				

10. How would you describe your current, overall mental health? (Please circle).

1	2	3	4	5
Poor Excellent				

11. How often do you exercise (i.e., minimum of 30 minutes of activity that significantly increases your heart rate and/or includes weight/resistance work)?

- ☐ Daily ☐ More than once a week
- ☐ Once a week ☐ More than once a month
- ☐ Monthly ☐ A few times a year
- ☐ Never or almost never

12. Menopausal status:

a) Are you menstruating?

- ☐ Yes
☐ No

If yes, go to question 11.

If no, at what age did you have your last menstrual period? _____ years old.

b) Did you undergo any of the following resulting in menopause?

- ☐ Hysterectomy
☐ Oophorectomy
☐ Both
☐ Other

If other, please specify: _____

c) If you are in postmenopause, do you take any of the following?

	Yes	No
• Hormone replacement therapy (HRT)?	☐	☐
• Systemic (pill)?	☐	☐
• Topical systemic (patch)?	☐	☐
• Topical localized (vaginal crème)?	☐	☐

d) If so, which type?

Please, write the name of the HRT or indicate which hormones are included in the space below:

13. What is your current relationship status?

- ☐ Married
☐ In a domestic partnership or civil union
☐ Single, but cohabiting with a significant other
☐ Single, living alone, but in a committed relationship
☐ Other

If other, please specify: _____

15. How long have you been in a relationship with your current partner? ____ years ____ months

16. If any, how many children do you have? _____

Do any of them live at home currently?

- ☐ Yes
☐ No
☐ N/A

17. Now, we would like to ask you a few questions regarding your relationship with your current partner. Please select the answer that best describes your experience in the table below.

	Never	Rarely	Occasionally	More often than not	Most of the time	All the time
a) How often do you discuss or have you considered divorce, separation, or terminating your relationship?	☐	☐	☐	☐	☐	☐
b) In general, how often do you think that things between you and your partner are going well?	☐	☐	☐	☐	☐	☐
c) Do you confide in your mate?	☐	☐	☐	☐	☐	☐

The circles on the following line represent different degrees of happiness in your relationship. The middle point, "happy," represents the degree of happiness of most relationships. Please fill in the circle which best describes the degree of happiness, all things considered, of your relationship.

0	0	0	0	0	0	0
Extremely Unhappy	Fairly Unhappy	A Little Unhappy	Happy	Very Happy	Extremely Happy	Perfect

18. To what extent do you feel you were able to be completely open in answering this survey?

- ☐ Completely
☐ Almost Completely
☐ Mostly
☐ Moderately
☐ Somewhat
☐ Not very
☐ Not at all

Done!!! Thank you so much for your participation in this survey!

Your contribution will provide us important insight into women's perspective on their body and the impact it may have on their sexual health across the lifespan. We couldn't do this research and help other women without you!

Study 2 – Survey package

SECTION I - Body Image

INSTRUCTIONS: Using the scale below, please select the answer that best characterises your attitudes or behaviours.

Never	Seldom	Sometimes	Often	Always
1	2	3	4	5

- | | | | | | |
|---|---|---|---|---|---|
| 30. I respect my body. | 1 | 2 | 3 | 4 | 5 |
| 31. I feel good about my body. | 1 | 2 | 3 | 4 | 5 |
| 32. On the whole, I am satisfied with my body. | 1 | 2 | 3 | 4 | 5 |
| 33. Despite its flaws, I accept my body for what it is. | 1 | 2 | 3 | 4 | 5 |
| 34. I feel that my body has at least some good qualities. | 1 | 2 | 3 | 4 | 5 |
| 35. I take a positive attitude toward my body. | 1 | 2 | 3 | 4 | 5 |
| 36. I am attentive to my body's needs. | 1 | 2 | 3 | 4 | 5 |
| 37. My self-worth is independent of my body shape or weight. | 1 | 2 | 3 | 4 | 5 |
| 38. I do not focus a lot of energy being concerned with my body shape or weight. | 1 | 2 | 3 | 4 | 5 |
| 39. My feelings toward my body are positive, for the most part. | 1 | 2 | 3 | 4 | 5 |
| 40. I engage in healthy behaviours to take care of my body. | 1 | 2 | 3 | 4 | 5 |
| 41. I do not allow unrealistically thin images of women presented in the media to affect my attitudes toward my body. | 1 | 2 | 3 | 4 | 5 |
| 42. Despite its imperfections, I still like my body. | 1 | 2 | 3 | 4 | 5 |

INSTRUCTIONS: Rank the impact each of these body attributes has on your physical self-concept, that is, your evaluation of your own body. Rank these attributes from 1 to 12 beginning with the attribute that has the *greatest* impact on your physical self-concept (ranked 1) to the attribute that has the *least* impact on your physical self-concept (ranked 12).

