KNOWING THYSELF: CONSTRUCTING WOMEN'S SEXUAL IDENTITY THEORY TO INCLUDE SEXUAL ANATOMY KNOWLEDGE, VULVA GENITAL AWARENESS, AND SOCIOPOLITICAL IDEATIONS

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Abstract:

A Women's Sexual Health Model suggests women's sexual identity centers on four interrelated concepts of the self. The four interrelated concepts center on the self concept, followed by the sexual self, the social self, and the sociopolitical self. The current research study examined and validated a three-factor structure of a newly designed measure of women's genital perceptions, titled, vulva genital awareness (VGA). The VGA measure contains two hierarchic factors that capture women's genital perceptions in terms of the sexual self (VGA-Self) and the sexual self with a partner (VGA-Partner). The study also investigated the role of sexual anatomy knowledge in young women's lives. The women in this sample completed a sexual anatomy assessment. The women with high sexual anatomy knowledge were also more likely to report higher VGA and sexual satisfaction, when compared to women with low sexual anatomy knowledge. Furthermore, the women who reported masturbation to orgasm were more likely to know more about their sexual anatomy and more likely to report sexual satisfaction than women who reported no masturbation activity in the past 30 days or ever. The findings from this study suggest the importance of sexual anatomy education and masturbation in the development of women's sexual self-concept, thus the inclusion of these aspects could improve comprehensive sexual education programming in the U.S. Future research and clinical implications are discussed.

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CHAPTER I

INTRODUCTION

Current research suggests many women in the United States are receiving limited sexual education content when compared to women in other industrialized countries (Schalet, 2000). Feminist and developmental researchers state that limited education and limited access to contraception results in socio-cultural messages indicating a hidden sexuality. When adolescents and young adults perceive their sexuality to be a hidden part of their self-concept, negotiating safer sex practices is difficult (Holland, Ramazanoglu, Scott, Sharpe, & Thomson, 1992). In this frame of reference, feminist scholars and developmental researchers have called for research evaluating gendered differences in sexual education, sexual communication, and sexual health (Diamond, 2000; Fine 1988; Levin, Ward, & Neilson, 2012; Tiefer, 2001; Tolman et al., 2003).

Within the U.S., young women are almost nine times more likely to have unprotected sex and conceive a child when compared to women in the Netherlands, France, and Germany (Schalet, 2000), almost ten times more likely than women in Japan (Alford & Feijoo, 2000), and two times more likely than women in Great Britain (Mabray & Labauve, 2002). Current theory on psychosocial development suggests two primary differences between women

in the U.S. and other industrialized nations regarding this issue, which includes comprehensive sexual education and sexual communication.

In the U.S., middle and high schools choose between 'abstinence-until-marriage' and 'abstinence-plus/comprehensive education' education curricula (Landry, Kaeser, & Richards, 1999; Mabray & Labauve, 2002). In contrast, many industrialized nations excluding the U.S., teach mandatory 10 to 16-week comprehensive sexual education programs (Schalet, 2000), thus accounting for a more informed population regarding sexual matters. Research concerning the use of sexual education programs in other countries have identified that girls who can openly talk about their sexuality are more likely to talk to their parents about sexual thoughts before engaging in them (Berne & Huberman, 2000). In addition, young women who can voice their opinions on sexual matters are more likely to discuss (a) contraception and (b) protection with their partner and know how to protect their own bodies (Berne & Huberman, 2000). Another related line of research suggests that young women in the U.S. are at a higher risk of engaging in unprotected sex when their sexuality is considered a private matter (Mabray & Labauve, 2002).

For a sexual education program to gain federal funding in the U.S., the curricula must follow an eight-point definition of 'abstinence education' as detailed in Section 510 of Title V Social Security Act (Public Law, Title V). The eight-point definition states the educational program must have an exclusive purpose of teaching social, psychological, and health gains realized by abstaining from sexual activity. In addition, the program must teach abstinence outside of

marriage as the "expected standard" and the only certain way for adolescents to avoid out-of-wedlock pregnancy, sexually transmitted diseases, and other health problems (Public Law, Title V). In this language, the federal law supports *abstinence-until-marriage* sexual education programs with language stating this behavior is the *"expected standard of sexual activity"* (Publix Law, Title V, p.114).

The comprehensive sexual education programs in the U.S. promote an 'abstinence-plus' philosophy (Kirby, 2008). An abstinence-plus program involves a strong platform emphasizing abstinence until marriage, to include information on condom use and access to contraceptives (Kirby, 2007). Comprehensive sexual education addresses the same topics as abstinence education, in addition to teaching about sexual communication in relationships, attitudes towards sexuality, sexual roles, gender relations and the social pressures to be sexually active, as well as it provides information about sexual and reproductive health services (Kirby, 2008).

Kirby (2008) evaluated the outcomes of 56 studies on abstinence and comprehensive sexual education programs in the U.S. Findings from this meta-analysis demonstrated that comprehensive sexual education programs resulted in delayed initiation of sexual activity, and when young adults did engage in sexual activity, they demonstrated an increased likelihood of using condoms and/or contraception, and displayed a stronger ability to discuss sexual matters with their partner (Kirby, 2008). Together, this meta-analysis suggested that adolescents and young adults introduced to comprehensive sexual education (also called,

abstinence-plus education), also reported engaging in sexually conscientious sexual practices (i.e., sexual transmitted disease/infection (STI) testing, condom use, and communication with sexual partner). Mabray and Labauve (2002) found similar results in that young adults who experienced comprehensive sexual education were knowledgeable regarding basic aspects of sexual anatomy and physiology, safe sexual practices, and most importantly, their own attitudes about sex.

Based on federal law, federal funding, and a large proportion of sexual education programs focusing on abstinence education, the sociocultural messages regarding sexual education in the U.S. are limited. When comparing sexual education and sexual communication practices between the U.S. and other industrialized nations, researchers point to role of comprehensive sexual education in the process of improving sexual communication among young adults (Berne & Huberman, 2000; Landry et al., 1999, Tolman et al., 2003). Consequently, when sexual education and sexual communication skills are low, the consequence of keeping sexuality a private matter increases. As previously mentioned, when sexual matters are not discussed, there is an increased chance for unprotected sexual encounters (Kirby, 2008; Mabray & Labauve, 2002; Schalet, 2000)

Purpose of the Current Research

The purpose of the current research study involved two goals. The first goal involved an investigation of a multidimensional measure of vulva genital awareness (VGA), as I designed this measure to assess how women perceive their

sexual body (i.e., vulva, genitalia, breasts) and sexual body functioning (i.e., smell, taste, appearance, satisfaction). The VGA was designed to assess women's vulva genital awareness for those who have and/or have never been sexually active. Historically, researchers have removed women who have yet to experience sexual activity with another person from quantitative analyses (Kinsey, Pomeroy, Martin & Gebhard, 1948; Lever, Frederick, & Paplau, 2006; Masters & Johnson, 1970). However, the VGA measure offers an option for researchers and clinicians to include all women, regardless of their sexual experiences. The second goal involved an investigation of salient factors within the Women's Sexual Health Model that are related to sexual education and communication, which include sexual anatomy knowledge, relationship status, masturbation, sexual frequency, and feminist identity.

CHAPTER II

LITERATURE REVIEW

Measurement of Genital Perceptions

Prior research on genital perceptions has found comparable correlations with sexual functioning (i.e., arousal, sexual satisfaction, orgasm) and dysfunction even though researchers have used a wide variety of genital self-image measures (refer to Table 1). Since 1995, sexual scientists have published five somewhat similar measures of genital perceptions (Algars et al., 2011; Berman et al., 2003; Herbenick & Reece, 2010; Herbenick et al., 2011; Reinholtz & Muehlenhard, 1995). In chronological order, researchers published a three-factor, 43-item measure, with only one of the three factors actually measuring genital perceptions (Reinholtz & Muehlenhard, 1995). In the past decade, researchers have published a two-factor, 30-item measure (Berman et al., 2003; Berman & Windecker, 2008), a one-factor, 7-item measure (Herbenick & Reece, 2010), a one-factor, 4-item measure (Herbenick et al., 2011), and a one-factor, 2-item measure of sexual body image (Algars et al., 2011). The five measures of genital perceptions possess similar qualities in that they almost all represent a unidimensional factor structure. In terms of analyzing the measures together, the current research study hypothesized that each measure contributes to the compilation of three distinct

factors: (a) functioning/ touching/ anatomy, (b) genital satisfaction/ appearance, and (c) scent/ partner perceptions/ pubic hair/ embellishments.

In 1995, Reinholtz and Muehlenhard collected pilot data to determine the salient factors associated with genital perceptions for both women and men. They found three primary themes, which included genital concerns, personal pleasure concerns, and relationship concerns. The pilot measure included 220 statements ranging between not at all true/never (*0*) to completely/always true (*4*) and was assessed using a college sample of 364 female and male students. Reinholtz and Muehlenhard used exploratory factor analysis to consolidate the three-factor, 43-item measure. Of the 43-items, a total of 18-items captured the genital perceptions factor (refer to Table 2). The researchers suggested the other two factors captured aspects of sexual enjoyment, partner and personal respect, and other aspects of sexual behaviors. This initial genital perceptions measure was important because it was the first measure devoted to women's sexual perceptions about their own sexual bodies.

In 2003, Berman, Berman, Miles, Pollets, and Powell developed a 30-item measure of Genital Self-Image (GSI) to capture women's thoughts and feelings about their genitals (refer to Table 3 for 30-items). Part A asks women to respond to 18 statements regarding genital perceptions, ranging between 1 (*never*), 2 (*sometimes*), 3 (*often*), and 4 (*always*). Part B asks women to respond to 12 positively or negatively valenced adjectives that pertain to their genitals with the response options being 1 (*applies to me*) or 0 (*does not apply to me*). Berman and colleagues (2003) reported an internal consistency of .86. This research study

was important because it extended the preliminary work by Reinholtz and Muehlenhard (1995) by developing a more reliable and focused measure. In addition, Berman et al. (2003) assessed the validity of the measure using a sample of women who experienced sexual dysfunction.

In 2010, Madewell and Page conducted a reliability analysis on Berman's two-part Genital Self-Image (GSI) scale, which resulted in a small modification. Cronbach's alpha for Part A, the 18-items, was decent (.84), but the internal consistency of Part B, the 12-items on a 2-point scale, resulted in a weak reliability coefficient of .59. Based on this analysis, the authors suggested removal of Part B from future analyses. Furthermore, exploratory factor analysis suggested that dropping two items would improve the reliability of the *GSI-Part A*. The first omitted item stated, *'I look at my genitals'* and the second omitted item stated, *'Growing up, my family gave me positive messages about my genitals.'* Once the two items were omitted, the internal consistency reliability coefficient increased to .89, even though the formula for Cronbach's alpha is dependent on the overall number of items. The modified measure was labeled *GSI-modified* as a result of the two omitted items and the omission of GSI-Part B (Madewell, 2010). The results of this study suggest that the GSI-Modified, a 16-item measure was an improved instrument over Berman's original 30-item GSI measure.

In 2010, Herbenick and Reece developed a one factor, 11-item measure of Female Genital Self-Image Scale (FGSIS) based on a sample of undergraduate students. Herbenick asked both female and male students to answer a variety of

questions about women's genitalia in order to determine the most important components to women's genital self-image. Based on the qualitative analyses, the researchers decided on four main themes, which included smell/taste, appearance, sexual function, and shame/pride (Herbenick & Reece, 2010). Pulling from the four main themes, Herbenick and colleagues developed a total of 11 items (refer to Table 4). Furthermore, they used a four point Likert scale ranging from strongly disagree (*1*) to strongly agree (*4*), in order to avoid neutral responses. The 11-item FGSIS was then assessed on a large sample of women (N = 2,049) who attended a sex toy party. The sample was limited to primarily Caucasian, heterosexual, and currently attending college. Using reliability and factor analyses, Herbenick removed four items. The final published FGSIS included 7-items resulting in a final Cronbach's alpha of .88 (refer to Table 4 for FGSIS and omitted items).

In 2011, Herbenick et al. used the 7-item FGSIS on a more diverse sample before running confirmatory factor analysis to evaluate model fit (refer to Table 5). Using a sample of 2,056 women, they investigated model fit statistics using AMOS software. The original model was not significant; therefore, they chose to allow three items to correlate and omitted three items to achieve adequate model fit. The final one factor, 4-item FGSIS indicated decent internal consistency of .86. Herbenick and colleagues suggested that the 7-item or 4-item FGSIS were both reliable and valid predictors of women's sexual functioning in samples of healthy women, yet the authors suggested the FGSIS needs to be validated on clinical samples.

Algars et al. (2011) investigated genital perceptions in a sample of 6,201 Finnish women, who completed an online survey on Sex and Aggression. Algars used the Derogatis Sexual Functioning Inventory (DSFI; Derogatis, 1975) to measure sexual functioning, with the inclusion of two-items designed to capture sexual body image with responses ranging between disagree (*1*) to agree (*5*). The first item stated, 'I have attractive breasts,' and the second item stated, 'I am pleased with the way my vagina looks.' As expected, internal consistency of the two items was relatively weak at .66. The researchers added to the study of genital perceptions by including women's perceptions of their genitals and their breasts, as this is the first time breasts have been included in the assessment of genital self-image.

The purpose of the first component was to investigate (a) the hypothesized multi-dimensional factor structure of the VGA, (b) replicate the factor structure, (c) investigate the validity of the VGA on a sample of women with no sexual history with another person, and (d) validate the measure by comparing the VGA with sexual functioning. The use of the final VGA measure supplements the second component of this study.

Development of Women's Sexual Health Model

Researchers developed a model of Women's Sexual Health based on aspects of women's sexual functioning and women's sexual response cycle (Basson, 2000; Tiefer, 1991; Tolman & Diamond, 2002; Rice, 1983). The model of Women's Sexual Health (WSH) serves to identify salient factors in healthy sexual identity development, specifically designed for women (Tolman et al,

2003). This WSH model includes aspects of the self and sexual self concept, which includes the role of sexual education, self-pleasure, and vulva genital awareness. The WSH model also includes aspects of the sexual and social self concept, which include socio-political influences (i.e., feminist identity). Together, it was hypothesized that knowledge and acceptance of the self would serve as a protective factor against negative sexual double standards that suggest self-pleasure for women is unacceptable (Diamond, 2008; Tolman 1999). This protective factor would then encourage women to develop their own sexual thoughts and sexual identity.

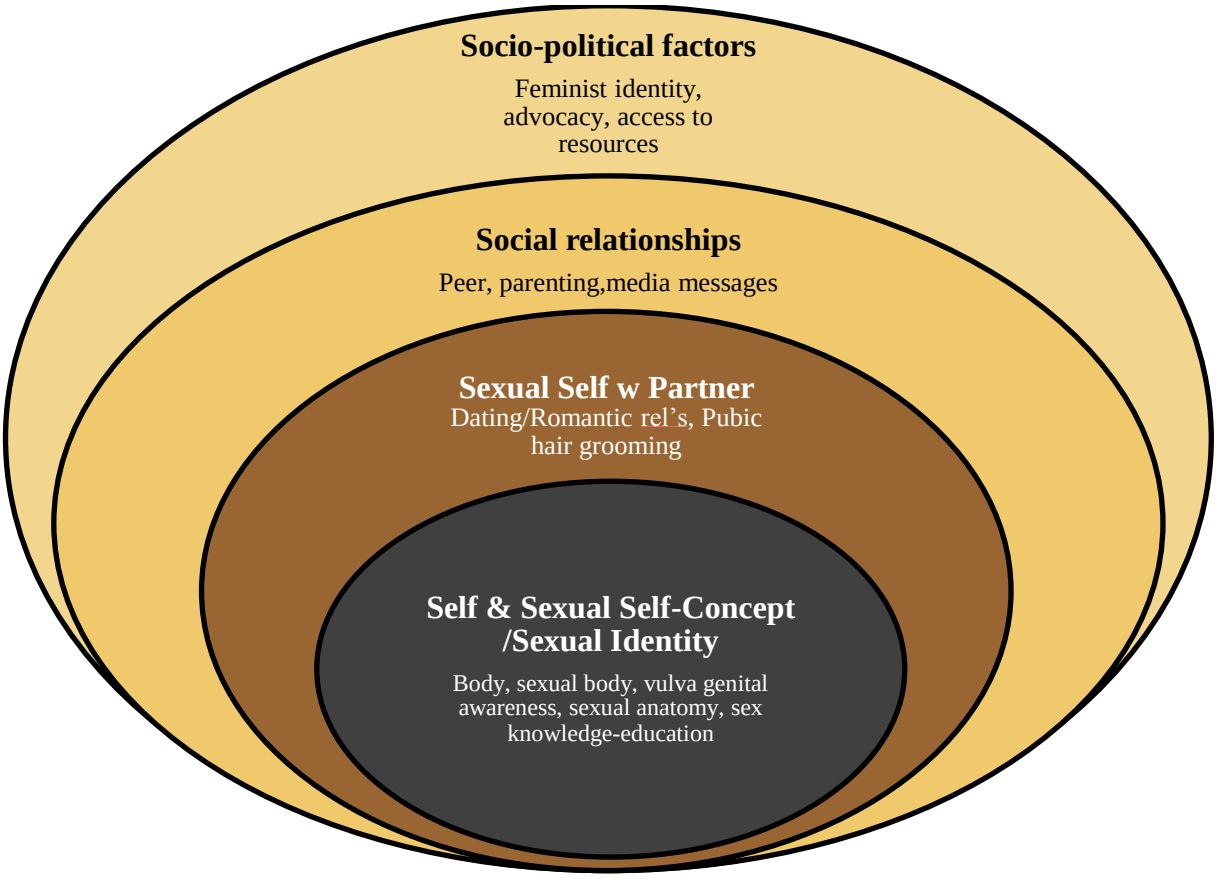
Women's Sexual Health (WSH) Model

Tolman, Striepe, and Harmon (2003) developed an ecological model of Women's Sexual Health modeled after Bronfrenbrenner's Ecological Developmental Model (Bronfrenbrenner, 1979). The WSH model contains four factors that contribute to women's sexual health and identity. The first factor centers the entire model on the "individual/self", the next important factor surrounds aspects of "dating and romantic relationships", the third factor involves the effects of "social relationships", and the fourth and final factor surrounds the aspect of integrating the concept of self with various "sociocultural/sociopolitical". As hypothesized, the four interrelated factors contribute to the development of the self-concept, to include aspects of sexual choice, sexual autonomy, and potentially self-actualization.

