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Let's Talk About We Otherwise Risk Ignoring: Sexual Health Among Women Who Have Sex With Women

Denise Natalia Delgado
University of Texas at El Paso

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LET'S TALK ABOUT WHAT WE OTHERWISE RISK IGNORING: SEXUAL HEALTH
AMONG WOMEN WHO HAVE SEX WITH WOMEN

DENISE NATALIA DELGADO
Master's Program in Sociology

APPROVED:

Ophra Leyser-Whalen, Ph.D. Chair

Carina Heckert, Ph.D.

Oralia Loza, Ph.D.

Xiaodan Deng, Ph.D.

Stephen Crites, Ph.D.
Dean of Graduate School

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By

Denise Natalia Delgado

2019

Dedication

I dedicate this thesis to my family and friends for supporting me throughout my academic career. Especially to my parents who have always provided support and encouraged me to continue my academic career. I especially dedicate this to my mentors Dr. Cristina Morales and Dr. Ophra Leyser-Whalen for all the opportunities they gave me, for their support and guidance, and great mentorship.

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DENISE NATALIA DELGADO

THESIS

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Abstract

Sexual health research suggests that women who have sex, or have had sex, with women (WSW) are at a higher risk for negative reproductive health outcomes, however, WSW are less likely to use preventive reproductive health care than heterosexual women. This research aims to examine the constructions of knowledge and risk perceptions of sexual health practices and sexual health behaviors among WSW in the US. Sexual health practices and sexual health behaviors measures were based on self-reported sexual health knowledge, sexual health perceptions, and sexual activity. A convenience nationwide sample of 254 WSW participants recruited through online LBGTQIA+ social groups completed a confidential and anonymous online survey. The data present a diverse group of participants with a mean age of 38.8 (SD=11.54). 14 percent of participants are racial minorities and 20% of participants are Hispanic/Latinx. The mean household income is between \$40,000 and \$49,999 and the mean level of education is a 4-year degree. The results indicate that WSW have a general idea of sexual health knowledge about safer sex practices. WSW perceive low risk or to no risk at all for the transmission of STIs. WSW engage in a variety of sexual health behaviors that put them at risk for STIs. This study finds major implications for the development of new all-inclusive preventive programs and for sexual health healthcare providers.

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Chapter 1 - Introduction

Women who have sex with women (WSW) comprise an extensive and diverse group of women that represent many different experiences of access to sexual healthcare and healthcare in general. LGBT individuals report more frequent day-to-day and lifetime experiences of discrimination and harassment than the general population (Wapenyi, 2010). Lesbians specifically have expressed greater difficulty in disclosing their sexual identity to their health care providers and have difficulty finding lesbian-affirmative providers or settings (Denenberg 2005; Stevens & Hall 1988; Wapenyi, 2010). The health care needs of WSW are generally the same as heterosexual women; however, WSW have other risk factors and barriers that can affect their sexual health such as not acquiring adequate health screenings, not receiving any or relevant sexual health education, preventative programs do not focus on WSW issues, heteronormative attitudes in the health care system, invisibility in medical discourse and perceptions of low risk in relation to sexual health. WSW are overlooked in sexual and reproductive health research (Denenberg, 1995; Johnson & Nemeth, 2014) and have been long ignored in preventive and service agendas; overlooking WSW places WSW at a higher risk for negative outcomes of sexual health and health in general. That being said, WSW are an important group of women to research because some WSW participate in risky sexual behaviors that place WSW at risk for acquiring STI's just as any other individual and are also vulnerable to other illnesses such as cancer, heart disease, and mental health.

This research aims to examine the constructions of knowledge and risk perceptions of sexual health practices and sexual health behaviors among WSW in the US. This study specifically focuses on three different topics within the sexual health of WSW. The first topic is what knowledge of safe sexual health practices do WSW have? The second topic is perceptions

of sexual health risk for sexually transmitted infections, and the third topic is what sexual health behaviors do WSW engage in?

Chapter 2- Literature Review

2.1 Heteronormative and gendered medical discourse

Medical discourse has been created through the lens of heteronormativity.