- | | |
|------------------------------|---|
| ____ Physical Coordination | ____ Physical Fitness Level |
| ____ Health | ____ Colouring (i.e. Skin tone, eye, hair colour) |
| ____ Weight | ____ Measurements (i.e. chest, waist, hips) |
| ____ Muscular strength | ____ Stamina |
| ____ Physical Attractiveness | ____ Sex Appeal |
| ____ Physical Energy Level | ____ Firm or Sculpted Muscles |

INSTRUCTIONS: For each item, please select the answer that best characterizes your attitudes or behaviours according to the scale below.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

- | | | | | | | | |
|---|---|---|---|---|---|---|---|
| 43. I rarely think about how I look. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 44. I think it is more important that my clothes are comfortable than whether they look good on me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 45. I think more about how my body feels than how my body looks. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 46. I rarely compare how I look with how other people look. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 47. During the day, I think about how I look many times. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 48. I often worry about whether the clothes I am wearing make me look good. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 49. I rarely worry about how I look to other people. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 50. I am more concerned with what my body can do than how it looks. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 51. I rarely think about how I look. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 52. When I can't control my weight, I feel like something must be wrong with me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 53. I feel ashamed of myself when I haven't made the effort to look my best. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 54. I feel like I must be a bad person when I don't look as good as I could. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 55. I would be ashamed for people to know what I really weigh. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 56. I never worry that something is wrong with me when I am not exercising as much as I should. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 57. When I'm not exercising enough, I question whether I am a good enough person. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

INSTRUCTIONS: Now, please indicate to what extent the statement is true or characteristic of you.

	Never	Sometimes	Often	Very Often	Almost Always
58. I feel nervous about aspects of my physical appearance.	☐	☐	☐	☐	☐
59. I worry about how others are evaluating how I look.	☐	☐	☐	☐	☐
60. I am comfortable with my appearance.	☐	☐	☐	☐	☐
61. I like how I look.	☐	☐	☐	☐	☐
62. I would like to change the way I look.	☐	☐	☐	☐	☐
63. I am satisfied with my body's build or shape.	☐	☐	☐	☐	☐
64. I feel uncomfortable with certain aspects of my physical appearance.	☐	☐	☐	☐	☐
65. I feel that most of my friends are more physically attractive than myself.	☐	☐	☐	☐	☐
66. I wish I were better looking.	☐	☐	☐	☐	☐
67. I am concerned about my ability to attract romantic partners.	☐	☐	☐	☐	☐
68. I feel comfortable with my facial attractiveness.	☐	☐	☐	☐	☐
69. I am satisfied with my body weight.	☐	☐	☐	☐	☐
70. I get nervous when others comment on my appearance.	☐	☐	☐	☐	☐
71. I am confident that others see me as physically appealing.	☐	☐	☐	☐	☐

Hang on! You are almost done with this section... :)

INSTRUCTIONS: Please use the following scale to indicate how often you agree with each statement or how often you think it would be true for you. The term *partner* refers to someone with whom you are romantically or sexually intimate.