Knowing the Self

According to Tolman's model of Women's Sexual Health, the center and core of the model focused on the individual, which refers to the 'self' within this framework. Tolman identified that a woman must know herself and have access

Figure 1. Women's sexual health model



to knowledge, condoms and/or contraception, and sexual information to guide the development of her own thoughts (Tolman, 1999). As a woman's sexual identity involves aspects of the self, the sexual self, and the social self, one could propose that the core of the Women's Sexual Health model is women's sexual identity. Based on this model, to know the self, a woman must know her body, how it functions, and find comfort in her sexual desires, to include self-pleasure.

Accordingly, the self or woman's sexual identity is the core component of this model and the other three factors play a distal, yet important, role in women's sexual identity development. From a developmental perspective, it is important to understand that women's sexual identity continues to develop and change across the lifespan and is a fluid construct (Diamond, 2008). The self is the critical component to developing sexual autonomy (Kitzinger, 1995) and sexual health (Tolman, 1999), thus the Women's Sexual Health model includes aspects of the body and the sexual body (i.e., vulva genital awareness), all of which are affected by the role of dating and romantic relationships, social relationships, and sociopolitical components.

My Body & My Sexual Body

Medical doctors defined a sexual self-schema as a "*cognitive generalization regarding sexual aspects of the self and one's sexuality*" and researchers commonly use the term sexual self-schema and sexual identity interchangeably (Cyranowski, Aarested, & Andersen, 1999, p. 217). A positive sexual self-schema has been related to overall health benefits among women to include relationship satisfaction, positive body image, positive self-esteem, low sexual anxiety, less likely to avoid social settings (Cyranowski & Andersen, 1998, 2000), more self-aware and confident with their sexual being (Cyranowski & Andersen, 2000) and less likely to have an eating disorder (Wiederman & Hurst, 1998), when compared to women with a negative sexual self-schema. Similarly, women reported overall health benefits when they reported happiness with their body regardless of their actual body mass index (Ackard, Kearney-Cooke, &

Peterson, 1999). In summary, women who had positive perceptions about their bodies were more likely to report good mental health. If women can value and accept the size and shape of their bodies, they may have an improved perception of all aspects of the self, including the sexual and social self.

The understanding and knowledge of sexual anatomy plays a large role in developing a genital self-identity (Waltner, 1986). Waltner (1986), who strongly emphasized the physiological aspects of the genitals, initially discussed the term genital self-identity. Later, Andersen (1999) found overall health benefits among women who reported a positive sexual self-schema. Berman, Berman, Miles, Pollets, and Powell (2003) presented the first study devoted to women's 'Genital Self-Image', which aimed to measure women's genital perceptions through self-report. Through this research, a genital identity was defined as the personal thoughts about one's genitals that arise through experiences with the genitals (Waltner, 1986). A genital self-image accounts for one's experiences with their genitals in addition to any influences from socio-cultural messages (Berman et al., 2003). The inclusion of both Waltner's and Berman's definitions are used in this framework, as the understanding of this term remains under investigation.

For the purposes of this study, the current researcher's defined *vulva genital awareness as a self-appraisal of the physical features of the genitalia in conjunction with sexual functioning and sexual knowledge.* Within this definition, sexual functioning includes perceptions about appearance, functionality, sensation, smell, grooming, and overall satisfaction with the genitalia.

Research on Genital Perceptions

Waltner (1986) was the first researcher to offer a thorough definition of a "genital identity" that applied to both men and women. He believed a genital identity was one of the 'core components' to the definition of the self. Following Waltner's theory, the development of a genital identity involves both indirect and direct interactions with the genitals. He detailed that an indirect interaction involves any formal and/or informal educational information pertaining to sexual content that may lead to the development of a genital self-concept (also referred to as a genital identity). Cultural messages suggest an individual's genitals of an individual were "dirty" or "sinful" would indirectly affect the development of a genital identity (p .400). The direct interaction involves any actual experiences and the related emotional experiences accompanied by an interaction with the genitals. For example, if a woman is unable to reach orgasm while engaging in intercourse with her partner, Waltner suggested that she may not "feel feminine or adequate" (p. 401). If she experienced this negatively, then it would directly negatively affect her genital self-identity. Therefore, Waltner (1986) believed that genital identity forms through both direct and indirect interactions with the genitals of which result in a positive or negative self-concept.

Almost a decade later, an exploratory research study investigated how healthy women and men perceived their own genitals and their partners' genitals (Reinholtz & Muehlenhard, 1995). They found that healthy women were less likely to report positive perceptions about their own genitalia, when compared to their rating of their partners' genitalia (Reinholtz & Muehlenhard, 1995). The

healthy men reported more, positive perceptions about their own genitals and their partners' genitals when compared to female responses. Among both men and women, positive genital perceptions and enjoyment of sexual activities were highly positively correlated to receiving oral sex, moderately positively correlated to performing oral sex on their partner, and experiencing penile-vaginal intercourse. In addition, both men and women were more likely to engage in a higher frequency of each of the three sexual activities when they reported positive genital perceptions about their own genitals and their partners' genitals.

Furthermore, Reinholtz and Muehlenhard (1995) found that women reported a small amount of anxious feelings about experiencing penile-vaginal sex or performing oral sex on men, but they did report a significant level of anxiety when receiving oral sex from a male partner. Overall, both men and women reported more negative genital perceptions about receiving oral sex when compared to other forms of sexual interactions. The findings from this study suggested that genital perceptions were context specific to sexual encounters (e.g. oral sex). Furthermore, the findings from this research indicated the relationship between genital perceptions, overall sexual satisfaction, and anxiety related to engaging in certain sexual positions.

Within the breadth of genital research, the terms genital identity (Waltner, 1986), genital perceptions (Reinholtz & Muehlenhard, 1995), and sexual self-schema (Cyranowski et al., 1999) are used interchangeably with the term genital self-image. The term 'genital self-image' refers to women's feelings and behaviors related to perceptions of their genitalia (Berman et al., 2003). Among a

sample of women from a sexual health clinic, Berman and colleagues found that genital self-image was negatively related to sexual distress and depression and positively related to sexual desire. Expanding on the findings from Berman et al. (2003), Swart (2004) compared a sample of healthy women from the general population to a sample of women experiencing sexual dysfunction. As hypothesized, the women from the clinical sample reported a lower genital self-image, less relationship satisfaction, a heightened rate of sexual dysfunction, more discomfort in sexual expression, and more overall sexual distress, than the control group (Swart, 2004).

Berman and Windecker (2008) investigated the relationship between sexual functioning and genital self-image on a large sample of adult women (N = 2,206). Interestingly, they found that African American women scored significantly higher than any other ethnicity of women on the genital self-image measure. The Hispanic/Latina women scored the second highest, followed by Caucasian women, and finally women from the "other" race category. In addition, women with a higher genital self-image also reported an overall higher sexual functioning score to include improved sexual desire, arousal, lubrication, orgasm frequency, and partner satisfaction. However, in this sample, Berman and colleagues did not find a relationship between masturbation and genital self-image. The authors suggested that a positive genital self-image has a strong, positive effect on women's overall sexual functioning.

Recently, Herbenick and Reece (2010) found that women who were more aware of their sexual self had significantly higher genital self-image scores than

women who were not aware, as rated by the following three variables: (a) orgasm from cunnilingus, (b) from self-masturbation with a vibrator, and (c) who regularly (every 12 months) visit the gynecologist. In addition, they found the domains of sexual arousal, lubrication, orgasm, and satisfaction were positively correlated with genital self-image. However, they did not find an association between sexual desire and genital self-image. These findings indicate genital self-image scores were higher among women who were self-aware and conscientious sexual partners.

Sexual Anatomy Knowledge

According to Waltner's definition of sexual identity, the inclusion of sexual anatomy education had a direct effect on a person's understanding of his or her own body (Waltner, 1986). However, empirical findings suggest that both women and men have little knowledge regarding the external female sexual anatomy, also known as the vulva (Madewell & Page, 2013). To investigate this lack of knowledge, researchers asked 252 sexually active university students to label a life-like anatomical diagram of the vulva, to include the clitoris, urethra opening, labia majora, labia minora, vaginal cavity, and anus. To assist the students, they were given a keyword list that contained seven correct terms and two distractor terms, which included the cervix and scrotum (refer to Table 5). The authors propose that limited exposure to comprehensive sexual education resulted in these findings.

According to the scores on this small assessment, it was clear young adults were ill informed on women's external genitalia; yet, they continue to be sexually

active. In addition, the women's scores, although not statistically significant, were lower than the men's, thus perpetuating the ideation that women are less informed about naming their own sexual body parts than men (Levin et al., 2012). As evidenced by the fact 8% of the women chose to identify a part of their vulva with the distractor terms of cervix or scrotum, whereas only 3.5% of the men chose a distractor term. The findings from this study highlight the importance of comprehensive sexual education programs that result in accurate information, self-awareness, and gender specific information resulting in young adults discussing sexual attitudes and behaviors with peers, parents, and romantic partners (Kirby, 2008) and increasing their sense of sexual agency (Tolman, 1999).

Media and Female Anatomy

Women's bodies and women's sexual bodies are central constructs in most media messages, yet many of these hyper-sexualized media messages fail to include women's genitalia (Brown & Witherspoon, 2002; Gilliam & Brindis, 2011). Within women's magazines and shopping sites (e.g., Victoria's Secret), the editing process involves photoshopping techniques to remove the appearance and shape of the vulva, specifically the labia (Plowman, 2010). Wade, Kremer, and Brown (2005) found less than 25% of heterosexually active men could locate a clitoris when presented with an illustration of the vulva. Photoshopping techniques and low sexual anatomy knowledge among adults, continues to support inaccurate socio-cultural messages regarding the vulva and female sexual body. By avoiding the female form of the genitalia, society is proliferating

negative socio-cultural messages that depict the female genitals to be dirty or disgusting (Braun & Wilkinson, 2001), in need of cleansing, or a taboo part of the female body (Hammers, 2006).

Socio-cultural messages within the U.S. such as these promote the theory that female sexuality has been socially and culturally oppressed through forces that encourage women to stifle their sexuality (Baumeister & Twenge, 2002), sexual expressions (Burt, 1980), and sexual desire (Levin et al., 2012). Socio-cultural messages that evade the importance of the genital and female anatomy may result in women being confused about their own bodily sensations (Braun & Wilkinson, 2001), and may contribute to a sense of sexual body shame (Levin et al., 2012). Thus, the combination of societal forces that restrict female sexual behavior and limit access to information about the female anatomy could lead young women to infuse body image distortions into their sexual identity.

The absence of the external genitalia within mainstream media images further limits the information available to developing young women (Bramwell, 2002). Therefore, if a young woman is interested in viewing another woman's genitalia, she may have to resort to actions that are beyond the accepted heterosexual norm. This may include viewing men's magazines, viewing pornographic images, or not viewing or questioning their bodies at all. However, these images and depictions most commonly present an unrealistically thin, white woman with a photoshopped or surgically enhanced vulva (Bramwell, 2002). These depictions may contribute to young women feeling insecure about their

own genitalia and sexual identity (Parvez, 2006), and possibly restrict the development of their own sexual preferences and enjoyment (Diamond, 2008).

The Sexual Self

The second factor of the Women's Sexual Health model focuses on the intersections between the self and the sexual self as indicated by "dating and romantic relationships" (Tolman et al, 2003). This factor includes thoughts on preventing unwanted pregnancies, sexually transmitted infections, sexual communication, and thoughts on how to balance the needs of the self along with the partners' needs and desires. Salient factors regarding the sexual self include aspects of love, affection, and sexual communication with another person. As the primary goal of this current model is to focus on the self, sexual self, and social self, the second factor of dating will be evaluated through women's thoughts related to sexual functioning and sexual behavior.

Sexual Attitudes and the Role of Sexual Activity.

Current research on women's sexual attitudes theory suggests that there are four main sexual attitudes that result in different thoughts on sexual practices. The four sexual attitudes include sexual permissiveness, instrumentality, communion, and attitudes about birth control practices (Hendrick, Hendrick, & Reich, 2006). Accordingly, sexual permissiveness measures one's attitudes toward casual sex or open relationships. Instrumentality measures the idea that sexual activity is a biological function and a necessary component to the human experience. Communion involves the idea that sexual activity is the ultimate way to connect to your partner. Finally, the attitude on birth control practices assesses

ones' attitude about safe sexual practices and responsibility (e.g. birth control, condom use, etc.).

Sexually active young women reported less agreement with communion, less agreement with permissiveness, and similar sexual attitudes on sexual instrumentality as non-sexually active women (Madewell, Page, & Erchull, 2013). The researchers suggested that when women who were sexually active, have realistic attitudes concerning sexual behavior, have a low attitude on sexual permissiveness, and value the role of sexual activity in their lives, they may report a more realistic perspective on sexual activity, than non-sexually active women. Specifically, they may be more likely to agree that sex is an exchange between two consenting adults that are attracted to one another, versus waiting for their fantasy soul mate.

Moreover, Madewell et al. (2013) found that the role of sexual activity resulted in mean differences in body image, self-esteem, and genital self-image. Specifically, they found that sexually active women who had engaged in sexual activity in the past 30 days reported higher rates of body image, self-esteem, and genital self-image when compared to women who have not had sex in the past 30 days. These results were similar to findings from Cyranowski and Andersen (1998) who reported that women who had sex in the past 30 days reported less sexual dysfunction. Together, these findings indicate the role of sexual activity may relate to women having more positive perceptions of their own body, self-esteem, and genital self-image.

The Self & Sociocultural/Sociopolitical Factors

According to the Women's Sexual Health model, sociocultural and sociopolitical factors play an important role in women's access to resources and sexual responsibilities (Tolman et al., 2003). This realm of the model focuses on the effects of institutional, political, and cultural factors that relate to access to resources. For example, access to legal, culturally accepted, and affordable contraception directly affects women's sexual health through perceptions of reproductive rights. Theoretical research and discourse on access and choice has been historically rooted in feminist theory (Tong, 2009). Much of the discourse on sexual access and choice centers on women's ability to define their sexual self and to openly express their sexual freedom (Tong, 2009). Accordingly, a belief in feminism adds a crucial dimension to the Women's Sexual Health model because empirical findings suggest that a feminist identity is a protective factor resulting in women having improved self-esteem, body acceptance, and openness to sexual experiences, when compared to women who do not identify with feminism (Bay-Cheng & Zucker, 2007; Hurt et al., 2007; Rudman & Phelan, 2007).

Protective Power of Feminist Identity

Research assessing the benefits of a feminist identity suggests that those who hold a feminist identity have a healthy self-esteem (Fischer & Good, 1994) and can reject thin societal norms (Hurt et al., 2007). Other researchers found feminist identified women reported good sexual well-being (Schick, Zucker, & Bey-Cheng, 2008), sexual openness (Bay-Cheng & Zucker, 2007), and relationship satisfaction (Rudman & Phelan, 2007), when compared to women

who did not identify as a feminist. Based on this protective element, feminist psychological research has defined a feminist identity as having a *"willingness to endorse the label, 'I am a feminist', by the beliefs the person espouses, and by a combination of the adoption of the label and endorsement of beliefs"* (Yoder, Tobias, & Snell, 2011, p. 10). Based on this definition, Yoder and colleagues suggest that identifying with feminism is a protective factor when they conceptualize and define the term (Yoder et al., 2011). Liss et al. (2001) followed a similar theoretical foundation and found that rejecting conservative beliefs and having a positive understanding of feminism had protective benefits to the development of a feminist identity.

In a study assessing young adults conceptualization of feminist identity, Madewell and Page (2013) found 43% of women and 24% of men identified as feminist. Madewell & Page (2013) built upon the method used by Yoder et al. (2011) by adding the following question, *"based on the following definition of feminism, do you now consider yourself a feminist?(Feminist: A person who is aware of gender inequalities yet wants equality for all people while valuing individual differences)."* From the same sample, 56% of women and 27% of men reported being a feminist according to the aforementioned definition. This finding was not statistically different yet the important change was in the lack of missing data. On the first question, 56% of the men chose not to respond, yet everyone responded to the second question. Furthermore, several (n = 8) men stated that they were not sure why they were being asked this question. Based on these findings, the researchers suggested using the educational feminist identity

question to better increase the likelihood that respondents make an educated response. If identifying with a feminist ideology relates to positive outcomes, why are women so hesitant to identify with an ideology supports equity?

With the many positive aspects associated with identifying as a feminist, women still struggle with identifying as a feminist. Feminist scholars suggest that society deems feminism as the other "F" word (Hogeland, 2001), as the negative tone has been associated with anti-men sentiments (Twenge & Zucker, 1999), demonization, limited access to male romantic partners, and fear of taking a stand (Hogeland, 2001). Liss et al. (2001) found that 81% of their respondents did not consider themselves a feminist even though they agreed with some or all of the goals of the feminist movement. Furthermore, Williams and Wittig (1997) found that women associated being a feminist with being perceived as a lesbian, regardless of their sexual orientation. As these over-generalized and inaccurate portrayals continue, young developing women may feel reluctant to take on this identity and not experience the positive benefits associated with having a feminist identity.