Heteronormativity is a socialization process promoted by many agents of socialization, by which individuals are socialized to believe that heterosexuality is the “normal” or preferred sexual orientation; anyone who does not fit this norm is seen as abnormal/deviant (Jackson, 2006). Heteronormativity is then the set of beliefs, morals, and values set around heterosexuality. Heterosexuality’s status of normal, natural, unquestioned, and a taken for granted has the normative power in discourse and such norms have the power to create expectations for women to follow. Sexual and reproductive health is based on heteronormative knowledge, practices and procedures, and scientific knowledge that is produced by medical professionals. Women who seek sexual and reproductive health care are exposed to the clinical gaze of heteronormative assumptions. Foucault’s (2003) theory on the clinical gaze is the method through which bodies are subjected to observation and physical examination by physicians. Foucault argued that physicians started to see patients solely by their problems and not as whole individuals. Through a clinical gaze, medical discourse has the ability to decide what is relevant in a patient’s story and how it best fits in a biomedical model. As a result, bodies and individuals are subjected to a gaze to produce forms of power and knowledge. The process of observing and examining the body produces new knowledge and such knowledge has the power to define what is normal and what is abnormal. For example, the education medical professionals receive from medical school and training programs are focused on a biomedical paradigm (doctor-oriented) and not patient-oriented (Misselbrook, 2013).

WSW experience heteronormativity when they have an expectation that health care providers will be able to answer any concern that they may have because the expectation is that health care providers learn about WSW behaviors in medical school (Johnson & Nemeth, 2014). However, there is an absence of WSW health issues in the curriculum of medical schools (Stott, 2013). Stott (2013) argues that general practitioner curriculum rarely broached LGBT sexual health topics, and that general practitioners were unaware of the sexual orientation of their patients or the specific health needs of lesbian, gay and bisexual patients thus normalizing heteronormative practices in health care. McNair (2005) argues that health care workers who work with WSW have been ill-informed about the range of sexual health issues for WSW and that a silence persists in the mainstream medical literature, textbooks, research, and policy documents. A study in the UK interviewed 166 medical students about the efficacy of health situations among LGBTQ persons (Parameshwaran, Cockbain, Hillyard, & Price, 2017). The study results indicated that 84.9% of participants reported a lack of LGBTQ health care education and 68.1% of the participants reported feeling unconfident as to where they could find information about LBGTQ specific health care issues. In a study in the U.S., Obedin-Maliver et al. (2011) found that medical school students spent a median of 5 hours total throughout their education, training, learning, and discussing LGBT health specific topics. In addition, Obedin-Maliver et al. (2011) found that the frequency of teaching 16 LGBT specific topics required in the curriculum was low. Another study looking more specifically at obstetrics and gynecology (OB/GYN) residency training programs found that in 4-year residency programs an overall mean time of 1.8 hours was allocated to lesbian health instruction (Amato & Morton, 2002). Also, significant in the same study is that 77 % of program directors agreed that lesbian health issues should be an essential part of OB/GYN curriculum and 73% of program directors reported that

their own program curriculum for lesbian health issues was less than adequate (Amato & Morton 2002). In a different study examining medical students' level of preparedness and comfort with LGBT patient care and students' assessments of their institutions' LGBT curriculum content, found that 67.3% of students assessed their LGBT related curriculum as fair or worse and students thought that LGBT curriculum could be improved (White et al., 2015). In a study looking at OB/GYN's training, attitudes, knowledge and practice in regard to lesbian, gay, bisexual transgender and gender nonconforming (LGB-TGNC) individuals, Mehta et al. (2018) found that only 42.6% of board-certified OB/GYNs reported previous training in LGB-TGNC health and OB/GYNs reporting previous training on LGB-TGNC health were not more likely to be comfortable taking care of transgender or gender nonconforming patients.

Medical discourse on sexual and reproductive health is gendered in the way that individuals are expected to perform according to their gender. Gender is a concept that historically has been thought of as a binary category where men and women are expected to express prescribed expressions of masculinity and femininity according to societal norms. Gender is supported by the notion of heteronormativity and therefore such notion of heteronormativity has the ability to define what gender norms are expected from individuals. However, theorists like Judith Butler have challenged the concept of gender as being a binary category. Butler argues that gender has been constructed through the lens of heterosexuality and heteronormativity and such notions have the power to determine the roles of women and men. Butler (2004) states that gender should not be limited by the restrictive discourse that surrounds gender because it "insists on the binary of man and woman as the exclusive way to understand the gender." Gendered expectations are very much part of patient health care provider encounters. The expectation of femininity and docile bodies in women only contribute to the