Never	Rarely	Sometimes	Often	Usually	Always
0	1	2	3	4	5

I would feel very nervous if a partner were to explore my body before or after sex.	0	1	2	3	4	5
The idea of having sex without any cover over my body causes me anxiety.	0	1	2	3	4	5
While having sex I am (would be) that my hips and thighs would flatten out and appear larger than they actually are.	0	1	2	3	4	5
During sexual activity, I am (would be) concerned about how my body looks to my partner.	0	1	2	3	4	5
The worst part of having sex is being nude in front of another person.	0	1	2	3	4	5
If a partner were to put a hand on my buttocks I would think, "My partner can feel my fat".	0	1	2	3	4	5
During sexual activity it is (would be) difficult not to think about how unattractive my body is.	0	1	2	3	4	5
During sex I (would) prefer to be on the bottom so that my stomach appears flat.	0	1	2	3	4	5
I (would) feel very uncomfortable walking around the bedroom, in front of my partner, completely nude.	0	1	2	3	4	5
The first time I have sex with a new partner, I (would) worry that my partner will get turned off by seeing my body without clothes.	0	1	2	3	4	5
If a partner were to put an arm around my waist, I would think, "My partner can tell how fat I am."	0	1	2	3	4	5
I (could) only feel comfortable enough to have sex if it were dark so that my partner could not clearly see my body.	0	1	2	3	4	5
I (would) prefer having sex with my partner on top so that my partner is less likely to see my body.	0	1	2	3	4	5
I (would) have a difficult time taking a shower or a bath with a partner.	0	1	2	3	4	5
I (would) feel anxious receiving a full-body massage from a partner.	0	1	2	3	4	5

Thank you for your help so far! This is the end of the body image section.

SECTION II - Sexual Health

In this section, we are going to inquire about your level of sexual satisfaction in your current relationship, your potential sexual problems, and the distress it might cause you. These are intimate questions; however, remember that your answers are anonymous. They will be pooled with that of other women to produce general tendencies. We really appreciate your contributions and insight into these questions so that healthcare professionals can better help women who may struggle in these areas.

INSTRUCTIONS: Thinking back to your sex life in the last 6 months, please rate how *satisfied* you were with the following aspects according to this scale:

Not at all Satisfied	A little Satisfied	Moderately Satisfied	Very Satisfied	Extremely Satisfied
1	2	3	4	5

- | | | | | | | |
|--|---|---|---|---|---|------------------------------|
| 21. The intensity of my arousal. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 22. The quality of my orgasms. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 23. My "letting go" and surrender to sexual pleasure during sex. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 24. My focus/concentration during sexual activity. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 25. The way I sexually react to my partner. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 26. My body's sexual functioning. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 27. My emotional opening up during sex. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 28. My mood after sexual activity. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 29. The frequency of my orgasms. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 30. The pleasure I provide to my partner. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 31. The balance between what I give and receive in sex. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 32. My partner's emotional opening up during sex. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 33. My partner's initiation of sexual activity. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 34. My partner's ability to orgasm. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 35. My partner's surrender to sexual pleasure ("letting go"). | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 36. The way my partner takes care of my sexual needs. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 37. My partner's sexual creativity. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 38. My partner's sexual availability. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 39. The variety of my sexual activities. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |
| 40. The frequency of my sexual activity. | 1 | 2 | 3 | 4 | 5 | ☐ N/A |

INSTRUCTIONS: These questions ask about your sexual feelings and responses during the past 6 months. Please answer the following questions as honestly and clearly as possible. Your responses will be kept completely confidential. In answering these questions the following definitions apply:

- *Sexual activity* can include caressing, foreplay, masturbation and vaginal intercourse.
- *Sexual intercourse* is defined as penile penetration (entry) of the vagina.
- *Sexual stimulation* includes situations like foreplay with a partner, self-stimulation (masturbation), or sexual fantasy.

CHECK ONLY ONE BOX PER QUESTION.

Sexual desire or interest is a feeling that includes wanting to have a sexual experience, feeling receptive to a partner's sexual initiation, and thinking or fantasizing about having sex.

1. Over the past 6 months, how **often** did you feel sexual desire or interest?

- ☐ Almost always or always
- ☐ Most times (more than half the time)
- ☐ Sometimes (about half the time)
- ☐ A few times (less than half the time)
- ☐ Almost never or never

2. Over the past 6 months, how would you rate your **level** (degree) of sexual desire or interest?

- ☐ Very high
- ☐ High
- ☐ Moderate
- ☐ Low
- ☐ Very low or none at all

Sexual arousal is a feeling that includes both physical and mental aspects of sexual excitement. It may include feelings of warmth or tingling in the genitals, lubrication (wetness), or muscle contractions.

3. Over the past 6 months, how **often** did you feel sexually aroused ("turned on") during sexual activity or intercourse?

- ☐ No sexual activity
- ☐ Almost always or always
- ☐ Most times (more than half the time)
- ☐ Sometimes (about half the time)
- ☐ A few times (less than half the time)
- ☐ Almost never or never

4. Over the past 6 months, how would you rate your **level** of sexual arousal ("turn on") during sexual activity or intercourse?