To understand differences between those who identify with feminism and those who not, Anderson, Kanner, and Elsayegh (2009) explored the differences in feminist beliefs among a sample of self-identified feminists and non-feminists. Using the Attitudes toward Men Scale (Glick & Fisk, 1999) to assess women's attitudes, they found that the non-feminists held more hostility towards men when compared to the self-identified feminists. The findings from this study demonstrated that women who identified with feminism were more likely to

promote equal access to power, prestige, and resources, when compared to women who did not identify with feminism. Furthermore, the non-feminist women were more likely to overgeneralize feminism as a male-bashing system than the feminist women (Anderson et al., 2009).

Other scholars suggest generational effects account for differences in feminist ideology. When investigating generational differences in feminist identity, findings suggest that both Baby Boomers (born 1943 to 1960) and Gen X'ers (born 1961-1975) identified with equity feminism (Duncan, 2010). However, the Baby Boomers were more likely to identify as strong feminists; therefore, research indicated that a personal experience with sexism or inequity may be the experiential factor that results in a woman's choice to identify with feminism (Duncan, 2010). The Baby Boomers reported personal experiences of inequity at home and at work, whereas most of the Gen X women did not report any direct experiences with inequity at home or work. Of the Gen X women who had personally experienced inequity, they identified as strong feminists, similar to the Baby Boomers. Therefore, the key factor in Gen X women shifting toward identifying with feminism depended on a direct act of sexism or inequity.

Feminist Directions.

In the late 1980's, feminist scholars anticipated that Gen X women would struggle identifying with feminism and the historical rhetoric that shaped the feminist movement (Hogeland, 2001). As forecasted, scholars suggest a generational divide rooted in ageism has created distance between second and third wave feminists, creating cognitive dissonance between older and younger

generations. Furthermore, the generational theoretical differences are rooted in debates over definitions, with the movements working as mother-daughter dyads, not as sisters (Hogeland, 2001, p. 118).

Hogeland (2001) suggested that young women grow up with a political culture demonizing feminism, consequently creating an environment of acceptance instead of change. This environment resulted in women embracing their identity as a woman and 'womanhood' even though many of these women do not identify as a feminist. Hogeland (2001) stated that young women avoid identifying with feminism because of fear, that *"feminism requires and expansion of the self"* (p. 535). Based on this fear, women who choose to rest in a state of gender consciousness enter a realm of social acceptance, thus free from the stress of entering a state of personal and political analysis.

Summary

The Women's Sexual Health model contains four interrelated factors centering on the concept of the 'self' (Tolman et al., 2003). According to the Women's Sexual Health model, the self and identifying with the self is relatively useless without the role of awareness, education, and access to information (Tolman et al., 2003). When a person is motivated to explore their sexual body and sexual thoughts, one can begin to construct their own sexual identity (Diamond, 2008).

Building beyond the concept of self, one can begin to understand their sexual self by interacting with their own sexual body and/or with another person. This behavior may result in changes to the perception of the self, therefore this

model of Women's Sexual Health is a plastic model that is always in a state of potential change (Diamond, 2008). Beyond understanding the concept of self and the sexual self, it is important to understand how social relationships, cultural factors, and political factors affect a person's overall self-concept. The four-factor model of Women's Sexual Health represents an interdisciplinary and preliminary model of women's sexual health and functioning, in an attempt to promote educational programs for women, men, families, therapists, and researchers.

Hypotheses:

Developing and Validating the Factor Structure of a Newly Designed Measure of Vulva Genital Awareness

Due to the consistent association between positive genital perceptions and sexual satisfaction, positive body image, and positive mental health (Berman & Windecker, 2008; Cyranowski & Andersen, 1998; Herbenick & Reece, 2010; Zeilinski, 2009), it was necessary for sexual researchers to synthesize current measurement methods into one standardized multi-dimensional measure of women's genital perceptions. I used exploratory and confirmatory factor analysis to investigate and validate a multi-dimensional and parsimonious measure of women's Vulva Genital Awareness (VGA). The first goal of this study was to investigate (a) the hypothesized multi-dimensional factor structure of the VGA, (b) replicate the factor structure on a second sample, (c) investigate the validity of the VGA on a sample of women with no sexual history with another person, as

this step would encourage the inclusion of all women, and (d) validate the measure by comparing the VGA with sexual functioning.

Assessing the Self.

Based on the importance of developing a concept of the self, the first hypothesis emphasized that knowing and accepting the physical body would serve as a protective factor among young women (Tolman et al., 2003). To assess this concept, the first hypothesis assessed the proposed relationships between sexual anatomy knowledge (SAK) and body image, self-esteem, and the newly developed vulva genital awareness (VGA). Furthermore, to validate the VGA, hypothesis one stated there would be a positive correlation between aspects of sexual functioning, which include desire, arousal, orgasm, sexual satisfaction, pain (R) and VGA.

Assessing Sexual Self and Vulva Genital Awareness.

According to the Women's Sexual Health Model, individuals with sexual anatomy knowledge, would be more likely to communicate their sexual desires and pleasures with their partner based on having an improved concept of the self, vulva genital awareness, and sexual satisfaction (Tolman et al., 2003). The second, third, and fourth hypotheses investigated aspects of the sexual self in relation to sexual anatomy knowledge and sexual relationships. Hypothesis two and three stated that sexually active women with above average (high) sexual anatomy knowledge would have higher vulva genital awareness and sexual satisfaction than sexually active women with below average (low) sexual anatomy knowledge.

Based on previous research, the fourth hypothesis investigated the role of sexual activity status and frequency on vulva genital awareness, sexual satisfaction, and body image (Baumeister, 2000; Cyranowski & Andersen, 1998; Madewell et al., 2013). This research reported significant differences in partner perceptions between couples who reported sexual activity more than once every 30 days from those who reported sexual activity less than once every 30 days. Based on this research, hypothesis four stated that women who were sexually active and having biweekly sex would report higher vulva genital awareness, more sexual satisfaction, and higher body image than sexually active women who were having sex less than once every 30 days.

Assessing Socio-political Ideations:

The fifth hypothesis assessed the relationship between the socio-political ideations and the sexual self. Previous research on feminist identity suggests it protects women by encouraging them to dispel negative media messages (Bay-Cheng & Zucker, 2007;Hurt et al., 2007; Rudman & Phelan, 2007). Therefore, hypothesis five stated that women who identify with feminism would be more likely to score high on sexual anatomy knowledge, body image, and vulva genital awareness when compared to those who did not support a feminist attitude.

CHAPTER III

METHOD

Participants

The original sample included 243 women from a prominent mid-western university who ranged between 18 to 56 years of age, with a mean age of 19.56 (*SD* = 4.00). Participants rated their sexual orientation on a seven-point likert scale ranging between (*1*) homosexual and (*7*) heterosexual, with 85.5% of sample (*n* = 213) reporting a seven. Forty-three women reported the absence of sexual activity with another partner (i.e., mutual masturbation, oral, vaginal, or anal sex), 131 reported current sexual activity with a partner, 63 reported previous sexual activity, and six who failed to answer, and three women were removed from analyses on sexual history because of inconsistent data. Only 9% of the sample reported experience with comprehensive sexual education (abstinence-plus) in middle and high school and because of the low number of women in this group, I chose not to include it as a grouping variable.

Approximately 14% (*n* = 35) of the women were cohabitating, which was defined as spending 4-5 nights a week in the same bed with a partner. Moreover, 44.2% were in a committed sexual relationship with one partner, 48.2% were in casual sexual relationships, and 7.6% were unsure of their sexual commitment

status. Finally, 11 women reported a history of being pregnant, 11 reported a history of sexually transmitted infections (STI), 63 reported a somewhat regular occurrence of candidiasis (i.e., yeast infection), and five women had given birth.

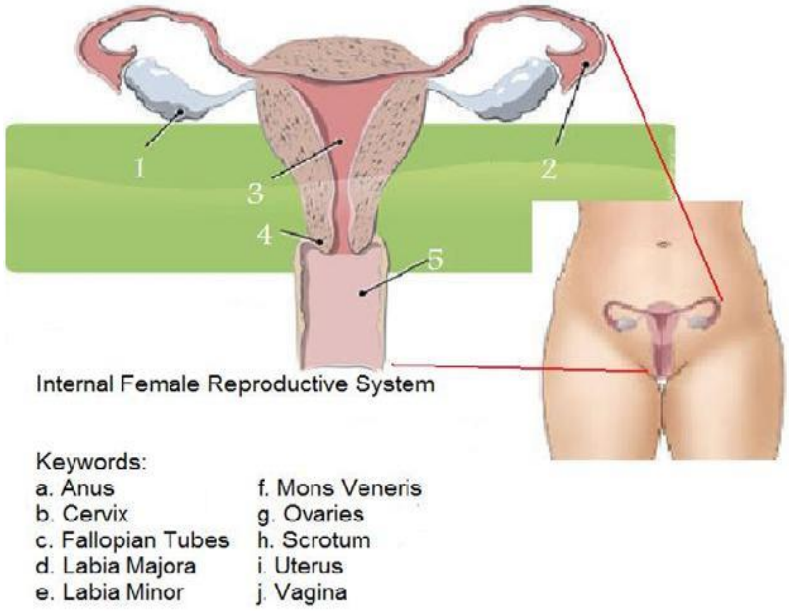
In terms of ethnicity, 68.7% of the women were Caucasian American, 10.8% Native American, 7.6% Hispanic/Latina American, 4.4% Black American, 3.6% Asian/Asian Pacific Islander, and 4.8% reported mixed ethnicity. Fifty eight percent were freshmen, 20.1% sophomore, 12.4% juniors, 6.4% seniors, and 2.4% failed to report their level of education.

Procedure

The participants volunteered through SONA Systems, the University online recruitment web site and received course credit for their participation. On the SONA Systems site, the study was identified as an investigation of "Body Identity." Upon arrival to the research lab, a same-sex researcher greeted participants, briefed them on the nature of the study, and gave a verbal explanation of the informed consent process.

Due to the sensitive topic, I allowed participants the opportunity to decline participation and receive credit if they were uncomfortable with the material. All volunteers completed the entire study without taking this option. Following the consent process, a same-sex research asked each participant to sit at a table with a privacy panel to ensure that she had privacy while completing the survey. After completing the consent form, participants labeled an anatomical diagram of female-internal and male sexual anatomy (refer to Figure 2 and 3).

Figure 2. Female Sexual Anatomy Diagram 1

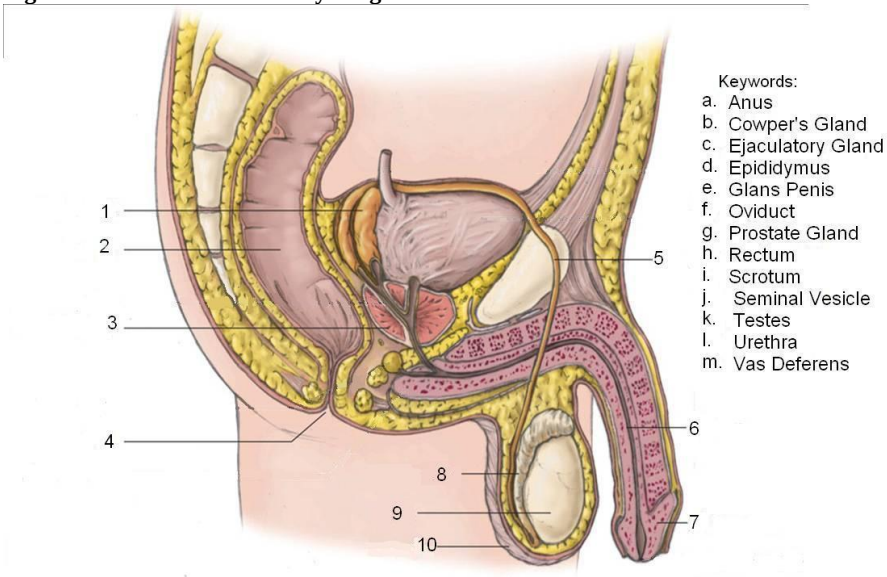


Keywords:

a. Anus	f. Mons Veneris
b. Cervix	g. Ovaries
c. Fallopian Tubes	h. Scrotum
d. Labia Majora	i. Uterus
e. Labia Minor	j. Vagina

Note. **Distractor terms = a. Anus, d. Labia Majora, e. Labia Minora, f. Mons Veneris, h. Scrotum.**

Figure 3. Male Sexual Anatomy Diagram 2

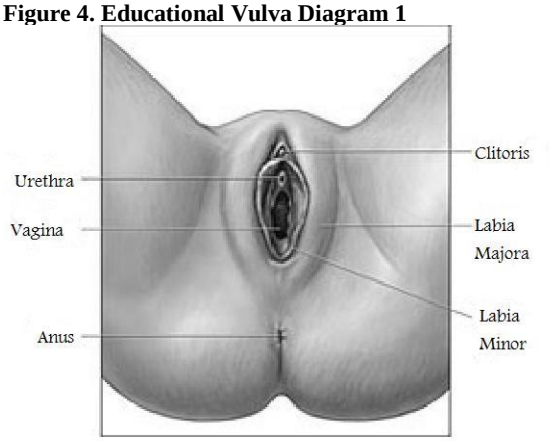


Note. **Distractor terms = a. Anus, b. Cowper's Gland, c. Ejaculatory Gland, f. Oviduct.**

Then, a same-sex researcher asked participants to complete an educational genital self-image measure that specifically asked them to report their level of agreement on how satisfied they were with their vulva. On this educational genital self-image measure, the participant used Figure 4, a life-like anatomical

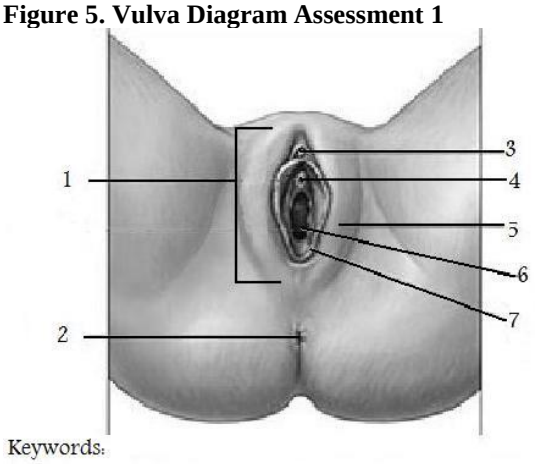
diagram of a vulva, to guide their responses before reporting their level of agreement on how satisfied they were with their vulva, urethra opening, clitoris, labia majora, labia minora, vaginal opening, anus, and mons veneris/pubic hair (refer to Figure 4).

Figure 4. Educational Vulva Diagram 1



This was an educational vulva diagram because they were given a fully labeled anatomical diagram of the vulva. Then, the questions asked them to locate the specific body part on the diagram before reporting their level of satisfaction with the function of that body part (Zeilinksi, 2009). Next, the participants completed other measures on genital self-image, body image, ovulation, sexual functioning, and partner preferences. At the end of the survey, I gave them the same vulva diagram that was used in the educational GSI, except this time it asked them to label the vulva, urethra opening, clitoris, labia majora, labia minora, vaginal opening, anus, and mons veneris. To assist the participants, I gave them a keyword list of the eight correct terms and two distractor items (refer to Figure 5).

Figure 5. Vulva Diagram Assessment 1



Keywords:

a. Anus	f. Scrotum
b. Cervix	g. Urethra
c. Clitoris	h. Vagina
d. Labia Majora	i. Vulva
e. Labia Minor	

Note. **Distractor terms = b. cervix and f. scrotum. The distractor terms on previous datasets included Volvo and phalange.**

As research on women's sexuality is a sensitive topic to some women, I setup a text window application for the participants to ask the researcher questions through asynchronous communication. This application was used by 12 women who predominantly asked questions about terms (e.g., what is a pap smear?, what if I can't remember the date of my last period, etc.). In total, the women spent 45 minutes to an hour completing measures that examined the following subjects: genital self-image, body image, sexual functioning, ovulation, feminist identity development, and sexual anatomy diagrams (female-internal, male diagram, and female-external). After completing these measures, the final measure asked the participant to complete a demographic information form.

Measures.

Genital Self-Image (GSI). The Genital Self-Image scale was designed to measure women's thoughts about their own genitalia, using a two-part 30-item

measure (Berman et al., 2003). Part A included 18-items assessing women's thoughts of their genitals, and response options ranged from 1 (*disagree strongly*) to 4 (*agree strongly*). Part B included 12 adjectives assessing if agreed that each adjective 'applies to me' (*1*) or 'does not apply to me' (*0*). The *GSI-Modified* (Madewell, 2010) was developed to reliably explain factors of genital self-image among women, using the Part A, 16-item measure of GSI.

In order to fully explain the salient factors associated with women's genital perceptions, a 57-item scale was developed. The newly designed measure was labeled, *Vulva Genital Awareness (VGA)* and response options ranged from one (*strongly disagree*) to six (*strongly agree*), without a middle value. Twenty seven items from Berman's GSI measure were included in the newly designed VGA measure (refer to Table 7). Four items were included from research by Reinholtz and Muehlenhard (1995). Seven items were included from the modification of Zeilinski's unpublished measure of educational genital self-image (Zeilinksi, 2009). Four items were included from research by Herbenick and Reece (2010). One item pertaining to satisfaction with breasts was included based on work by Algars et al. (2011) and 14-items were included from research collected from pilot samples (Madewell, 2010). Pulling from various research on women's genital perceptions, the 57-items were hypothesized to capture three meaningful factors (refer to Table 7 for items, references, and hypothesized factors). The three factors were (a) functioning/touching/anatomy, (b) genital satisfaction/ appearance, and (c) scent/partner perceptions/pubic hair/embellishments.