binary categories that are used to judge women against “normality”. Women who do not meet the “normal” gender expectations can be seen as nonconforming and be at the receiving end of dismissive and negative encounters with health care providers. The gendered medical discourse then has the ability and power to decide how women who do not fit normal gender expectations receive healthcare (Waitzkin, 1989). A clear example of how gender expectations in medical discourse affect WSW is that of women who identify as butch lesbian. The label butch is used to define characteristics of masculinity such as behaviors, styles, and traits (Eves, 2004; Hiestand et al., 2007). Such a label defies gender expectations of femininity within medical discourse thus being labeled as deviant and creating the power to marginalize this group of women from medical discourse. Hiestand, Horne, and Lovitt (2007) found that butch women had routine gynecological examinations significantly less frequently and perceived poorer treatment in healthcare settings. Butch identifying women also were more likely to be out within healthcare settings, placed more importance on securing LGBT-positive healthcare practitioners, and had more difficulty finding LGBT-positive medical doctors (Hiestand et al., 2007). The results of this study suggest that butch identifying women may be more at risk for physical health concerns than femme identifying women, in particular, those illnesses that can be prevented or treated with regular gynecological care (Hiestand et al., 2007). Butch identifying women not only face disparities in health care because of their sexual orientation but also face disparities because of their gender identity (Hiestand et al., 2007).

Another way that medical discourse is gendered is in the language that is used to describe scientific knowledge, practices and procedures. The language used in medical discourse is reflective of society’s cultural norms, beliefs, and values and therefore can be argued that medical discourse is written and produced through a heteronormative and patriarchal lens. A

clear example can be seen in reproductive biology. Martin (1991), argues that cultural stereotypes of male and female are found in reproductive biology and that such stereotypes imply that a female biological processes are inferior to those of males but also that women are inferior to men. Martin (1991) also states that although there has been an attempt by several researchers to make the language used to describe reproductive biology more equalitarian, researchers are far from removing gendered stereotypes from reproductive biology discourse. Medical discourse in medicine has also been criticized as being male-biased and genderblind. Verdonk et al. (2009), argues the medical discourse is male-biased because the body of knowledge on health and illness is predominantly about men and their health and that such male bias has had the ability to define what illnesses are important to study and collect and interpret data for. Verdonk et al. (2009), also argues that medical discourse in medicine is genderblind because women's health issues have been overlooked with the exception of women's reproductive health, or interpreted from the perspective of the male body (e.g. heart attacks often have different symptoms in women than men and as a consequence go overlooked) (Martin, 1991). Language is able to produce and shape how knowledge is created, therefore, the medical discourse that is created through a heteronormative and patriarchal lens is restrictive for those who are outside of the realm of normative sexuality because traditional gender stereotypes are reinforced through language in medical discourse.

The impact of the continuous reproduction of heteronormative medical discourse and the lack of inclusion of lesbian health issues in medical education for physicians and OB/GYNs and gendered expectations in patient healthcare encounters is reflective in the experiences that WSW face when accessing health care. Research suggests that LGBT individuals are reluctant to disclose their sexual orientation to their health care provider out of fear that health care providers

might react negatively. Disclosing sexual orientation to health care providers is a matter that WSW have to negotiate when accessing sexual and reproductive health care (Barbra, Quandt & Anderson, 2001; Stevens, 1996). WSW face heteronormative attitudes before even disclosing and after disclosing as well. The former can help determine whether a woman will decide to self-disclose and the latter causes a sense of discomfort if the medical professional is not knowledgeable about WSW behaviors. In a study where the focus was to examine heteronormative perception in communication and their effects on patient-physician relationship, Utamsingh, Richman, Martin, Lattanner, and Chaikind (2016) found that heteronormative communication between LGBT patients and their providers can reduce patients trust in health care provider-patient relationships, lower the rate of sexual orientation disclosure, and increase the likelihood of receiving minimal and inadequate health care.