- | | |
|---|--|
| ☐ No sexual activity | ☐ Moderate |
| ☐ Very high | ☐ Low |
| ☐ High | ☐ Very low or none at all |

5. Over the past 6 months, how **confident** were you about becoming sexually aroused during sexual activity or intercourse?

- ☐ No sexual activity
- ☐ Very high confidence
- ☐ High confidence
- ☐ Moderate confidence
- ☐ Low confidence
- ☐ Very low or no confidence

6. Over the past 6 months, how **often** have you been satisfied with your arousal (excitement) during sexual activity or intercourse?

- ☐ No sexual activity
- ☐ Almost always or always
- ☐ Most times (more than half the time)
- ☐ Sometimes (about half the time)
- ☐ A few times (less than half the time)
- ☐ Almost never or never

7. Over the past 6 months, how **often** did you become lubricated ("wet") during sexual activity or intercourse?

- ☐ No sexual activity
- ☐ Almost always or always
- ☐ Most times (more than half the time)
- ☐ Sometimes (about half the time)
- ☐ A few times (less than half the time)
- ☐ Almost never or never

8. Over the past 6 months, how **difficult** was it to become lubricated ("wet") during sexual activity or intercourse?

- ☐ No sexual activity
- ☐ Extremely difficult or impossible
- ☐ Very difficult
- ☐ Difficult
- ☐ Slightly difficult
- ☐ Not difficult

9. Over the past 6 months, how often did you **maintain** your lubrication ("wetness") until completion of sexual activity or intercourse?

- ☐ No sexual activity
- ☐ Almost always or always
- ☐ Most times (more than half the time)
- ☐ Sometimes (about half the time)
- ☐ A few times (less than half the time)
- ☐ Almost never or never

10. Over the past 6 months, how **difficult** was it to maintain your lubrication ("wetness") until completion of sexual activity or intercourse?

- ☐ No sexual activity
- ☐ Extremely difficult or impossible
- ☐ Very difficult
- ☐ Difficult
- ☐ Slightly difficult
- ☐ Not difficult

11. Over the past 6 months, when you had sexual stimulation or intercourse, how **often** did you reach orgasm (climax)?

- ☐ No sexual activity
- ☐ Almost always or always
- ☐ Most times (more than half the time)
- ☐ Sometimes (about half the time)
- ☐ A few times (less than half the time)
- ☐ Almost never or never

12. Over the past 6 months, when you had sexual stimulation or intercourse, how **difficult** was it for you to reach orgasm (climax)?

- ☐ No sexual activity
- ☐ Extremely difficult or impossible
- ☐ Very difficult
- ☐ Difficult
- ☐ Slightly difficult
- ☐ Not difficult

13. Over the past 6 months, how **satisfied** were you with your ability to reach orgasm (climax) during sexual activity or intercourse?

- ☐ No sexual activity
- ☐ Very satisfied
- ☐ Moderately satisfied
- ☐ About equally satisfied and dissatisfied
- ☐ Moderately dissatisfied
- ☐ Very dissatisfied

14. Over the past 6 months, how **satisfied** have you been with the amount of emotional closeness during sexual activity between you and your partner?

- ☐ No sexual activity
- ☐ Very satisfied
- ☐ Moderately satisfied
- ☐ About equally satisfied and dissatisfied
- ☐ Moderately dissatisfied
- ☐ Very dissatisfied

15. Over the past 6 months, how **satisfied** have you been with your sexual relationship with your partner?

- ☐ Very satisfied
- ☐ Moderately satisfied
- ☐ About equally satisfied and dissatisfied
- ☐ Moderately dissatisfied
- ☐ Very dissatisfied

16. Over the past 6 months, how **satisfied** have you been with your overall sexual life?

- ☐ Very satisfied
- ☐ Moderately satisfied
- ☐ About equally satisfied and dissatisfied
- ☐ Moderately dissatisfied
- ☐ Very dissatisfied

17. Over the past 6 months, how **often** did you experience discomfort or pain during vaginal penetration?

- ☐ Did not attempt intercourse
- ☐ Almost always or always
- ☐ Most times (more than half the time)
- ☐ Sometimes (about half the time)
- ☐ A few times (less than half the time)
- ☐ Almost never or never

18. Over the past 6 months, how **often** did you experience discomfort or pain following vaginal penetration?

- ☐ Did not attempt intercourse
- ☐ Almost always or always
- ☐ Most times (more than half the time)
- ☐ Sometimes (about half the time)
- ☐ A few times (less than half the time)
- ☐ Almost never or never

19. Over the past 6 months, how would you rate your **level** (degree) of discomfort or pain during or following vaginal penetration?