Body Image Quality of Life Inventory. The BIQLI assessed body image across various aspects of psychosocial functioning and well-being (BIQLI; Cash, 2004). The 19-item self-report measure is rated on a 7 point scale, ranging from +3 (*very positive effect*) to a -3 (*very negative effect*) on one's quality of life. The reported internal consistency of the composite mean scale was very high (.95; Cash, 2004). With another sample of college students, the internal consistency was .94 for both sexes (Cash, 2004). The high Cronbach's alpha for the present study ($\alpha = .91$) was consistent with previous research.

Rosenberg Self-esteem Scale. The Rosenberg Self-esteem Scale measures an individual's assessment of their own worth as a person and positive or negative feelings toward the self (ROSEN; Rosenberg, 1989). The scale is a widely used measure of self-esteem, and it is composed of 10-items, ranging on a scale from one (*strongly disagree*) to four (*strongly agree*). This measure has been found to be positively correlated with other measures of self-esteem (Robins, Hendin & Trzesniewski, 2001), optimism, and life satisfaction (Greenberger, Chuansheng, Dmitrieva, & Farruggia, 2003) and negatively correlated with depressive symptoms (Greenberger et al., 2003). The high Cronbach's alpha from the present study ($\alpha = .86$) was consistent with previous research.

Global Sexual Functioning. The Global Sexual Functioning measure assesses aspects of sexual functioning to include: desire, arousal, orgasm, pain, and sexual satisfaction in women (Creti et al., 1988). Test-retest reliability was .92 (Creti et al., 1988). Internal consistency for the global sexual functioning score ranged between .50 to .70 for women (Creti et al., 1988). This measure has

been found to be positively correlated with other measures of sexual harmony, sexual satisfaction, and sexual drive in women (Creti & Libman, 1989). The Cronbach's alpha from the present study were all in moderate and in the expected direction (arousal = .83, desire = .89, lubrication = .92, masturbation = .86, orgasm = .82, pain = .70, satisfaction = .91).

Feminist Self-Labeling, Feminist Identity. Feminist self-labeling assesses participants' response to the following statement, "Do you consider yourself a feminist?" Then, they were asked to respond yes (*1*) or no (*0*) to this statement, "Using the following definition of feminism, do you consider yourself a feminist? *Feminism: Women and men who are aware of gender inequity, agree there are gender differences, yet strive for equality*." The label, Feminist A denotes the first feminist question and *Feminist B* denotes the second feminist question throughout the rest of the study.

Sexual Anatomy Knowledge Coding.

Sexual Anatomy Knowledge (SAK). I used three diagrams to assess women's knowledge of their own sexual body and that of men's sexual body (refer to Figures 2, 3, & 4). Two diagrams assessed knowledge of women's sexual anatomy to include: (1) the vulva-external genitalia, (2) female-internal reproduction system, and one diagram assessed knowledge of (3) the male internal/external anatomy. The male diagram included both external and internal anatomy of the male body.

Vulva. The first female-external sexual anatomy diagram asked participants to identify the external sexual anatomy, which included: the vulva,

the clitoris, urethra opening, labia majora, labia minora, vaginal opening, and anus. There were a total of seven items they needed to identify. I provided a keyword list that contained 10 items, the seven correct terms and three distractor terms of scrotum, phalange, and Volvo. On average, the women correctly answered four of the seven items correctly (M = 4.16, SD = 1.82). Approximately 6% accurately labeled one item, 11.6% accurately labeled two, 13.3% labeled three, 18.2% labeled four, 15.4% labeled five, 7% labeled six, and 13.3% accurately labeled all of the vulva body parts. Of the two distractor terms on the keyword list, 36.8 % (n = 103) chose to label an external body part as a cervix, and 16.5% (n = 45) chose to label a vulva body part as a scrotum, even after they completed an educational vulva exercise approximately 20 minutes prior to filling out this measure.

Female-Internal Diagram. Each participant labeled five main anatomical structures as presented on a basic diagram of the female-internal reproductive system, to include: (1) ovaries, (2) fallopian tubes, (3) uterus, (4) cervix, and (5) vagina. A keyword list included the aforementioned items plus five distractor terms, to include: labia minora, labia majora, mons veneris, anus, and scrotum. On average, the women correctly answered approximately four items correctly (M = 3.94, SD = 1.27). Approximately 2% accurately labeled one item, 6.3% accurately labeled two, 20.4% labeled three, 13% labeled four, and 41.8% (n = 119) labeled all five anatomical structures correctly. Of the distractor terms on the keyword list, 8.8 % (n = 25) chose to label an internal female reproduction system as a scrotum. On average the sample of women scored very well on this

assessment, with the average woman scoring a 79% on the female-internal anatomical diagram. Based on this above average level of knowledge, I decided to investigate the female diagrams in two ways. First, I created a sum score of the vulva-external plus the female-internal diagrams together, which was labeled SAK_{female}. Second, I investigated the total score of the vulva-external diagram by itself, which was labeled SAK_{vulva}.

Male Reproductive System. Each participant labeled ten anatomical structures as presented on a basic diagram of the male reproductive system, to include: (1) seminal vesicles, (2) rectum, (3) prostate gland, (4) anus, (5) vas deferens, (6) urethra, (7) glans penis, (8) epididymis, (9) testes, and (10) scrotum. A keyword list included the aforementioned items plus three distractor terms, to include: cowper's gland, ejaculatory gland, and oviduct. On average, the women correctly answered approximately four of the ten items correctly (M = 3.91, *S.D.* = 2.07). Approximately 3.5% inaccurately labeled all ten items, 6.3% accurately labeled one item, 11.6% accurately labeled two, 15.4% labeled three, 16.5% labeled four, 11.9% labeled five, 8.1% labeled six, 6.7% labeled seven, 2.1% labeled eight, .7% (n = 2) labeled nine, and .7% (n = 2) labeled all ten anatomical structures correctly. Of the distractor terms on the keyword list, 37.9% (n = 108) chose to label an internal male reproduction part as an oviduct.

Development of Cut-scores for SAK.

For the SAK diagrams, a score of 7 signifies a perfect score for the SAK_{vulva} diagram, a 12 signifies a perfect score for the SAK_{female} diagrams, and a score of 10 represents a perfect score for the SAK_{male} diagram. I evaluated the

findings from the human sexuality course to determine cut scores between those who actually have above average (high) sexual anatomy knowledge and those who have average or below average (low) sexual anatomy knowledge.

Sexual Anatomy Knowledge (SAK) Pilot Data

To analyze SAK scores as an independent variable, I collected pilot data collected from a sample of 43 university students (32 female, 11 male) enrolled in a human sexuality course.

SAK_{vulva}. Students scored a mean of 3.89 (*SD* = 1.20) at pre-test, a mean of 6.88 (*SD* = .39) at post-test, and a mean of 5.88 (*SD* = .86) at follow-up, those who scored six items correctly (86%) were considered the students with above average, or high SAK_{vulva}. Since I considered the student's scores at follow-up to represent both education exposure and retention, I used the follow-up score to identify participants who had (high) sexual anatomy knowledge compared to those with novice (low) sexual anatomy knowledge. Therefore, women who scored a six or seven on the SAK_{vulva} were included in the high SAK group and women who score a five or below were included in the low SAK group.

SAK_{female}. Students scored a mean of 8.62 (*SD* = 1.85) at pre-test, a mean of 11.74 (*SD* = .44) at post-test, and a mean of 9.56 (*SD* = .94) at follow-up, those who scored 10 items correctly (83%) were considered the students with above average, or high SAK_{female}. Since I considered the student's scores at follow-up to represent both education exposure and retention, I used the follow-up score to identify participants who had (high) sexual anatomy knowledge compared to those with novice (low) sexual anatomy knowledge. Therefore, women who

scored a 10 to 12 on the SAK_{female} were included in the high SAK group and women who score a nine or below were included in the low SAK group.

In the current study, 21 women correctly answered one to five items correctly, 82 correctly answered six to nine, and 96 correctly answered ten to twelve correctly. Also, the women who scored below a nine, were also the women who incorrectly chose one or more distractor terms. The 31 women who scored a nine (75%) were the women considered to have average knowledge, plus the women in this group did not inaccurately choose distractor terms. The women who scored between one and six correct, used an average of 3.5 distractor terms. The findings from the pilot sample indicated that the cut score of 10 (SAK_{female}) without the use of distractors was also supported in this sample, by providing a meaningful difference between those with above average (high) sexual anatomy knowledge and those with a below average (low) sexual anatomy knowledge.

SAK_{male}. Students scored a mean of 6.62 (*SD* = 2.31) at pre-test, a mean of 8.62 (*SD* = .77) at post-test, and a mean of 7.11 (*SD* = 1.28) at follow-up, those who scored eight items correctly (80%) were considered the students with above average, or high SAK_{male}. Similarly, those who scored an eight or above on the male sexual diagram were grouped in the above average (high) SAK_{male} group and those who scored a seven or below were grouped in the below average (low) SAK_{male} group.

Based on the SAK_{vulva} cut score of six, 58 (24%) women were included in the high SAK_{vulva} group. The SAK_{female} cut score of 10 resulted in 73 (30%) women in the high SAK_{female} group (note. SAKfemale is the sum of the vulva and

the female-internal diagrams). The SAK_{male} cut score of eight resulted in 10 (4%) women in the high SAK_{male} group. Due to the low level of performance on the SAK_{male} diagram, it was not included in analyses as an IV.

CHAPTER IV

RESULTS

Factor Structure of Vulva Genital Awareness (VGA)

Prior research using different genital perception measures have found evidence for a one-factor, 7-item model (Herbenick & Reece, 2010), a one-factor, 4-item model (Herbenick et al., 2011). Another researcher proposed a 2-item model of sexual body image (Algars et al., 2011). Other researchers have suggested a two-factor, 30-item model (Berman et al., 2003; Berman & Windecker, 2008). Finally, another research group developed a three-factor, 43-item model (Reinholtz & Muehlenhard, 1995; refer to the section on Measurement of Genital Perceptions, pg 12). Despite the various methods used to measure genital perceptions, it is evident that individuals with positive genital perceptions report healthy sexual lives and positive relationships with their partner (Algars et al. 2011; Berman et al., 2003; Berman & Windecker, 2008; Herbenick & Reece, 2010; Herbenick et al., 2011; Madewell & Page, 2010, & Reinholtz & Muehlenhard, 1995), thus supporting the importance of genital perceptions in women's sexual lives.

The first goal of the study was to investigate (a) the hypothesized multi-dimensional factor structure of the VGA, (b) replicate the factor structure on a second sample, (c) investigate the validity of the VGA on a sample of NSAP women, and (d) validate the measure by comparing the VGA with sexual functioning.

Only one research study on genital perceptions evaluated the effectiveness of model fit using confirmatory factor analysis (CFA). This one research study used CFA to validate a one-factor measure, titled, Female Genital Self-Image Scale (FGSIS; Herbenick et al., 2011). Herbenick et al. (2011) used CFA on their one factor, 7-item measure of FGSIS; however, it failed to achieve model fit without the loss of almost half of the original items. The final measure included a total of 4-items and only represented one factor.

Previous researchers have found many different factors associated with genital perceptions; however, this research study was the first to combine the different factors in the development of a multi-dimensional model of genital perceptions, titled, vulva genital awareness (VGA). The hypothesized three-factor model of VGA integrated items from previously used measures. First, the inclusion of the slightly modified items from Berman et al. (2003) measured factors of *genital functioning* (a). Seven items from an unpublished measure on educational genital self-image measured *genital satisfaction* (b; Zeilinski, 2009). The work on partner perceptions and functioning developed by Reinholtz and Muehlenhard (1995) measured *scent/partner perceptions* (c). Finally, I included 14-items developed from pilot testing and hypothesized to measure *partner*

perceptions regarding pubic hair grooming and sexual body exposure through media (c; Tiggemann & Hodgson, 2008).

Pilot testing took place in a women's studies course on reproductive rights. A group of 23 students (18 female, 5 male) detailed items they found important to their own genital health, functioning, grooming, and enjoyment. Four researchers evaluated the students' items before the final inclusion of 11 items. Then, two additional items pertaining to sending naked images to partner(s), also known as sexting, were included to further assess young women's perceptions of their genitalia and breasts (Wysocki & Childers, 2011). Finally, similar to Algars et al. (2011), one item pertaining to women's satisfaction with breasts was included. In total, the first hypothesized model of Vulva Genital Awareness included 57-items.

Based on psychometric analyses and survey design, reverse coded items present limitations to factor structure and current psychometricians suggest a critical analysis and possible removal of reverse coded items (Page, 2013, personal communication). Upon evaluation of the 57-items designed in late 2010, I decided to omit 20-items because they were not simply reverse coded, they included highly negative language. For example, a forward item would read "I like myself" and the reverse coded would read, "I do not like myself"; however, if the reverse coded item, said "I am disgusting" this becomes a qualitatively different item in the latter case. Among the 20-items removed from the original items, I observed that most of the reverse coded items were of the latter type.

Based on this theoretical modification, the hypothesized model included 37-items, analyzed using exploratory and confirmatory factor analysis.

Exploratory Factor Analysis on 37-items

To explore the newly designed *Vulva Genital Awareness* (VGA) measure, Exploratory Factor Analysis using oblique rotation was performed on the 37-items using a sample of 225 sexually experienced women. As suggested by Tabachnick and Fidell (2007), I began with a principal components extraction to assess for the presence of outliers, the absence of multicollinearity, and to estimate the factorability of the measure (p. 612). The Kaiser-Meyer-Olkin measure of sampling adequacy was optimal, *KMO* = .850, which suggested the sample was sufficient to factor the VGA measure.

The anti-image matrix of correlations indicated six items with a value less than .50 along the diagonal; therefore, indicating low overall structure (refer to Table 8). Three of these items stated, *'I think pubic hair in a necessary part of my anatomy,' 'I prefer to remove all of my pubic hair,' and 'I groom my pubic hair.'* The failure of these items to load with other pubic hair items may be due to the hairlessness norm. In the U.S. and other industrialized nations, a hairlessness norm appears to suggest that the removal of all pubic hair is the norm, especially among young women (Basow, 1991; Tiggemann & Hodgson, 2008). I omitted these items due to this socio-cultural trend of hairlessness and low variability. Other items stated, *'I enjoy touching my partner's genitals,' 'I enjoy giving oral sex,'* and *'I feel my partner's genitals function as they should.'* Previous researchers have also removed items similar to these (Herbenick & Reese, 2010),

as these items address sexual activities with a partner, not specifically a part of the sexual self. Based on low variability and misidentified content, I omitted these three items.

However, the remaining 31-items indicated values greater than .582, thus supporting the adequacy of the sample. Next, Bartlett's test of sphericity assessed for multicollinearity. Bartlett's test was significant; therefore, multicollinearity was not detected. Subsequently, the preliminary analyses resulted in factorable items. According to the exploratory factor analysis using principal components analysis, I omitted the six items based on low model fit and low theoretical support, thus resulting in 31-items.

Following the principal components analysis, I used principle axis factoring as the primary method of extraction on the 31-items of VGA (Tabachnick & Fidell, 2007). Upon reviewing the item correlation matrix, an oblique rotation method was necessary (see Table 8). Three to four possible factors emerged when evaluating the screeplot and nine factors loaded eigenvalues greater than 1.0. A communalities analysis indicated five items accounted for low factor variance (.40); therefore, I evaluated these items for possible omission from the VGA measure (refer to Table 8). Three of these items pertained to genital embellishment and were developed from the pilot data taken from students enrolled in a women's studies program. The items stated, *'I think a genital piercing would be enjoyable,' 'decorating my genital area adds to the enjoyment of my own body,'* and *'a tattoo in the genital area would be arousing for me.'* Within this sample, I decided to remove these items; however, in

samples with more diversity, I think additional researchers should examine these or similar items. One other item pertaining to genital scent had low communality and, stated, *'I enjoy the natural scent of my genitals.'* Previous researchers have found that women rarely enjoy their own body scent (Rikowski & Grammer, 1999), but it is more important for their partner to enjoy their body scent. Based on this theoretical implication, this item was removed and the item which stated, 'My partner enjoys the scent of my genitals' was retained.

The fifth item with low communality stated, *'I enjoy receiving oral sex.'* I omitted this item within this sample, but I would suggest the inclusion of this item when researching samples that are more heterogeneous. The final item with low communality stated, *'my genitals are good sized.'* Similarly, Herbenick and Reece (2010) found that genital size was not a salient factor among women. The remaining 25-items indicated homogeneity among the variables suggesting the items within each factor accounted for shared variance (Tabachnick & Fidell, 2007, p.637).

Theoretically, I originally hypothesized three meaningful factors to capture genital perceptions, to include: (a) *functioning/touching*, (b) *genital satisfaction*, and (c) *partner perceptions (scent/pubic hair embellishments/media exposure;* refer to p.45). Contrary to the hypothesized factor structure, the principal axis factor loadings presented a slightly different structure, with the three factors accounting for 45.10% of the total variance (refer to Table 9 for factor structure and loadings).

The first factor, *genital satisfaction*, cleanly loaded eight items, which accounted for 24.81% of the variance. The second factor, *genital functioning and education* loaded nine items, which accounted for 12.87% of the variance. The third factor, *partner perceptions*, loaded nine items, which accounted for 7.43% of the variance. I omitted one weak item based on loadings less than a .20, which accounted for less than 4% of the item variance. The item stated, 'growing up, my family openly discussed genital/sexual health.' This item may capture the sociocultural climate within the Midwestern states, where abstinence-only education is the primary method taught in schools (Mabray & Labauve, 2002). Previous research suggests that comprehensive sexual education programs enhance young adults ability to communicate with their parents about sexual matters (Kirby, 2008), yet in areas where abstinence-only education is the primary form of education, parents and adolescents report low levels of communication regarding sexual matters (Mabray & Labauve, 2002). The current climate regarding low levels of sexual communication could be accounting for the low fit of this item (refer to Table 9 to see factor structure and loadings). The results of the EFA suggested 24-items of the VGA loaded on three factors. Finally, the factor score correlation matrix revealed the three factors were positively correlated and relatively strong. Refer to Table 10 for factor correlations.