To give more context to the experiences of WSW when assessing health care, research suggests that experiences with self-disclosure are characterized as either negative or positive. In positive encounters, WSW characterized the encounters as positive if medical offices and health care providers were LGBT affirmative, were capable of providing knowledgeable information about WSW behaviors, acted in solidarity with patients, were able to have good communication with patients, and had positive attitudes towards the LGBT community (Barbara et al., 2001; Bjorkman & Malterud, 2009; Johnson & Nemeth, 2014; Stevens, 1996). Finding gay-affirmative health care providers helps ease the process of self-disclosure and helps WSW have conversations with healthcare providers (Johnson & Nemeth, 2014). Encounters are also deemed positive if health care providers are able to answer questions about safe sex issues among WSW and other WSW lifestyle issues. Being knowledgeable and culturally sensitive about WSW lifestyles encourages a safe environment and WSW feel comfortable disclosing their sexual

orientation. WSW want access to knowledge that will empower them to promote and maintain their well-being and be able to manage an illness, if they have one (Stevens, 1996).

Negative encounters are characterized as occasions where hierarchy was maintained and WSW felt inferior, dominated by the physician, not receiving knowledgeable information about WSW specific needs, poor quality of care, hostile conversations, insensitive, and negative attitudes (Barbara et al., 20001; Bjorkman & Malterud, 2009; Johnson & Nemeth, 2014; Stevens, 1996). In a study that evaluated power relations between 45 multiracial and socioeconomically diverse lesbians and health care encounters with physicians, Stevens (1996) found that 77% of encounters were evaluated negatively. Particularly in this study participants reported feeling belittled, intimidated, angry, humiliated, and alienated due to physicians' dominating behavior such as withholding information and not offering knowledge in a language participants could understand, doomsaying participants' illnesses, sexist comments that included demeaning expressions and rambunctious opinions about traditional gender roles, defensively dismissing participants' input on their health problems, body sculpting participants by suggesting procedures that participants didn't inquire about, attempting to regulate pregnancy and birth control of women of color and women of low income, and bodily transgressions that include aggressive handling and intrusive examinations to sexual abuse (Stevens, 1996).

It is important to look more specifically at the experiences of self-disclosure and gynecological care among WSW because OB/GYNs specialize in women's reproductive health. Knowing a patient's sexual orientation may help OB/GYNs provide accurate, knowledgeable, and culturally sensitive sexual health information to all women. Minimal research exists on the experiences of WSW and gynecological care; therefore, more research in this area is needed. Johnson, Guenther, Laube, and Keettel (1981) found that 81% of WSW participants had not

disclosed their sexual orientation when receiving gynecological care and only 5% of participants had been asked about their sexual orientation. Another study found that 49.5% of WSW participants had not disclosed their sexual orientation to their gynecologist and only 9.3% of participants had been asked about their sexual orientation during gynecological care (Smith, Johnson & Guenther, 1985). A significant number of participants in both studies also believed that if their gynecologist knew about their sexual preference, it would hinder the quality of medical care they received.

2.2 Perceptions of risk

Research indicates that WSW experience low or no perceptions of risk when it pertains to STIs even though recent evidence suggests that WSW are at risk for STI transmission. In part, this notion that STIs cannot be transmitted between women is rooted in the exclusion of WSW from HIV/AIDS and sexual health risk discourse. The absence of WSW in HIV/AIDS and sexual health risk discourse has deemed WSW sexual behaviors as risk-free, however, WSW take part in diverse sexual behaviors, some of which carry a risk of STI exposure. In addition, contributing to the perception of low risk for STIs among WSW is the disconnect between clinicians and public health workers over the assessment of disease transmission risk from WSW sexual behaviors (Bauer & Welles, 2001). A clear example of the exclusion of WSW and a contribution to the perception of low to no risk in sexual health discourse can be found in Donovan's (2004) comprehensive examination of STIs other than HIV; Donovan (2004) ignored previous studies on the prevalence and risk of STIs for WSW. Donovan (2004) only mentioned WSW once in the review to suggest that the high risk for STIs among WSW is only due to other high-risk activities such as having sex with high-risk men, having sex with homosexual men or injecting drugs. This extensive comprehensive review failed to report safer sex and preventative methods for WSW as the author did for homosexual men and heterosexuals and failed to acknowledge the potential

risk in WSW sexual behaviors. In the *2015 Sexually Transmitted Diseases Treatment Guidelines* by the CDC, the report pointed out that few comprehensive and reliable resources of sexual health are available for WSW despite being a diverse group with a variety of sexual identity, risk behavior, sexual practices, and sexual behaviors (Workowski & Bolan, 2015). Therefore, the perception that WSW are not at risk is a dangerous notion because lesbian sex is not risk-free. While there is no carnal penis involved in lesbian sexual behaviors, women are at risk of acquiring and transmitting sexually transmitted infections through risky sexual behaviors (Berger et al., 1995; Marrazzo et al., 2002; Marrazzo, Stine, & Wald, 2003; Rich, Buck, Tuomala & Kazanjian, 1993.)