- ☐ Did not attempt intercourse
- ☐ Very high
- ☐ High
- ☐ Moderate
- ☐ Low
- ☐ Very low or none at all

Thanks for hanging in there! We really appreciate your participation. There are only two (brief) questionnaires left before the end of this section.

INSTRUCTIONS: Please use the following scale to indicate how often you have experienced what is described below in the last 30 days.

Never	Rarely	Occasionally	Frequently	Always
1	2	3	4	5

In the last 30 days, how often did you feel...

...Distressed about your sex life?	1	2	3	4	5	☐ N/A
...Unhappy about your sexual relationship?	1	2	3	4	5	☐ N/A
...Guilty about sexual difficulties?	1	2	3	4	5	☐ N/A
...Frustrated by your sexual problems?	1	2	3	4	5	☐ N/A
...Stressed about sex?	1	2	3	4	5	☐ N/A
...Inferior because of sexual problems?	1	2	3	4	5	☐ N/A
...Worried about sex?	1	2	3	4	5	☐ N/A
...Sexually inadequate?	1	2	3	4	5	☐ N/A
...Regrets about your sexuality?	1	2	3	4	5	☐ N/A
...Embarrassed about sexual problems?	1	2	3	4	5	☐ N/A
...Dissatisfied with your sex life?	1	2	3	4	5	☐ N/A
...Angry about your sex life?	1	2	3	4	5	☐ N/A

INSTRUCTIONS: This questionnaire consists of a set of statements, each asking about thoughts and feelings that you may have about your sexual life. The statements may be positive or negative. You are asked to rate each one according to how much you agree or disagree by selecting one of the six categories.

In answering these items the following definitions apply:

Sexual life: are both the physical sexual activities and the emotional sexual relationships that you have with your partner.

Sexual activity includes any activity, which may result in sexual stimulation or sexual pleasure e.g., intercourse, caressing, foreplay, masturbation (i.e., self-masturbation or your partner masturbating you) and oral sex (i.e., your partner giving you oral sex).

Usually the first answer that comes into your head is the best one, so do not spend too long on each question.

Completely Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Completely Agree
1	2	3	4	5	6

When I think about my sexual life....

... It is an enjoyable part of my life overall.	1	2	3	4	5	6
... I feel frustrated.	1	2	3	4	5	6
... I feel depressed.	1	2	3	4	5	6
... I feel less of a woman.	1	2	3	4	5	6
... I feel good about myself.	1	2	3	4	5	6
... I have lost confidence in myself as a sexual partner.	1	2	3	4	5	6
... I feel anxious.	1	2	3	4	5	6
... I feel angry.	1	2	3	4	5	6
... I feel close to my partner.	1	2	3	4	5	6
... I worry about the future of my sexual life.	1	2	3	4	5	6
... I have lost pleasure in sexual activity.	1	2	3	4	5	6
... I feel embarrassed.	1	2	3	4	5	6
... I feel that I can talk to my partner about sexual matters.	1	2	3	4	5	6
... I try to avoid sexual activity.	1	2	3	4	5	6
... I feel guilty.	1	2	3	4	5	6
... I worry that my partner feels hurt or rejected.	1	2	3	4	5	6
... I feel that I have lost something.	1	2	3	4	5	6
... I am satisfied with the frequency of sexual activity.	1	2	3	4	5	6

SECTION III - Demographics

Welcome to the last section! We hope you feel proud and satisfied at being able to help move this field forward.

For this section, we would like to describe the participants as a group compare to the general population. Remember that your answers are confidential and anonymous and will only be used in group format to describe all the participants together. Just like all the other sections, this one is also important so we can draw the right kind of conclusions about what patterns we see.