Initial Analysis of the 24-item VGA

Similar to previous research regarding the measurement of genital perceptions, I found the 24-item VGA measure significantly ($df = 241$, $p < .001$), positively correlated with aspects of global female sexual functioning subscales of

(a) desire .30, (b) lubrication .49, (c) arousal .58, (d) orgasm .56, (e) pain -.20, (f) satisfaction .19, $p = .01$. As with previous genital self-image measures, the 24-item VGA is positively related to aspects of sexual attitudes and functioning (Berman et al., 2003; Herbenick et al., 2011) The results of the exploratory factor analysis of the new formulated 24-item VGA measure supported the theoretical structure of a multi-dimensional measure of VGA. Analyzing the 24-item VGA using confirmatory factor analysis was the next step in validating the factor structure.

Confirmatory Factor Analysis

As previously stated, the purpose of the current analysis was to investigate (a) the hypothesized multi-dimensional factor structure of the VGA, (b) replicate the factor structure on a second sample, (c) investigate the validity of the VGA on a sample of NSAP women, and (d) validate the measure by comparing the VGA with sexual functioning. Based on the expectation that factors produced from the VGA would be related and indicative of a higher order factor structure, I used second-order confirmatory factor analysis (CFA) using Analysis of Moment Structures (AMOS) software 18.0 implementation of structural equation modeling (SEM).

I collected a sample of 1,225 undergraduate students enrolled at a Midwestern university over the course of four semesters. Using the women who reported a current or previous sexual partner, I randomly split the combined dataset in to two samples of women. Of the sexually active women, sample one consisted of 472 participants, and sample two of 470 participants. This step was

necessary to investigate model one before assessing the possibility of replication of the final re-specified model of VGA-Partner. The VGA-Partner assesses women's genital perceptions about the self and the sexual self with a partner. Sample three consisted of 283 women who reported no sexual history with another person (i.e., mutual masturbation, oral, vaginal, or anal sex) and I decided to label this group as not sexually active with a partner, 'NSAP' throughout the rest of the study. I used the sample of NSAP women to investigate the VGA-Self model to determine the validity of the VGA on women with little to no sexual experience with another person. The VGA-Self assesses women's genital perceptions about the self and sexual self, excluding the sexual self with a partner factor.

Hierarchical Model 1 of VGA 24

I used maximum likelihood estimation because the data were normally distributed. Next, I used Box plots and Mahalanobis distance to determine that there were no multivariate outliers. I allowed the two hierarchic factors to correlate. Table 11 shows the X^2, Normative of Fit Index (NFI), Comparative Fit Index (CFI), Relative Fit Index (RFI), Incremental Fit Index (IFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Hoelter's critical *N* used to evaluate the model.

According to previous research on genital perceptions, I developed a theoretical model using a two factor hierarchic structure, which focused on aspects of women's sexual identity, that is the *sexual self* (SS) and *sexual self with a partner (SSP;*Tolman et al., 2003). I included the items from the genital

satisfaction and sexual functioning/education factors into the *sexual self* hierarchic factor. I included the items from the attractive/partner perception and embellish/pubic hair grooming factors into the *sexual self with a partner* hierarchic factor (see Figure 5). Model 1 resulted in a significant X^2, the CFI and IFI were .86, and the RMSEA was .070 with a 90% confidence interval of .065 to .075, which indicated low model fit (refer to Table 11 for fit values). RMSEA values less than .05 are indicative of good fit to data, with values ranging between .06 to .08 indicating fair fit, and values greater than .10 indicating poor fit (Browne & Cudeck, 1993; Byrne, 2001). Hoelter's critical *N* was less than 200, further suggesting poor model fit (Byrne, 2001).

Model 1 Re-specification

In model 1, I examined the covariance indices for error terms to identify items for model specification misfit. A significant discrepancy was found for the covariance between error terms on items gsi25 *'I send pictures of my sexual body parts to my partner through media'* and gsi28 '*I would share a picture of my genitals with my partner'* (185) in the embellishment subscale. Based on theoretical overlap, these two items were allowed to correlate. Upon further evaluation of gsi25, it was removed from the model as it covaried with eight other error terms across multiple factors. Theoretically, the gsi25 item captured the practice of sexual communication or sexting, and revision of this item is necessary before it could be included in future modifications of the VGA.

Upon removal of one item, allowing three sets of error terms to correlate, and moving two items within factors, the 24-item VGA produced adequate model

fit (CFI = .923), further supporting the respecification steps. Model 1R resulted in a significant X^2, the CFI and IFI were .923, and the RMSEA was .053 with a 90% confidence interval of .047 to .058, which indicated good model fit (refer to Table 11 for fit values). Together, these indices were indicative of good model fit between model 1R and observed responses, thus this model of VGA with 24-items was used for a replication of the model on sample 2.

Model 1R Replication

To validate the factor structure of the VGA, I ran Model 1R on sample 2 (n = 470), which included women with some sexual history. Model 1R resulted in a significant X^2, the CFI and IFI were .91, which indicates adequate fit. However, the RMSEA was .058 with a 90% confidence interval of .052 to .063, which indicated fair model fit (refer to Table 11 for fit values). All the indices reduced over the original Model 1R; however, the model fit was adequate to state replication was successful. The sample size was less than optimal, thus it is possible that the model fit indices would improve with a larger sample size. Factor loadings for the two samples are detailed in Table 12.

VGA Measure Validation on Women without Sexual History

Despite the various measures used to capture genital perceptions, no study to my knowledge, has investigated genital perceptions in women without sexual experience with another person (i.e., virgins and/or a-sexual women, renamed to NSAP). Sex researchers do not typically remove male virgins from research studies because it is culturally accepted that they engage in regular masturbation and are considered sexual beings (Lever, Frederick, & Peplau, 2006). In contrast,

many researchers have excluded female virgins from their samples based on the assumption that they are not sexual beings unless they have engaged in sexual activity with another person (Levin et al., 2012). This sexual double standard highlights the importance of a VGA measure designed to be inclusive of all women and for this gendered topic of sexuality to be researched.

I investigated the VGA Hierarchic Model 1R on a sample of women who reported no sexual history (i.e., mutual masturbation, oral, vaginal, or anal sex). The two-factor hierarchic model was minimized to contain the one-factor structure of the sexual self, while omitting the sexual self with a partner factor. Therefore, the model used to investigate VGA on a sample of NSAP women included 13-items, pertaining to the VGA-Sexual Self factor. I titled the modified measure as, VGA-Self.

Sample 3, model 1R showed the CFI, IFI, and TLI were above .91, which suggested adequate fit (Hu & Bentler, 1995). The RMSEA of .097 with a 90% confidence interval of .083 to .091, indicated a poor fit (Byrne, 2001). Hoelter's critical *N* was less than 200, further suggesting poor model fit (Byrne, 2001). In this sample, many women reported 'does not apply to me' which was scored as a zero. This resulted in low factor weights on the SS-function factor. Despite the low number of women who reported no sexual activity, the model fit suggests that NSAP women do represent a similar model fit when compared to sexually active women.

All the indices for model 1R improved over the original model 1 in data from sample 1 and sample 2. Together these indices were indicative of good

model fit between model 1R and observed responses. All of the factor loadings were relatively high, in the expected direction, and significant ($p < .05$). Inter-correlations among the latent factors are in Table 13.

Primary Analyses

To investigate the hypothesized relationships within the women's sexual health model, I used a sample of 246 women (sample d). This sample was not included in the exploratory or confirmatory factor analyses. Refer to the Method section (p.38) for sample characteristics.

Assessing the Self

Hypothesis 1. Hypothesis one stated that aspects of sexual functioning, which include desire, arousal, orgasm, sexual satisfaction, and pain (reverse coded) would be positively correlated with VGA. Based on the proposed inclusion of all women, I separated those who have some sexual history ($n_{current}$ = 131, $n_{previous}$ = 63) from those who reported no sexual history (n =43). These relationships between VGA-Partner and aspects of sexual functioning were all significant and in the hypothesized direction, among sexually active women. I did not evaluate the relationships between VGA-self and aspects of sexual functioning for the NSAP women. Refer to Table 14 for means, standard deviations, and Pearson product-moment correlations.

Assessing Sexual Self and Vulva Genital Awareness

Hypothesis 2. Hypothesis two stated that sexually active (SA) women with above average (high) sexual anatomy knowledge (SAK_{vulva}) would have higher vulva genital awareness (VGA), than (SA) women with below average

(low) SAK_{vulva}. Since I was primarily interested in women who reported a history of sexual activity or masturbation to orgasm, I removed all women who reported no history of self-pleasure to orgasm, resulting in a sample size of 197. Of the total sample, 41 women reported masturbation to orgasm while single, 46 reported casual sex, and 110 reported being in a committed sexual relationship.

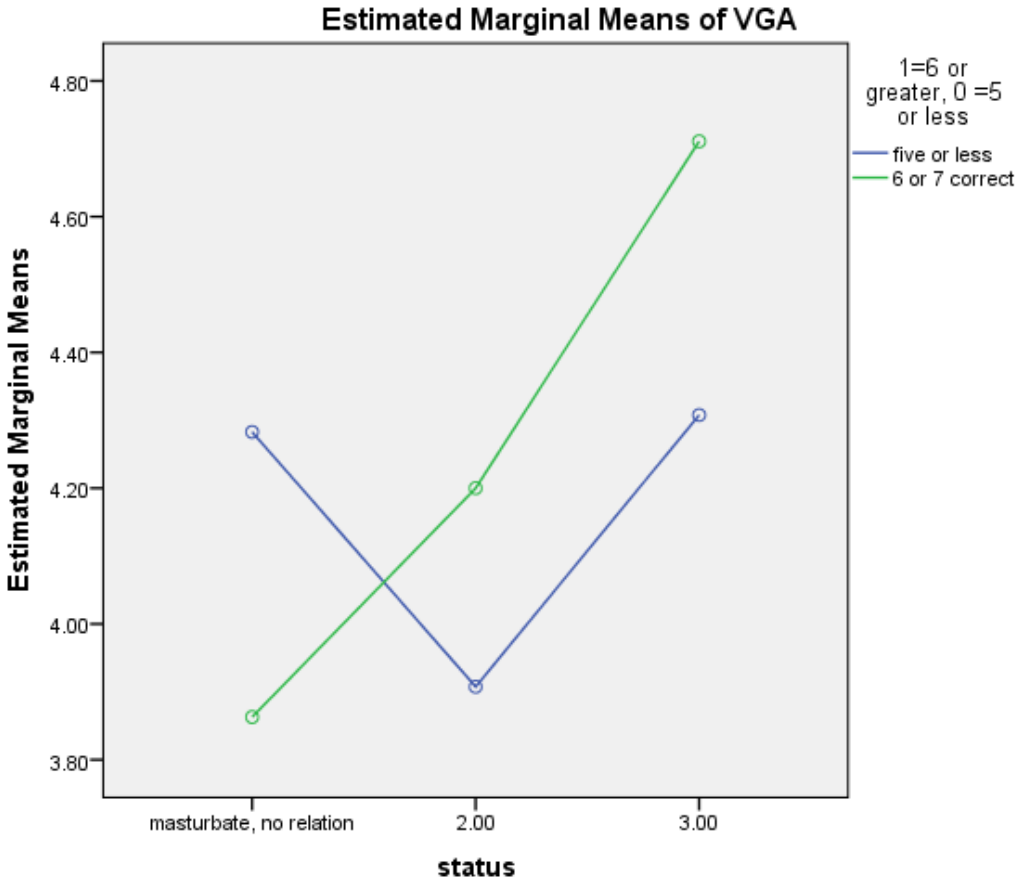
I ran a 3 x 2 factorial ANOVA with women being categorized into three groups based on sexual activity (SA; self-pleasure only, casual partner, committed partner) and SAK_{vulva} scores (*high, low*) as the IV's and VGA as the DV, which was significant, (refer to Table 15 for marginal means). The main effect of SA status, $F(2, 191) = 6.41$, $p = .002$, $\eta^2 = .06$, power = .90, and the interaction between SA status and SAK_{vulva}, $F(2, 191) = 3.75$, $p = .025$, $\eta^2 = .04$, power = .68, were significant. The main effects of SAK_{vulva} was not significant, $p = .07$.

To probe the interaction, I ran interaction contrasts to test the effects of SAK_{vulva} between women who masturbate to orgasm versus those who partake in committed sex and women who masturbate to orgasm versus those who partake in casual sex (contrasts, 111, 10-1, 1-10). The interaction effect of status between women who masturbate and those who engage in committed sex was significant, $F(1,191) = 7.43$, $p = .007$, $\eta^2 = .04$, power = .77. The interaction was significant in that women with high SAK_{vulva} and committed sex ($M = 4.71$, $SD = .12$) scored significantly higher than women with high SAK_{vulva} and masturbated ($M = 3.86$, $SD = .23$) and women with low SAK_{vulva}. The women who scored low on SAK_{vulva} and masturbated ($M = 4.28$, $SD = .13$) and women who were in

committed sexual relationships (*M* = 4.31, *SD* = .08) scored similar VGA scores, which partially supports the hypothesis.

The interaction effect of status between women who masturbate and those who engage in casual sex was significant, $F(1,191) = 3.24$, $p < .054$. The interaction was significant in that women with high SAK_{vulva} and casual sex (*M* = 4.20, *SD* = .27) and women with low SAK_{vulva} and masturbated (*M* = 4.28, *SD* = .13) scored higher VGA scores when compared to women with low SAK_{vulva} and casual sex (*M* = 3.91, *SD* = .12) and women with high SAK_{vulva} and masturbated (*M* = 3.86, *SD* = .23; refer to Figure 6).

Figure 6. Interaction between SAKvulva, sexual status, and VGA



Hypothesis 3A. Hypothesis 3A stated that sexually active (SA) women with above average (high) sexual anatomy knowledge ($SAK_{vulva)}$ would report more sexual satisfaction than sexually active women with below average (low) SAK_{vulva}. I removed all women who reported no sexual history with another person for this analysis because the sexual satisfaction items pertained to engaging in sexual activities with a partner, resulting in a sample size of 167. Next, I ran a 3 x 2 Factorial ANOVA with women categorized into three groups based on SA status (self-pleasure only, casual partner, committed partner) and SAK_{vulva} scores (*high, low*) as the IV's and sexual satisfaction as the DV, which was not significant, $p = .09$ (refer to Table 15 for marginal means).

Hypothesis 3B. Hypothesis 3B stated that women who reported self-pleasure through masturbation would score better on the SAK and VGA than women who reported no history of sexual self-pleasure. Since this hypothesis addressed women with and without sexual experience with another person, I removed sexual activity status as an IV. I assessed this relationship using two independent samples *t*-tests to investigate the effect of self-pleasure on SAK diagrams ($SAK_{vulva,}$ $SAK_{female,}$ $SAK_{male)}$, VGA-Self, body image (BIQLI), and self-esteem (ROSEN). Of the total sample, 106 women reported masturbating to orgasm within the past 30 days, whereas 135 women reported not masturbating in the last 30 days or in their lifetime. The findings established that women who have masturbated, reported higher scores on the SAK_{vulva} diagram, ($W_m = 4.65$, $W_{no} = 3.82$; $t(239) = 3.64$, $p < .001$), higher scores on the SAK_{female} diagram ($W_m = 4.77$, $W_{no} = 3.79$; $t(239) = 2.55$, $p < .001$), higher scores SAK_{male} diagram (W_m

= 4.21, W_{no} = 3.67; $t(239) = 2.06$, $p = .041$), thus supporting the hypothesis that women who masturbated in the past 30 days also reported high sexual anatomy knowledge.

Furthermore, the women who have masturbated to orgasm, reported significantly higher VGA_{self} ($W_m = 4.41$, $W_{no} = 4.03$; $t(239) = 4.11$, $p < .001$) than women who had not masturbated in the last 30 days or ever. There were no significant differences on body image ($p = .86$) or self-esteem ($p = .09$). The women who masturbated to orgasm scored significantly higher on all three sexual anatomy diagrams, when compared to women who have not masturbated to orgasm. Furthermore, the women who masturbated to orgasm reported significantly higher perceptions of their vulva genital awareness, when compared to the women who did not report masturbation.

The Role of Sexual Frequency

Hypothesis 4A. Hypothesis 4A stated that women who are currently sexually active and who are having sex more than once every 30 days would report higher VGA than women having sex less than once a month. Previous research indicates a crucial cut-point in couples who have not had sexual activity in the past 30 days (Cyranowski & Andersen, 1998; Madewell et al., 2013); therefore, the current hypothesis suggests that women who are not engaging in regular sexual activity with their partner (i.e., less than once every 30 days) may also report lower VGA perceptions. I removed all women who reported no sexual history with another person and women who reported irregular sexual activity from this analysis, resulting in a sample size of 145. Next, I ran a 2 x 2 Factorial

ANOVA with women categorized into two groups based on partner status (*casual partner, committed partner*) and frequency (*< 30 days, biweekly+*) as the IV's and VGA as the DV, which was significant (refer to Table 16 for marginal means). The main effect of frequency, $F(1, 142) = 5.06$, $p = .02$, eta-squared = .04, power = .61, and the interaction between frequency*status were significant, $F(1, 142) = 4.13$, $p = .04$, eta-squared = .03, power = .52. The main effect of status was not significant.

To probe the interaction, I ran simple effects analysis to test the effects of frequency at each level of status (*casual, committed*). The simple main effect of status was significant among women who engage in bi-weekly+ sex, $M_{casual} = 3.95$, $M_{comm} = 4.49$, $F(1,144) = 8.64$, $p < .001$, with women in committed relationships reporting a significantly higher VGA when compared to women having bi-weekly+ casual sex. However, the simple main effect of status was not significant among women who engaged in sex less than once a month.