The normalization of heterosexual sexual health and heterosexual sexual practices places WSW at risk for STIs because WSW sexual health and sexual practices become invisible. The absence of WSW in sexual health risk discourse shapes their behaviors in that by not knowing the health risks and prevalences of STIs for their social group it can increase the participation in risky sexual behavior and continue to create a narrative among WSW that they are at a low or no risk for STIs. An example of such normalization and creation of the perception of low risk can be found in the work of Marrazzo, Coffey, and Bingham's (2005) whose findings indicate a belief of low to no risk among the women who participate in their focus groups. Several participants expressed the perception that lesbians do not need to use condoms because they are not at risk for either pregnancy or STIs. This what one of the participants stated:

Because we're girls and the only thing we need to worry about is pregnancy, and we know that STDs can only be transferred to men and women....That's what we're told, that two women are safe...That's what I've heard. So, you just...don't think about it. You don't think

about the fact that, Can you transfer it?”—Woman in-group for 23–29-year-olds (Marrazzo et. al, 2005, p.9)

This perception by the participant not only confirms the narrative of low-risk perception for STIs among WSW but it also demonstrates the need for adequate safer sex education for WSW. In a study with 6935 self-identified lesbians, 31% of participants believed that lesbian’s interest in safer-sex methods is due to being politically correct rather than their perception of any real risk (Diamant, Lever, & Schuster, 2000). In another study of 137 young self-identified WSW, 31.3% reported unprotected vaginal sex in the past year “because my part is female” and “it’s safe with women” (Herrick, Matthews, & Garofalo, 2010). In a study conducted by London (2006), among 1304 women, 49% were heterosexual, 40% were lesbian, and 11% were bisexual, the women were asked about perceived susceptibility to HIV infection; 36% of lesbians and 23% of bisexual women reported they perceived no risk for HIV (London, 2006). A study with 504 self-identified lesbians and bisexual women, reported that 84% of participants perceived no risk for STIs through sexual activity, drug use, or other means in the past year and 61% participants reported that they believed they had no risk over their lifetime (Morrow & Allsworth, 2000).

2.3 Knowledge

Sex education, sexual health, and preventative programs do not focus on WSW’s sexual health issues. WSW sexual health issues that are of importance include sexual behaviors that put WSW at risk for STIs and safer sex methods as prevention for STIs. Prevention messages are mostly designed for heterosexual individuals and homosexual men and may not reach all WSW depending on their sexual partner at the time (Teti & Bowleg, 2011). The most common preventative message in sex education and sexual health preventive programs is to use male condoms as a barrier for penetrative sex to reduce the risk of HIV and STIs. Although using a

male condom can be used as a safe sex method between WSW, this preventive message does not apply to all WSW and is not WSW specific, for example, some WSW do not share sex toys (where condom use would be appropriate) but participate in other sexual behaviors that exchange vaginal fluids where condom use would not be feasible. The lack of safe sex education and preventative programs for WSW has a significant impact on the understanding of WSW sexuality and our understanding of how and why WSW get HIV and other STIs (Wapenyi, 2010).

WSW have a general knowledge when it comes to safer sex methods and preventative methods for STIs, however, with the lack of focus on WSW sexual behavior in the sex education curriculum and in preventive messages that's all the knowledge WSW are geared with to protect themselves from STIs. The gaps in knowledge of sexual health practices put WSW at a higher risk for STIs and force WSW to look at other sources for the information they need. In Marrazzo et al.'s (2005), participants reported general awareness of the risk of STI transmission, more specifically they understood that when body fluids are exchanged it opens up a door for some level of STI transmission. Also notable in this research is that not all women were clear about the risk for specific STI that can be transmitted through penetrative activities (Marrazzo et al., 2005). A study conducted in the UK to collect views on sex and relationship education, and sexual health among LGB young people, concluded that women did not have enough information and they were unaware of local and national leaflets aimed at lesbians and bisexual women. Participants in this study suggested that a good starting point for adequate information would be basic information on what sort of sexual behaviors transmit STIs between WSW and what is safe sex between WSW (Formby, 2011).