1. What is your current age in years? _____ .

2. How tall are you? _____ ft _____ inches --- _____ meter _____ cm.

3. What is your current weight? _____ pounds --- _____ kilograms.

4. What is your highest level of education?

- ☐ Grade school
- ☐ High school
- ☐ College/University degree
- ☐ Graduate degree

5. What is your approximate household income?

- ☐ Under 25,000
- ☐ 25,000 - 49,999
- ☐ 50,000 - 79,999
- ☐ 80,000 - 119,999
- ☐ Over 120,000

6. What is your ethnicity (example: Caucasian, Aboriginal): _____

7. How religious would you describe yourself?

- ☐ Not at all
- ☐ A little
- ☐ Somewhat
- ☐ Very
- ☐ Extremely

8. If you are religious, what is your religious affiliation?

If you are not religious, please indicate what best describes your position toward religion (example: no religion, atheist, etc.) _____

9. How would you describe your current, overall physical health? (Please circle).

1	2	3	4	5
Poor				Excellent

10. How would you describe your current, overall mental health? (Please circle).

1	2	3	4	5
Poor				Excellent

11. How often do you exercise (i.e., minimum of 30 minutes of activity that significantly increases your heart rate and/or includes weight/resistance work)?

- | | |
|--------------------------------------|---|
| ☐ Daily | ☐ More than once a week |
| ☐ Once a week | ☐ More than once a month |
| ☐ Monthly | ☐ A few times a year |

☐ Never or almost never

12. Menopausal status:

a) Are you menstruating?

☐ Yes

☐ Yes, but irregularly (describe (e.g., only every 2 or 3 month, or, it has been 4 months since...):

☐ No

If yes, go to question 13.

If no, at what age did you have your last menstrual period? _____ years old.

b) Did you undergo any of the following resulting in menopause?

☐ Hysterectomy

☐ Oophorectomy

☐ Both

☐ Other

If other, please specify: _____

c) If you are in postmenopause, do you take any of the following? (Postmenopause means 12 months since your LAST menstrual period)

	Yes	No
• Hormone replacement therapy (HRT)?	☐	☐
• Systemic (pill)?	☐	☐
• Topical systemic (patch)?	☐	☐
• Topical localized (vaginal cream)?	☐	☐

d) If so, which type?

Please, write the name of the HRT or indicate which hormones are included in the space below:

13. What is your current relationship status?

☐ Married

☐ In a domestic partnership or civil union

☐ Single, but cohabiting with a significant other

☐ Single, living alone, but in a committed relationship

☐ Single

☐ Widowed

☐ Other

If other, please specify: _____

14. If applicable, how long have you been in a relationship with your current partner?
 ____ years ____ months

15. How would you describe your partner's current, overall physical health? (Please circle).

1	2	3	4	5
Poor				Excellent

16. If any, how many children do you have? _____

Do any of them live at home currently?

☐ Yes

☐ No

☐ N/A

17. Now, we would like to ask you a few questions regarding your relationship with your current partner. Please select the answer that best describes your experience in the table below.

	Never	Rarely	Occasionally	More often than not	Most of the time	All the time
d) How often do you discuss or have you considered divorce, separation, or terminating your relationship?	☐	☐	☐	☐	☐	☐
e) In general, how often do you think that things between you and your partner are going well?	☐	☐	☐	☐	☐	☐
f) Do you confide in your mate?	☐	☐	☐	☐	☐	☐

The circles on the following line represent different degrees of happiness in your relationship. The middle point, "happy," represents the degree of happiness of most relationships. Please fill in the circle which best describes the degree of happiness, all things considered, of your relationship.

O	O	O	O	O	O	O
Extremely Unhappy	Fairly Unhappy	A Little Unhappy	Happy	Very Happy	Extremely Happy	Perfect

18. To what extent do you feel you were able to be completely open in answering this survey?

- ☐ Completely
- ☐ Almost Completely
- ☐ Mostly
- ☐ Moderately
- ☐ Somewhat
- ☐ Not very
- ☐ Not at all

19. Where have you heard of this study?

- ☐ Online, through a blog I follow
- ☐ Online, through social media (Facebook, Twitter, etc.)
- ☐ On a poster in the community
- ☐ By word of mouth
- ☐ Other

If other, please specify:

20. If you have any additional comment, please feel free to write it in the space below. We will be happy to improve future surveys based on your feedback!

Done!!! Thank you so much for your participation in this survey!

Your contribution will provide us important insight into women's perspective on their body and the impact it may have on their sexual health across the lifespan. We couldn't do this research and help other women without you!