Hypothesis 4B. Hypothesis 4B stated that women who are currently sexually active and who engage in bi-weekly+ sex would report higher sexual satisfaction when compared to women who have sex less than once a month. I removed all women who reported no sexual history with another person or current sexual activity for this analysis, resulting in a sample size of 145. Next, I ran a 2 x 2 Factorial ANOVA with women categorized into two groups based on sexual activity (*casual partner, committed partner*) and frequency (*< 30 days, bi-weekly+*) as the IV's and sexual satisfaction as the DV, which was significant (refer to Table 16 for marginal means). The main effect of frequency, $F(1, 139) =$

5.64, p = .019, eta-squared = .04, power = .65 was significant, yet the main effect of status (p = .20) and the interaction were not significant (p = .74). The main effect of frequency revealed that women who reported bi-weekly+ with their partner, also reported significantly higher rates of sexual satisfaction, when compared to women who were having sex with their partner less than once a month, further supporting previous research (Cyranowski & Andersen,1998).

Hypothesis 4C. Hypothesis 4C stated that women who are currently sexually active and who engage in bi-weekly+ sex would report higher body image (BIQLI), than women who are having sex less once a month. I removed all women who reported no sexual history with another person or current sexual activity for this analysis, resulting in a sample size of 145. Next, I ran a 2 x 2 Factorial ANOVA with women categorized into two groups based on sexual activity (*casual partner*, *committed partner*) and frequency (*less than every 30 days, bi-weekly+*) as the IV's and BIQLI as the DV, which was significant (refer to Table 16 for marginal means). The main effect of frequency, $F(1, 142) = 4.71$, p = .032, eta-squared = .03, power = .57 was significant, yet the main effect of status (p = .80) and the interaction (p = .50) were not significant. The main effect of frequency revealed that women who reported bi-weekly+ sexual activity with their committed partner, also reported significantly higher rates of body image, when compared to women having sex with their partner less than once a month.

Assessing Socio-political Ideations:

Hypothesis 5. The fifth hypothesis assessed the relationship between socio-political ideations and the sexual self. To evaluate hypothesis 5A, I asked

women if they identify with feminism, based on their own definition (Yoder et al., 2011). To evaluate hypothesis 5B, women were asked to define the term 'feminism' in their own words. Next, they were asked to finish the following sentence, 'A feminist is a person of whom.' If women defined feminism with a theme of equality, advocating for women's/equal rights, being proud of womanhood, and being proud of their body, then they were given a score of one (*accurate*). If they defined feminism with a theme of hating men, being better than men/others, or being feminine/girly, then they were given a score of zero (*inaccurate*). If they defined feminism with a theme of equality, yet they also referred to an inaccurate theme, then they were given a score of zero (*inaccurate*). Refer to Table 18 for themes and frequencies.

Hypothesis 5A stated women who reported a belief in feministA, based on their own definition, would be more likely to score high on sexual anatomy knowledge (SAK), body image (BIQLI), and vulva genital awareness (VGA-Self), than women who did not identify with feminism. Since this is the first known analysis evaluating these variables, I chose to assess these relationships using independent samples *t* tests. I used level of feminist identity (*yes, no*) as the IV and SAK, BIQLI, and VGA-Self as the DV's, which was partially supported. The women who identified as feministA resulted in significantly lower scores on SAK_{vulva}, $t(233) = 2.14$, $p = .03$, and significantly higher scores on BIQLI, $t(233) = 1.78$, $p = .04$, and VGA-Self presented a trend toward significance, $t(233) = 1.68$, $p = .056$ (refer to Table 17 for means and standard deviations). The female-internal and male diagrams were not significantly different according to women's

feminist identity (A).

Hypothesis 5B stated women who reported a belief in feministB, based on an accurate definition, would be more likely to score high on sexual anatomy knowledge (SAK), body image (BIQLI), and vulva genital awareness (VGA-Self), than women who did not identify with feministB. Two researchers coded the women's definitions of feminism to code for accuracy of feminist identity knowledge compared to inaccuracy of feminist identity knowledge (refer to Table 18 for feminist themes and frequencies). Women who defined feminism with a theme of equality, advocating for women's/equal rights, being proud of womanhood, and being proud of their body, were given a score of one (*accurate*). The two researchers compared coded results before agreeing to include 122 women in the accurate feminist group and 119 women in the inaccurate feminist group. To understand women's thoughts on feminism, a qualitative analysis of women's self-reported definitions on feminism revealed approximately 49% of the women defined feminism inaccurately. Within the sample of women who inaccurately defined feministB, almost 34% (n = 41) of the women defined feminism as 'being girly,' 'enjoying shopping,' and value 'looking pretty' (refer to Table 18 for details). Almost 24% (n = 29) defined feminism as an 'out-dated movement' among women who behave 'manly,' 'hate men,' or 'think they are better than men.' A total of 12% of the sample used the word 'push' to suggest that feminists push their ideas and beliefs onto others.

I used independent samples t test with level of feminist knowledge B (*accurate, inaccurate*) as the IV and SAK, BIQLI, and VGA-Self as the DV's,

which was partially supported and in the expected direction. The women who identified as feministB scored higher on SAK_{vulva} (M_{acc} = 4.42, M_{inacc} =3.90), $t(239) = 2.03$, $p = .043$, higher on SAK_{female} (M_{acc} = 4.11, M_{inacc} =3.80), $t(239) = 1.73$, $p = .045$, higher on SAK_{male} (M_{acc} = 4.24, M_{inacc} =3.56), $t(239) = 2.53$, $p = .012$, and VGA presented a trend toward significance, $t(233) = 1.84$, $p = .057$ (refer to Table 17 for means and standard deviations). The findings from all three SAK diagrams were in the hypothesized direction, with women who were accurate in their definition of feminism also scoring higher on the sexual anatomy diagrams. However, when using the more accurate feminist definitions, women did not score significantly different scores of body image or self-esteem.

CHAPTER V

DISCUSSION

Exploratory and confirmatory factor analysis were used to evaluate the factor structure of a newly designed, multi-dimensional measure of Vulva Genital Awareness (VGA) in samples of women in current committed sexual relationships, women engaging in casual sex, women engaging in self-pleasure to orgasm, and women who reported no sexual activity with another person. Although previous measures of genital perceptions (refer to p. 13 for more details) have been somewhat reliable and valid instruments, no studies have examined a multi-dimensional model of vulva genital awareness, nor have previous studies included women without a sexual history.

The current study supports the use of two measures of vulva genital awareness. First, the findings support the use of a hierarchic two-factor, 24-item measure titled, VGA-Partner. The VGA-Partner assesses genital perceptions of sexually active women. Second, the hierarchic one-factor, 13-item measure titled, VGA-Self, assesses genital perceptions of women without a sexual partner history (refer to Appendix B for VGA-Partner and VGA-Self). The hierarchic two-factor structure of VGA-Partner contains a total of 24-items pertaining to three separate factors associated with genital perceptions.

VGA-Sexual Self

The first hierarchic factor includes two sub-scales pertaining to the sexual self (SS), SS-Function and SS-Education. The *SS-Function* subscale includes 10-items pertaining to women's perceptions of functioning and satisfaction of their genitals. Example items state, '*I feel my genitals function as they should*' and '*I am satisfied with my vulva.*' The items within this sub-scale are somewhat similar to the one-factor, 4-item FGSIS (Herbenick et al., 2011). However, the FGSIS measures appearance, satisfaction, function, and embarrassment with one item per component. The SS-Function represents a parsimonious assessment of genital perceptions regarding functioning. The 10-item SS-Function sub-scale represents a parsimonious assessment of genital perceptions regarding functioning, instead of using one item to determine how one perceives their genital functioning.

The *SS-Education* subscale includes 3-items pertaining to women's level of education and knowledge of their genitals. An example item states, '*I am confident I understand my sexual anatomy.*' Berman et al. (2003) included the aforementioned item in the GSI scale, but Berman only included one item on sexual anatomy. Another sample item states, *'I have been educated on the functioning of my genitals.*' Similar to previous research on comprehensive sexual education programs in the Netherlands, this factor benefits young women and is a prominent feature among adolescent girls who openly discussed sexual matters with their parents (Kirby, 2008). The SS-Education includes three items that focus on women's own perceptions regarding sexual anatomy education. Pulling from the Women's Sexual Health model, sexual anatomy education

represents an important component in women's sexual identity (Tolman et al., 2003). The inclusion of the SS-Education sub-scale adds an important dimension to the VGA.

VGA-Sexual Self with a Partner

Sexual Self with a Partner Factor (SS-Partner sub-scale). The second hierarchic factor of the VGA pertains to the sexual self with a partner (SS-Partner). The SS-Partner includes 11-items pertaining to women's sense of genital sexual attractiveness, to include their comfort with their genitals and the idea that their genitals arouse their partner. The SS-Partner also pertains to pubic hair grooming and sharing genital images with a partner. Example items state, '*I think my genitals are attractive and would arouse my partner*' and '*I feel my genitals are more attractive when I trim my pubic hair.*'

Previous researchers investigated partner perceptions as an important factor when evaluating women's genital perceptions (Reinholtz & Muehlenhard, 1995); however, many of their items pertain to women's perceptions of their partner's genitals. Many of the items proposed by Reinholtz and Muehlenhard (1995) added an important theoretical dimension to genital perceptions research, but researchers have suggested the language used within their items represented a more salient aspect of sexual relationships instead of genital perceptions (Herbenick & Reece, 2010). In the current study, I included some of the partner perception items into the original VGA model; however, they failed to load with the other SS-Partner items. In the current study, the items with the best-fit addressed women's perceptions of their own genitals, their breasts, and how they

perceived their genitals to arouse their partner. Overall, the hierarchic two-factor structure of 24-item VGA-Partner was supported within the current study.

Research and Clinical Implications

VGA-Self (13-items). The VGA-Self (13-items), which includes the two sub-scales of SS-Function and SS-Education can be used together to assess genital perceptions in adolescent girls and young adult women. I designed the VGA-Self to measure women's genital perceptions as they pertain to the self and sexual self, as within the WSH model the concept of the self is of primary concern (Tolman et al., 2011). The VGA-Self items include the educational measure of GSI, which includes a fully labeled, life-like anatomical diagram of the vulva were women are asked to rate their level of satisfaction with their vulva, labia majora, labia minor, mons veneris, clitoris, vaginal canal, urethra opening, and anus. Based on this design, the VGA-Self serves as an educational and diagnostic tool. The items within the VGA-Self serve as a tool to assist researchers working with adolescent populations, where sexual activity with another person may not be of primary concern (i.e., an adolescent obesity study). The VGA-Self serves to assist clinicians who work with adolescent girls who struggle with their developing body, or sexual trauma.

VGA-Partner (24-items). Since the hierarchic 2-factor, 24-item VGA-Partner includes aspects of the Sexual Self and the Sexual Self with a Partner, researchers and clinicians can better serve and treat women with different sexual concerns. The two-factor, 24 item, VGA-Partner measure is short but also multi-dimensional. The VGA-Partner begins with an initial question regarding

relationship status, which asks each participant to state their current relationship status (i.e., have a current, previous, or never had a sexual partner). This preliminary question benefits researchers when designing their survey materials. This initial question allows a researcher to develop their survey with a conditional option. If the participant reports a current or previous sexual partner, the participant can complete the VGA-Partner, but if they report never having a sexual partner, the participant can complete the VGA-Self. It is important to understand that women can be sexual even though they are not engaging in sexual activity with another person. Therefore, the authors suggest the VGA-Partner (24-item) and the VGA-Self (13-item) can better serve the multi-dimensional aspects of genital perceptions for all women.

In terms of a clinical setting, a clinician using the VGA-Partner can potentially identify a specific aspect of VGA that is a concern, be it in sexual functioning, satisfaction, education, or the sexual self with their partner. For example, if a woman scores low in the function/satisfaction subscale, a therapist can better address this deficit by providing accurate information pertaining to women's anatomical body parts and corresponding functioning. Sexual therapists find that women with sexual functioning concerns also have a low level of education on the sexual functioning of their own body (Mabray & Labauve, 2002). Other clinicians have found that women report sexual anxiety when removing their panties in front of their partner (Berman et al., 2003). If a woman were to report this type of anxiety and score low on the SS-Partner sub-scale, a therapist could suggest the woman allow her partner to groom her pubic hair or a

therapist could discuss the woman's perceptions before and/or during cunnilingus with said partner.

In the U.S., researchers suggest that few adolescent and young women report masturbation to orgasm when alone (Diamond, 2008). Since clitoral stimulation is an important component in the initial phase of women's sexual response (LeVay, Baldwin, & Baldwin, 2012), but few young women report masturbation to orgasm when alone (Diamond, 2008), an educational program using the VGA as a diagnostic tool could assist clinicians with a psychosocial sexual education intervention. This psychosocial sexual education intervention would focus on teaching women how to enjoy pleasuring the female body when alone, thus empowering young women to fully develop their concept of the self. In addition, the psychosocial sexual education program would focus on teaching young couples how to pleasure the female body when together.

Sexual Anatomy Knowledge (SAK)

Previous research has investigated the effects of sexual education on early adolescents (Mabray & Labauve, 2002), and this current research study aimed to extend that line of research on late adolescents and young adults. Of the students who completed this research study, 48% of the women scored a passing grade on the female sexual anatomy diagrams (scoring 10 of 12 correct). As a whole, the women scored well on the internal female diagram, which suggests that they have learned and retained this information; however, on average, they did not perform as well on the vulva diagram. This lack of information could be attributed to a cultural or societal problem encouraging women to avoid sexual education (Troth

& Peterson, 2000), a sexual double standard (Levin et al., 2012), or it could be a personal choice, therefore additional research on this topic is needed.

As hypothesized, the women who scored higher on the SAK diagrams also reported a higher VGA. This association supports the importance of sexual knowledge, as one could suggest that a higher level of SAK could result in better relationships. Among the sample of NSAP women, the vulva diagram was positively associated with VGA. This supports the idea that women who were satisfied with their genitals were also educated on them, and possibly more likely to engage in masturbation, even when they were abstaining from sexual intercourse with another person (Impett & Tolman, 2006). This research is an important addition to the literature on comprehensive sexual education that enhances women's knowledge on the self and sexual self.

Discussion on the Role of SAK on the Sexual Self and VGA

The women with above average (high) sexual anatomy knowledge on the vulva diagram (SAK_{vulva}) and who were in committed sexual relationships reported higher vulva genital awareness (VGA) scores, when compared to the rest of the women in the study. Interestingly, the women with low scores on SAK_{vulva} and who were in a committed relationship scored almost the same as the women who masturbated while single. This finding adds an important dimension to comprehensive sexual education programming, in that, young women who are masturbating to orgasm reported the same level of body appreciation as women engaging in sexual activity with a committed partner. The women who scored high on the SAK_{vulva} were women who correctly identified six of seven body parts

and who did not use distractor terms, yet the women who were engaging in casual sex reported significantly lower levels of VGA. This difference could be a sample size characteristic or it could be related to a negative sexual encounter or traumatic event (Glick & Fisk, 1999). The women with low score on SAK and who engaged in casual sex reported the lowest rate of VGA, which further supports the role of sexual education in women's lives.

A significant interaction emerged between women who masturbated to orgasm and women who engaged in casual sex regarding their sexual anatomy knowledge of the vulva. The women with above average (high) sexual anatomy knowledge on the vulva diagram (SAK_{vulva}) and who were in casual sexual relationships reported higher vulva genital awareness (VGA) scores, when compared to casual sex women with low SAK_{vulva}. This suggest that women with high vulva knowledge and engage in casual sex also have a high vulva genital awareness. One can speculate that this finding suggests that women who are educated and knowledgeable on their vulva anatomy and choose to engage in casual sex, are doing so because they enjoy it. Future studies could investigate the rate at which these women are using protection against STI's and pregnancy. To my knowledge, this is the first time this finding has been observed and additional research is needed to replicate this finding.

Interestingly, the women with low scores on SAK_{vulva} and who masturbated to orgasm also reported significantly higher VGA scores compared to women engaging in casual sex with low SAK_{vulva}. Previous researchers have found that young women who are in the process of exploring their bodies and

their sexual bodies, present body curious sexual attitudes (Madewell et al., 2013). Future studies evaluating this effect in conjunction with women's sexual attitudes would benefit research and sexual education programs pertaining to young women's sexual body attitudes.

Furthermore, the role of sexual activity and SAK presented an interesting relationship to sexual satisfaction. Specifically, the women who scored high on SAK and who were in a committed sexual relationship reported the highest level of sexual satisfaction, yet the differences between women's scores on sexual satisfaction were not significantly different. Previous findings have presented a similar picture of women, where women who were in committed sexual relationships reported higher sexual self-esteem and sexual satisfaction when compared to single women (Cyranowski & Andersen, 2000). However, a larger sample size would be necessary to further understand the differences in women's sexual satisfaction.

Next, I investigated the differences between women who masturbated to orgasm compared to the rest of the sample of women. I grouped the women into those who have masturbated to orgasm and those who have never tried to masturbate. As hypothesized, those who have masturbated also reported higher scores on the vulva-external and female-internal anatomy diagrams, when compared to women who reported no history of masturbation. The women who masturbated to orgasm also reported higher VGA-Self scores than those who have never masturbated. I used the VGA-Self 13-item measure on this analysis because it was important to include NSAP women in this analysis. Previous

researchers have omitted women without sexual experience with another person and this could account for why previous research has not found significant differences between genital perceptions and masturbation (Berman et al., 2003, Berman & Windecker, 2008). Additional research on NSAP women as a categorical group is necessary to promote the ideation that women do not need a partner to be sexual beings.