Research suggests that WSW look to the internet for sexual health information (Flanders, Pragg, Dobinson, & Logie, 2017). Magee, Bigelow, DeHaan, and Mustanski (2012) found that the most common type of search on the internet among LGBT young people was for any type of information related to HIV and/or STIs. WSW in Flanders et al. (2017) reported preferring online resources due to experiences or expectations of heteronormativity from their sexual health service providers, convenience and accessibility, the capacity to remain anonymous, and the lack of relevant sexual health information offline. However, it is important to be critical of the content of sexual information available online where, depending on the source, not at all content is helpful and accurate. It can also be biased information toward the heteronormative sexual health discourse and not inclusive of WSW. In a study by Lindley, Friedman, and Struble (2012), the authors conducted a content analysis of websites to evaluate the volume and scope of sexual health information available to lesbians on the internet. Most noticeably from this research is that the 300 websites identified from 3 different search engines, only 25 websites were working websites. The result of the content analysis indicated that HIV is the most frequently discussed sexual health condition followed by STIs. HIV appeared in 72% of the web pages analyzed and 66% of the website discussed STIs. The most common STIs discussed on the websites included bacterial vaginosis (68%), chlamydia (68%), genital herpes (68%), hepatitis B (64%), and HPV (64%). STIs such as gonorrhea, syphilis, trichomoniasis, and pubic lice are discussed less frequently. Seventy-six percent of websites discussed transmission from women to women, via sex (76%), through direct contact (72%), through body fluids (68%), via oral sex (60%), from sharing sex toys (48%), through anal sex (48%), and through fingering (32%). It is important to notice from this content analysis that there are websites that have information about HIV and STI transmission among WSW but not all websites contain all the information that is needed to be

fully educated, promote and understand the risk of STIs among WSW. In addition, even though we live in an era of technology this information on the internet is not available to all women, as some WSW may not have regular access to the internet. According to the U.S. Census Data (2014), only 74.8% of households have internet access at home.

2.4 Risks in Sexual Practice

To better understand the possible transmission of HIV and/or other STIs among WSW it must be noted that WSW sexual contacts can lead to exposure of blood, vaginal, cervical, oral, and anal secretions. Risky sexual behaviors can include but are not limited to sharing sex toys, having sexual relations while menstruating, having cuts on the hands, mouth, vagina, anus, or any bodily area that is exposed to bodily fluids and rough sexual play where blood is involved. Therefore, establishing good sexual health practices not only requires WSW to get health screenings but to also get STI testing because research suggests that WSW are at risk for STIs such as bacterial vaginosis (Berger et al., 1995; Marrazzo et al., 2002), herpes simplex virus (HSV) (Marrazzo, Stine, & Wald, 2003), genital human papillomavirus (HPV) (Marrazzo, Koutsky, Kiviat, Kuypers, & Stine, 2001b), and other blood-borne viruses (Rich, Buck, Tuomala & Kazanjian, 1993). In a study with 241 lesbian women and 241 heterosexual women that compared the range of genital infections diagnosed, it was determined that WSW reported the same rate of STIs as heterosexual women (Skinner, Stokes, Kirlew, Kavanagh, & Forster, 1996) and WSW reported higher rates of bacterial vaginosis than heterosexual women (Berger et al., 1995; Skinner et al., 1996; Smart, Singal, & Mindel, 2004).

Risk factors for STIs among WSW increase with low levels of safer sex practices (Diamant et al., 2000; Morrow & Allsworth, 2000), low levels of knowledge of STI prevention (Herrick et al., 2010), the number of sexual partners (Bauer & Wells, 2001; Diamant et al.,