The findings from this study add an important element to sex research, because previous research has found that masturbation is not an important part of most women's lives (Braun & Wilkinson, 2001). These findings suggest the importance of masturbation in women's lives, as it adds a supplemental dimension to women's sexual identity whether they are engaging in masturbation or they are in a committed sexual relationship (Hogartha & Inghama, 2009). Specifically, the women who reported masturbating to orgasm also reported a higher knowledge of their own sexual anatomy and somewhat higher knowledge on the male sexual anatomy, when compared to women who never reported trying to masturbate. This finding could be due to a heightened level of sexual curiosity (Levin, 2007), better communication with family and peers (Das, 2007), or higher levels of sexual desire (Hogartha & Inghama, 2009) among the women who chose to masturbate.

On the contrary, previous research has highlighted the importance of body image and self-esteem in the model of sexual function and dysfunction (Levin, 2006); however, the findings from this study reveal that mean body image and mean self-esteem scores were the same among the women who masturbated to

orgasm and the women who did not masturbate. The findings reveal that masturbation could be a protective factor against social pressures to be thin (Grabe & Hyde, 2006; Shulman & Horne, 2003), to be in a relationship (Hyde & Jaffee, 2000), or to experience sex guilt (Das, 2007; Levin, 2007).

Role of Sexual Frequency

Previous researchers have found a relationship between sexual frequency and relationship satisfaction (Cyranowski & Andwersen, 1999), and a relationship between sexual frequency and genital perceptions (Reinholtz & Muehlenhard, 1995); therefore, the current study investigated the relationship between sexual frequency, relationship status (casual vs. committed) and VGA. The findings were similar to previous findings, in that women who were having bi-weekly sex with a committed sexual partner reported higher VGA when compared to women who were having sex less than once a month and with a committed sexual partner.

Frequency was not a significant variable in women who were having casual sex with the same person, as the women who had sex once a month or once a week reported similar VGA. Researchers have reported similar findings, which suggest that young women who have casual sex also reported lower levels of self-esteem (Kitzinger, 1985), body image (Shulman & Horne, 2003; Wiederman & Hurst, 1998), and sexual satisfaction (Impett & Tolman, 2006), when compared to young women who perceived commitment with their sexual partner. My findings somewhat support previous research, in that women with higher body image were reporting a higher frequency of sexual activity, but this difference was not related to their relationship status.

Socio-political Ideations

The final goal of this research study on the Women's Sexual Health Model included an assessment of factors affecting socio-political ideations, which included women's attitudes on feminism. First, I asked women to state whether they identified as a feminist. The first feminist identity question did not ask them to define feminism; it simply asked them if they identified with the construct. A total of 133 women identified as a feminist and 108 did not identify as a feminist. Based on the women's own ideations, the women who identified as a feminist (A) reported a lower knowledge of the SAK vulva diagram, which was in the opposite direction of the hypothesis and previous findings (Bay-Cheng & Zucker, 2007; Duncan, 2010). This unexpected finding could be related to women identifying with an inaccurate ideation of feminism (Liss et al., 2001: Murnen & Smolek, 2009).

According to the hypothesis, those who identified with feminism (A) reported significantly higher body image and VGA-Self scores. Previous research showing feminism as a protective factor also suggests that feminism is a protective factor among young women who are educated on women's history (Anderson, Kanner, & Elsayegh, 2009) or among women who have experienced sexist behavior or inequities (Glick & Fisk, 1999).

To understand the women in the sample, the women's definitions of feminism were used to categorize women into an 'accurate' versus 'inaccurate' group. When using this new variable as the independent variable, the findings were in the hypothesized direction, with women who (1) defined feminism

accurately and (2) stated that they identified with feminism, scoring higher on all three SAK diagrams. Using the feminism (B) variable, body image and self-esteem were no longer statistically different, with feminist and non-feminist identifying women reporting similar scores. Furthermore, the difference between VGA-SS scores was in the correct direction but non-significant.

Previous research highlights the importance of a feminist identity in women's lives because it acts as a protective factor (Bey-Cheng & Zucker, 2008; Liss et al., 2001); however, the findings from this research study were inconclusive. According to Duncan (2011), Gen X women reported a strong feminist identity if and only if they directly experiencing sexism or gender inequity. One could infer the women who reported an accurate definition of feminism and identified with feminism may have not experienced gender inequity in their home or work life. Another perspective suggests that young women who have not directly experienced sexism need to be educated on women's history, in an attempt to prepare them for the protective capacity feminism has to offer them once they enter the job market and attempt to balance work and family responsibilities. Thus, empowerment and feminist education may be an important addition to comprehensive sexual education programs.

Limitations & Strengths of the Study

The current study had several limitations, one of which is related to the Quasi-experimental design. Based on this design, no experimentation or manipulation was used. Therefore, the relations between variables cannot be used to determine causality. The sample used for the study was from the university

research pool and therefore restricted to young women from somewhat similar education, religion, race, sexuality, and economic status groups. Finally, the sexual anatomy diagrams would best serve research questions involving repeated measures, thus avoiding the use of cut scores to determine group differences.

Due to the relationship between positive genital perceptions and sexual satisfaction, positive body image, and positive mental health (Berman & Windecker, 2008; Cyranowski & Andersen, 1998; Herbenick & Reece, 2010; Zeilinski, 2009), a major strength of this research study included the development of the VGA-Partner and VGA-Self measures. Another strength of the study included the implementation of exploratory and confirmatory factor analysis to investigate, replicate, and validate a multi-dimensional and parsimonious measure of women's Vulva Genital Awareness (VGA). Furthermore, the preliminary findings suggest that women in the U.S. are limited in their sexual anatomy knowledge, even though they are taking college courses and represent a highly educated demographic of the Midwestern states. The information within this study further explored the development of women's sexual and feminist identities, which resulted in the development of additional directions for future research.

Directions for Future Research

Additional validation of the VGA measure could be enhanced by evaluating both men and women to determine the reliability of the measure across sexes, similar to the methods used by Reinholtz and Muehlenhard (1995). Test-retest reliability would be useful to further explore VGA. The optimal sample would ultimately include women from multiple age ranges, ethnically diverse

women, those who have/have not given vaginal birth, and those who have experienced bisexual and/or lesbian sexual encounters. In addition, a pre-post design could have increased the ability to fully understand the effects of ovulation on women's sexual functioning. Future studies would be enhanced by collecting data from women at multiple stages of their menstrual cycles (Baker & Bellis, 1995). Finally, it would be beneficial to assess the effects of sexual trauma among a sample of relatively healthy functioning women.

Conclusion

In summary, this research study has contributed to the literature on women's sexual identity development by providing data regarding the reliability and validity of a newly designed vulva genital awareness measure. The use of the VGA-Self measure potentially enhances sexual education programs for adolescents and young adults, as it measures women's perceptions of their own genitalia. In this sense, the VGA-Self could be given to adolescents in the framework of educating them on the importance of learning and exploring their own bodies, to determine their own sexual preferences. In addition, therapists could use the VGA-Partner to understand identity development among women who are sexually active or are abstaining from sexual activity with another person.

This study further confirmed that sexual anatomy knowledge is an important component to young women's vulva genital awareness and sexual satisfaction. This information could be used to educate young women as they transition into adulthood and explore their bodies. Importantly, the high

frequency of women who reported masturbating to orgasm within this sample also reported higher sexual anatomy knowledge and higher vulva genital awareness, when compared to women who have not masturbated in the past 30 days. These findings indicate the importance of sexual anatomy knowledge, vulva genital awareness, and self-pleasure in young women's lives. Together, these findings express the importance of sexual knowledge to young people regardless of sexual activity.

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APPENDICES

Appendix A

Vulva Genital Awareness 24

Please read each of the following items carefully and indicate the number that best reflects your agreement with the following statements that currently describe your feelings and thoughts about your genitals (i.e., labia, clitoris, vagina).

Please indicate your current relationship status.

(1) Current sexual partner (i.e., kissing, foreplay, mutual masturbation, oral sex, vaginal sex, anal sex, etc.)

(2) Previous sexual partner but not currently involved

(0) Have not had a sexual partner (i.e., no experience with mutual masturbation, oral, anal, or vaginal sex).

First Hierarchic Factor – Sexual Self

1.I am confident I understand my sexual anatomy.
2.My genitals are functional.
3.I have been educated on the functioning of my genitals.
4.I feel my genitals function as they should.
5.My genitals are healthy.
6.Growing up, my family discussed genital/sexual health.
7. I am satisfied with my labia majora.
8. I am satisfied with my labia minora.
9. I am satisfied with my mons veneris/pubic hair area.
10. I am satisfied with my clitoris.
11. I am satisfied with my vaginal canal.
12. I am satisfied with my vulva/external genitalia..
13. I am satisfied with my anus.

Second Hierachic Factor SS Partner

14. I enjoy touching my breasts.
15.My genitals are well shaped.
16. I enjoy touching my genitals.
17. I feel positive about my partner seeing my genitals.
18. My partner enjoys the scent of my genitals.
19. I would share a picture of my genitals with my partner.
20.My genitals are desirable.
21. I think my genitals are attractive and arouse my partner.
22. My genitals are attractive.
23.I enjoy looking at my genitals.
24.My genitals are more attractive when I trim my pubic hair.

Note. The Hierarchic 2 Factor VGA-Partner is detailed. The VGA-Self involves using the first Sexual Self factor and omitting the SSPartner items.

Appendix B

List of Tables

Table Page

Table 1

Genital Self-Image Measures

Measure Title	**Factors**	**Items**	**Authors**
1.Genital Perceptions*	3	43	Reinholtz & Muehlenhard, 1995
2.Genital Self-Image (GSI)	1 or 2	30	Berman et al., 2003, Swart, 2004
3. Genital Self-Image Modified (GSI-M)	1	18	Madewell, 2010
4.Female Genital Self-Image Scale (FGSIS)	1	7	Herbenick & Reece, 2010
5.Female Genital Self-Image Scale Revised (FGSIS-R)	1	4	Herbenick et al., 2011
6.Sexual Body Image	1	2	Algars et al., 2011

Note. * denotes the Genital Perceptions measure contains one factor with 18-items focusing on genital perceptions.

Table 2

Genital Perception Factor, 18-item measure

1. I feel embarrassed about my genitals.
2. I worry that my partner will think something bad about my genitals.
3. I feel comfortable with my genitals.
4. I feel proud of my genitals.
5. I like my genitals.
6. I don't like it because it tastes bad.
7. I don't like it because it smells bad.
8. I am glad that my genitals taste good.
9. I am glad that my genitals smell good.
10. I worry that my genitals are not clean.
11. I worry that my genitals smell bad.
12. I feel curious about my partner's body.
13. I like my partner's genitals.
14. I like the scent of my partner's genitals.
15. I like my partner's response, their sighs and moans.
16. I like the taste of my partner's genitals.
17. I find my partner's genitals attractive.
18. I like how my partner's genital feel.

Note. Items published by Reinholtz & Muehlenhard (1995)

Table 3

Genital Self-Image (GSI) Measure, 30-item measure

Part A. 18-items, measured on 4-point Likert
1. I feel anxiety and worry when I think about how my genitals function.
2. I look at my genitals.
3. I feel confident that I understand my sexual anatomy.
4. When I think about my genitals, I feel ashamed/embarrassed.
5. I feel comfortable/positive about my partner seeing my genitals.
6. I have sad/depressed feelings when I think about my genitals.
7. I feel ashamed/embarrassed about the size of my genitals.
8. I feel ashamed/embarrassed about the shape of my genitals.
9. I feel ashamed/embarrassed about the look of my genitals.
10. I feel ashamed/embarrassed about the color of my genitals.
11. I feel ashamed/embarrassed about the odor of my genitals.
12. I feel my genitals function/work as they should.
13. I am conscious of trying to hide my genitals from being seen by my partner.
14. I feel my genitals are attractive and would arouse my partner.
15. As a child/adolescent, I was self-conscious/embarrassed about my genitals.
16. I use feminine hygiene products (douches, sprays, suppositories, etc.).
17. Growing up, my family/care-givers gave me positive messages about my genitals.
18. Growing up, I was given the message that touching my genitals was bad or dirty.
Part B. 12-items – Applies to me (1) Does not apply to me (0)
19. Unattractive
20. Embarrassing
21. Disgusting
22. Attractive
23. Bad Smelling
24. Offensive
25. Inadequate
26. Healthy
27. Functional
28. Desirable
29. Well-shaped
30.Good-sized

Note. Items published by Berman et al. (2003)

Table 4

Female Genital Self-Image Scale (FGSIS) original 11-item scale, modified to 7-item scale

1. I feel positive about my genitals.
2. I am satisfied with the appearance of my genitals.
3. I would feel comfortable letting a sexual partner look at my genitals.
5. I think my genitals work the way they are supposed to work.
6. I feel comfortable letting a health-care provider examine my genitals.
7. I am not embarrassed about my genitals.
8. I like how my genitals look.*
9. I can see how a sexual partner would be aroused by my genitals.*
10. I can see how a sexual partner would enjoy the taste of my genitals.*
11. I am comfortable with how my genitals smell.*

Note. N = 2,049 women. * denotes removal of item from scale, items in bold were retained as the 7-item FGSIS. Items published by Herbenick & Reece (2010)

Table 5

Female Genital Self-Image Scale –Revised (FGSIS-R) Modified 7-item to 4-item scale

1. I feel positive about my genitals.*
2. I am satisfied with the appearance of my genitals.
3. I would feel comfortable letting a sexual partner look at my genitals.
5. I think my genitals work the way they are supposed to work.*
6. I feel comfortable letting a health-care provider examine my genitals.*
7. I am not embarrassed about my genitals.

Note. N = 2,056 women. * denotes removal of item from scale. Items in bold were retained in the final 4-item FGSIS-R. Items published by Herbenick et al. (2011)

Table 6

Sexual Anatomy Knowledge of the Vulva

Term	**% correct**
Vulva	10%
Clitoris	61%
Urethra opening	43%
Labia Majora	51%
Labia Minora	54%
Vaginal opening	32.5%
Anus	96%

Note. N = 252 sexually active women and men.

Table 7

Vulva Genital Awareness Measure Development-37 items

VGA Items	**References**	**Characteristic**
1. My genitals are good-sized.	Berman et al., 2003	appearance
2. I am confident that I understand my sexual anatomy.	Berman et al., 2003	anatomy
3. I enjoy touching my breasts.	Algars et al., 2011	satisfaction
4. My genitals are functional.	Berman et al., 2003; Herbenick & Reece, 2010; Reinholtz & Muehlenhard, 1995	function
5. I think that a genital piercing would be enjoyable.	Pilot	satisfaction
6. My genitals are well-shaped.	Berman et al., 2003	function
7. I have been formally educated on the functioning of my genitals through a sexual education program, anatomy and physiology class, medical contact, or another form of education.	Pilot	anatomy
8. I enjoy the natural scent of my genitals.	Herbenick & Reece, 2010; Reinholtz & Muehlenhard, 1995	scent
9. I feel my genitals function as they should.	Berman et al., 2003; Herbenick & Reece , 2010	function
10. I enjoy giving oral sex.	Reinholtz & Muehlenhard, 1995	partner satisfaction
11. I enjoy touching my genitals.	Reinholtz & Muehlenhard, 1995	satisfaction
12. I enjoy receiving oral sex.	Pilot	partner satisfaction
13. Decorating my genital area adds to the enjoyment of my own body.	Pilot	embellish
14. I feel positive about my partner seeing my genitals.	Herbenick & Reece , 2010	partner satisfaction
15. My partner enjoys the scent of my genitals .	Herbenick & Reece , 2010	partner satisfaction/scent
16. I enjoy touching my partner's genitals.	Reinholtz & Muehlenhard, 1995	partner satisfaction
17. A tattoo in the genital area would be arousing.	Pilot	embellish
18. I send pictures of my sexual body (breasts, pubic area, nude) to my partner through media.	Pilot	partner satisfaction
19. My genitals are healthy.	Berman et al., 2003	function
20. I would share a picture of my genitals w/partner.	Pilot	partner satisfaction
21. I feel my partner's genitals function as should.	Reinholtz & Muehlenhard, 1995	function
22. I groom my pubic hair.	Pilot	embellish
23. My genitals are desirable.	Berman et al., 2003	satisfaction
24. I think that pubic hair is a necessary part.	Pilot	embellish
25. I prefer to remove all of my pubic hair.	Pilot	embellish
26. I feel my genitals are attractive and arouse my partner.	Berman et al., 2003; Herbenick & Reece , 2010	partner satisfaction
27. Growing up, my family/caregivers openly discussed issues related to genital or sexual health.	Pilot	anatomy
28. My genitals are attractive.	Berman et al., 2003	satisfaction
29. I enjoy looking at my genitals.	Herbenick & Reece ,2010	satisfaction
30. My genitals are more attractive when trim pubic hair.	Pilot	embellish
31. I am satisfied with my labia majora.	Zeilinski, 2009	satisfaction
32. I am satisfied with my labia minora.	Zeilinski, 2009	satisfaction
33. I am satisfied with my mons veneris/pubic hair.	Zeilinski, 2009	satisfaction
34. I am satisfied with my clitoris.	Zeilinski, 2009	satisfaction
35. I am satisfied with my vaginal canal.	Zeilinski, 2009	satisfaction
36. I am satisfied with my vulva/external genitalia.	Zeilinski, 2009	satisfaction
37. I am satisfied with my anus.	Zeilinski, 2009	satisfaction

Note. Items in table are in a brief from.

Table 8

Means, Standard Deviations, and Covariance Estimates for VGA Items

VGA Item	Mean	*S.D.*	Anti	Comm
*1. My genitals are good sized.	3.77	1.67	.626	.252
2. I am confident I understand my sexual anatomy.	3.62	1.78	.592	.379
3. I enjoy touching my breasts.	2.71	1.70	.538	.428
4. My genitals are functional.	4.39	1.88	.757	.331
*5. I think a genital piercing would be enjoyable.	1.26	1.01	.715	.201
6. My genitals are well shaped.	3.81	1.71	.605	.298
7. I have been formally educated on the functioning of my genitals.	3.46	2.06	.600	.286
*8. I enjoy the natural scent of my genitals.	1.29	.86	.623	.145
9. I feel my genitals function as they should.	3.78	1.75	.605	.277
*10. I enjoy giving oral sex.	2.06	1.96	.326	
11. I enjoy touching my genitals.	2.60	1.44	.628	.447
*12. I enjoy receiving oral sex.	3.64	1.77	.572	.231
*13. Decorating my genital area adds to the enjoyment of my own body.	1.50	1.10	.692	.209
14. I feel positive about my partner seeing my genitals.	3.97	1.54	.516	.426
15. My partner enjoys the scent of my genitals.	2.37	2.12	.731	.278
*16. I enjoy touching my partners genitals.	4.32	1.51	.399	
*17. A tattoo in the genital area would be arousing.	1.69	1.18	.654	.155
18. I send pictures of my sexual body to my partner through media.	2.05	1.62	.431	.608
19. My genitals are healthy.	4.79	1.18	.611	.437
20. I would share a picture of my genitals with my partner.	2.40	1.65	.397	.835
*21. I feel my partners genitals function as they should.	4.71	1.53	.366	
*22. I groom my pubic hair.	4.78	1.38	.281	
23. My genitals are desirable.	4.00	1.29	.569	.490
*24. I think pubic hair in a necessary part of my anatomy.	2.07	1.44	.312	
*25. I prefer to remove all my pubic hair.	4.64	1.39	.325	
26. I think my genitals are attractive and arouse my partner.	4.42	1.30	.470	.539
27. Growing up, my family openly discussed genital and sexual health.	2.75	1.64	.870	.446
28. My genitals are attractive.	3.81	1.31	.443	.676
29. I enjoy looking at my genitals.	2.40	1.31	.506	.508
30. My genitals are more attractive when I trim my pubic hair.	4.66	1.28	.809	.259
31. I am satisfied with my labia majora.	4.52	1.34	.889	.729
32. I am satisfied with my labia minora.	4.46	1.26	.888	.629
33. I am satisfied with my mons veneris/pubic hair area.	3.98	1.61	.882	.335
34. I am satisfied with my clitoris.	4.84	1.13	.894	.776
35. I am satisfied with my vaginal canal.	4.87	.95	.931	.584
36. I am satisfied with my vulva/external genitalia..	4.76	1.06	.909	.823
37. I am satisfied with my anus.	4.35	1.35	.915	.522

Note. N = 225, excluding women with no sexual history. Anti = anti-image matrix from PCA, and Comm = communalities from the PAF. * denotes removed items.

Table 9

Modified Factor Structure of the 25-item VGA Measure

Factors	Factor 1	Factor 2	Factor 3
	8-items satisfaction	9-items function/edu	9-items partner
2.I am confident I understand my sexual anatomy.		.511	
3.I enjoy touching my breasts.		.497	
4.My genitals are functional.		.426	
6.My genitals are well shaped.		.439	
7.I have been formally educated on the functioning of my genitals.		.485	
9.I feel my genitals function as they should.	.343	.305	
11.I enjoy touching my genitals.		.416	
14.I feel positive about my partner seeing my genitals.			.507
15.My partner enjoys the scent of my genitals.			.382
18.I send pictures of my sexual body to my partner through media.			.676
19.My genitals are healthy.		.519	
20.I would share a picture of my genitals with my partner.			.749
23.My genitals are desirable.			.546
26.I think my genitals are attractive and arouse my partner.			.577
*27.Growing up, my family openly discussed genital/sexual health.		.183	
28. My genitals are attractive.			.560
29.I enjoy looking at my genitals.			.480
30.My genitals are more attractive when I trim my pubic hair.			.310
31. I am satisfied with my labia majora.	.824		
32. I am satisfied with my labia minora.	.747		
33. I am satisfied with my mons veneris/pubic hair area.	.545		
34. I am satisfied with my clitoris.	.855		
35. I am satisfied with my vaginal canal.	.745		
36. I am satisfied with my vulva/external genitalia..	.895		
37. I am satisfied with my anus.	.688		

Note. $N = 225$, excluding women with no sexual history. * denotes omitted items due to cross loadings or low factor loadings.

Table 10
VGA Factor Correlations

VGA Factors	(1)	(2)	(3)
1.satisfaction	1		
2.function/education	.31	1	
3.partner perceptions	.19	.25	1

Table 11

Measures of Comparative Fit Indices

Measures of fit	**Sample 1** Model 1 Hierarchic 2 factor 33 items	**Model 1R Hierarchic 2 factor 24-items**	**Sample 2** Replicated Model 1R Hierarchic 2 factor 24-items	**Sample 3** Model 1R 1 factor VGA-Self
Discrepancy X^2	941.82	**550.10**	600.17	265.41
df	287	**239**	234	57
p-value	< .001	**< .001**	< .001	< .001
Discrepency/*df*	3.282	**2.302**	2.565	4.656
NFI	.806	**.872**	.874	.888
RFI	.780	**.853**	.853	.846
CFI	.855	**.923**	.909	.909
IFI	.857	**.924**	.903	.910
TLI	.836	**.911**	.893	.875
RMSEA	.070	**.053**	.058	.079
Hoelter .05	164	**237**	213	88
Hoelter .01	173	**251**	226	99

Note. N = 1,225, Sample 1 = 472, Sample 2 = 470, Sample 3 = 283 (self-sex sample). Degrees of Freedom (*df*), Normative of Fit Index (NFI), Relative Fit Index (RFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Hoelter's critical *N*.

Table 12
Hierarchic Two Factor Structure of the 24-item VGA Measure

Factors	Factor	1R Loadings	1R Rep Loadings	1R Self-Sex Loadings
First Hierarchic Factor – Sexual Self				
4.I am confident I understand my sexual anatomy.	SSedu	.20	.23	.22
6.My genitals are functional.	SSfun	.20	.33	.31
10.I have been educated on the functioning of my genitals.	SSedu	.14	.15	.70
15.I feel my genitals function as they should.	SSfun	.36	.33	.72
27.My genitals are healthy.	SSfun	.24	.27	.35
47.Growing up, my family discussed genital/sexual health.	SSedu	.13	.02	.94
51. I am satisfied with my labia majora.	SSfun	.81	.80	.94
52. I am satisfied with my labia minora.	SSfun	.73	.71	.88
53. I am satisfied with my mons veneris/pubic hair area.	SSfun	.51	.52	.82
54. I am satisfied with my clitoris.	SSfun	.88	.92	.18
55. I am satisfied with my vaginal canal.	SSfun	.76	.66	.10
56. I am satisfied with my vulva/external genitalia..	SSfun	.92	.92	.04
57. I am satisfied with my anus.	SSfun	.66	.66	.32
Second Hierachic Factor SS Partner				
5. I enjoy touching my breasts.	SSP	.38	.38	
9.My genitals are well shaped.		.41	.52	
18. I enjoy touching my genitals.		.10	.38	
21. I feel positive about my partner seeing my genitals.		.61	.73	
22. My partner enjoys the scent of my genitals.		.38	.31	
28. I would share a picture of my genitals with my partner.		.47	.42	
34.My genitals are desirable.		.62	.71	
42. I think my genitals are attractive and arouse my partner.		.73	.71	
48. My genitals are attractive.		.77	.35	
49.I enjoy looking at my genitals.		.53	.15	
50.My genitals are more attractive when I trim my pubic hair.		.37	.30	

Note. 1R Loading from sample 1 (n = 472), 1R Replicated Loadings from sample 2 (n = 470), 1R VGA-Self Loadings from sample 3 (n = 282).

Table 13
VGA Factor Correlations II

VGA Item	α	(1)	(2)	(3)
1.SS Satisfaction	.90	1	.40**	.30**
2.SS Function/Education	.72	.42**	1	.20*
3.SS Partner	.76	.54**	.23**	1

Note. N = 241. Factor correlation and Cronbach's alphas were reported on the dissertation sample, sexually active women below the diagonal and solely self-sex women above the diagonal.

Table 14

Means, Standard Deviation, and Bivariate Correlations

Variable	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) VGA	4.19	.74	1	.06	.27	.15	.04	.56*	.31*	.10	-.12	.10	.35*
(2) Desire	2.94	1.04	.27**	1	.33	-.17	.58	.34	.32*	.30*	.17	.17	-.24
(3) Arousal	2.91	1.34	.47**	.52**	1	.42	.24	-.04	.35	.19	.12	.17	.21
(4) Orgasm	2.73	1.30	.46**	.49**	.80**	1	-.85**	.07	-.14	.11	-.13	-.22	.42
(5) Sex Sat	4.95	1.27	.24**	.17*	.14	.17*	1	-.54	.35	.74*	.49	.58	-.23
(6) Pain (R)	2.54	1.25	.17*	.14	.36**	.30**	.05	1	-.15	-.42	-.49	-.55*	-.0
(7) SAK_{vulva}	4.16	1.82	.26**	.23**	.30**	.16*	.07	.07	1	.13	.36*	-.01	.09
(8) SAK_{female} Internal	3.96	1.25	.24**	.20**	.22**	.17*	.17*	.00	.32**	1	.37*	-.00	-.06
(9) SAK_{male}	3.91	2.06	.18*	.18*	.25**	.23**	.10	.03	.44**	.35**	1	.28	.02
(10) Rosen	1.75	.58	.17*	-.13	.03	.00	.14	.01	-.06	.00	.04	1	.65**
(11) BIQLI	5.26	.88	.40**	.06	.12	.13	.16*	-.02	.04	.04	.01	.52**	1

Note. Sample A- sexual active, n = 199, correlations are below the diagonal, Sample B – self-sex, n = 43, correlations are above the diagonal.
* $p < .05$, ** < .001, VGA = Vulva Genital Awareness, ROSEN = Rosenberg's Self-esteem Scale, BIQLI = Body Image Quality of Life Index.

Table 15

Marginal Means for VGA & Sexual Satisfaction

	VGA						***Sexual Satisfaction***					
	SAK low			*SAK high*			*SAK low*			*SAK high*		
Sexual Activity (SA) Status	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
1. Masturbate Only	19	4.28	.65	22	3.86	.81	14	4.93	.89	10	4.25	1.37
2. Casual Sex	31	3.91	.60	15	4.20	.65	24	4.50	.98	11	4.96	1.33
3. Committed Sex	51	4.31	.76	59	4.71	.76	52	4.96	1.58	56	5.25	.96
Total	101	4.11	.72	96	4.44	.76	90	4.82	1.34	77	5.09	1.19

Note. $N = 197$ for VGA; $N = 167$ for Sex Satis - all self-reported self-sex women removed. SAK in this analysis refers to SAKvulva scores. SAK low refers to scoring five or less body parts corrects, and SAK high refers to scoring (83% or more) six or more correctly and not using a distractor term.

Table 16

Marginal Means for VGA, Sexual Satisfaction, and BIQLI

	VGA						*Sexual Satisfaction*						*BIQLI*					
	< 30 days			*bi-weekly+*			*< 30 days*			*bi-weekly+*			*< 30 days*			*bi-weekly+*		
Sexual Activity Status	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
1. Casual Sex	17	3.92	.69	20	3.95	.63	14	4.11	1.13	20	4.90	1.07	17	4.91	.85	20	5.22	.74
2. Committed Sex	12	3.81	.62	97	4.49	.74	12	4.58	1.20	97	5.19	1.33	12	4.82	.82	97	5.41	.97
Total	29	4.11	.72	117	4.44	.76	26	4.35	1.16	117	5.05	1.20	29	4.87	.84	117	5.32	.85

Note. $N = 146$ for VGA, one case with missing data.
$N = 143$ for Sex Satis, three cases with missing data.
$N = 146$ for BIQLI, one case with missing data.

Table 17

Feminist Identity and Means and Standard Deviations for Sexual Anatomy Knowledge, Body Image, and VGA

		Vulva		*Body Image*		*VGA-Self*	
FeministA	*n*	*M*	*S.D.*	*M*	*S.D.*	*M*	*S.D.*
1. Yes	133	3.99	1.78	5.36	.90	4.61	.90
2. No	108	4.50	1.84	5.15	.84	4.40	.89
FeministB	*n*	*M*	*S.D.*	*M*	*S.D.*	*M*	*S.D.*
3. Accurate	122	4.42	1.70	5.25	.90	4.57	.78
4. Inaccurate	119	3.90	1.89	5.26	.87	4.36	.77

Note. N = 241. VGA-Self was used since women with all levels of sexual history were included in this analysis.

Table 18

Feminist Definitions and Frequencies

FeministA	*n*	*%*
1. Advocates for women's/equal rights	127	52.3
2. Proud to be a woman	23	9.5
3. Empowered/independent/proud to be different but want equal options (pay, health care, etc.)	30	12.3
4. Appreciate their body	10	4.1
	190	
FeministB	*n*	*%*
1. Girly, feminine, look like a lady, pretty	83	34.2
2. Hate men, only want to support women	18	7.4
3. Radical/negative	38	15.6
4. I don't know	27	11.1
5. Domesticated	3	1.2
6. Strive to be manly, dress manly	2	.8
	171	

Appendix C

Institutional Review Board Approval

Oklahoma State University Institutional Review Board

Date: Friday, September 14, 2012

IRB Application No AS1291

Proposal Title: Identity as a Protective Factor

Reviewed and Processed as: Expedited

Status Recommended by Reviewer(s): Approved Protocol Expires: 9/13/2013

Principal Investigator(s)

Amy Madewell
316 North Murray
Stillwater, OK 74079

Melanie Page
116 North Murray
Stillwater OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI, advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTeman in 219 Cordell North (phone: 405 744 5700, beth.mcteman@okstate.edu).

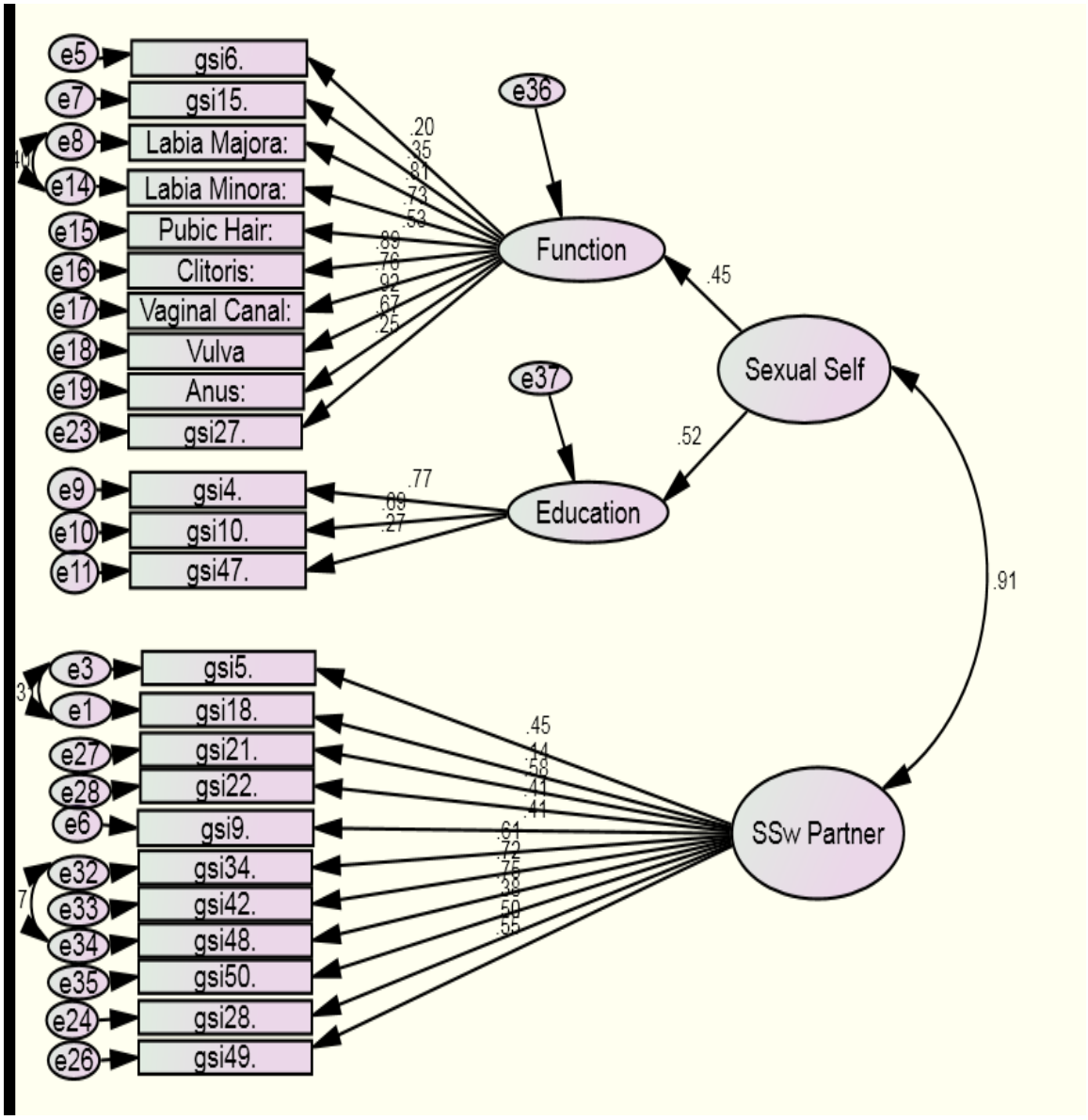
Sincerely,

Shelia M. Kennison

Shelia Kennison, Chair
Institutional Review Board

Appendix D

Confirmatory Factor Analysis Model



VITAE

Amy Nicole Madewell

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Completed the requirements for the Doctor of Philosophy in Psychology at Oklahoma State University, Stillwater, Oklahoma in May, 2013.

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