2000), and a history of male sexual partners (Diamant, Schuster, McGuigan, & Lever, 1999). In reference to specific STIs, women who reported sex with only women had a similar HIV risk behavior profile in the past two months as their heterosexual counterparts. For women who report a history of ever having had sex with a gay or bisexual man, WSW report higher frequencies than their heterosexual counterparts and thus also have higher HIV risk behavior profiles than heterosexual women (Marrazzo, Koutsky, & Handsfield, 2001a). Although there is, contradicting evidence for a blood-borne virus like HIV to be transmitted between female sexual partners there have been cases reported of WSW transmission. The most cited risk factors for HIV among WSW are other high-risk factors such as non-same-sex behaviors, unprotected sex with a man, injection drug use and needle sharing (McNair, 2005), yet there is one case study of a 24-year-old woman whose only risk behavior was having sexual contact with an HIV infected women (Rich et al., 1993). In another study, bacterial vaginosis risk was associated with oral-anal sex with a partner, not cleaning insertive toys properly before use, and a higher number of lifetime partners (Marrazzo et al., 2002). A study on HSV determined that the HSV type 1 seroprevalence rate among lesbians was 46%, and positively correlated with the number of female partners suggesting that HSV type 1 is an STI between WSW (Marrazzo et al., 2003). A study looking at Papanicolaou test screening and prevalence of HPV among WSW determined that HPV can be an STI transmitted through lesbian sexual behaviors and was associated with the increasing number of male partners and the use of insertive sex toys between women (Marrazzo et al., 2001b).

Past research reports sexual activities engaged in by WSW, assessments of perceived sexual health risk, the need for culturally appropriate sexual health knowledge, assessments of safer sex methods used to reduce risk for STIs, and risk factors of STIs for WSW, but no

previous research has clearly reported associations between perceived sexual health risk for STIs, knowledge of safe sexual health practices, and sexual health behaviors engaged by WSW and the implications sexual health outcomes. Therefore, this study begins to address this gap in the literature and understand the role of the heteronormative gaze in medicine and medical discourse.

2.5 Aims

In this study, we look at the associations between perceived sexual health risks for STIs, the level of knowledge of safer sex methods, and sexual health behaviors engaged in by WSW with the intent to understand the implications of such behaviors and how they affect sexual health outcomes of WSW. The substantive research questions (RQ) addressed are the following:

RQ 1: What knowledge of safe sexual health practices do WSW have?

RQ 2: What perceptions of sexual health risk for STIs do WSW have?

RQ 3: What sexual health behaviors do WSW engage in?

Chapter 3- Data and Methods

3.1 Participants

Participants are self-identified women who report having sex, or having had sex, with women and are 18 years and older. Participants self-completed the 67-question questionnaire using the online survey tool Qualtrics (see Appendix A). The questionnaire took approximately fifteen minutes to fill out. 262 women filled out the survey; however, eight women were removed from the sample because they reported never having had sex with women. The sample size for analysis is 254 women.

The sampling method for this study was convenience sampling. Participants were recruited from a local social LGBTQIA+ community center (Borderland Rainbow) and from a Queer carnival event at the University of Texas at El Paso. The recruitment flyers can be found in Appendix B. Participants were also recruited from LGBTQIA + online groups from Facebook such as Femme-n-Essence~ A Femme Bonding Group, Butch-Femme, Lesbians & Bisexuals R” Us An All Sexy Femme Sorority, Lesbian Friends, Thick Fems & LGBT Community that Love Them, BadAss King and Queenz, Rainbow Paradise, LesUnicorns, and El Paso OWLs. The script read as follows:

Hello all,

My name is Denise N. Delgado and I am currently a Master’s student in the Department of Sociology and Anthropology at UTEP. You are being asked to take part in a research study on sexual health among women who have sex, or have had sex, with women. As part of my Master’s thesis, I want to understand women who have sex with women experiences with sexual health practices and behaviors. This includes questions about your knowledge of sexual health and your sexual health behavior history. To participate individuals must be 18 years of age or older, and must be a woman who has sex, or has had sex, with women. Individuals will be asked to take an online survey that takes approximately 15 minutes to complete. The survey is confidential and anonymous therefore no identifying information such as email, name, and IP address will be collected. If you are interested in participating, follow the link provided below.

Click on the link to direct you to the survey:

https://utep.qualtrics.com/jfe/form/SV_8JliKgMR08iWFy5

Participants were asked that any comments or questions (see Appendix E) be directed to Denise Delgado at dndelgado@miners.utep.edu and not comment on the Facebook recruitment post in order to maintain the privacy of Facebook users.

Note due to the sampling strategy used in this study sampling bias may have been introduced, such as, recruiting from LGBTQIA+ online groups and LGBTQIA+ hang out places that are associated with “being out” might have missed women who identify as heterosexual but still have or have had sex with women. In addition, women who identify as WSW but do not participate in online groups and those that do not visit LGBTQIA+ hang out places may not be represented in the sample.

3.2 Measure

3.2.1 Demographics

Basic socio-demographic characteristics were assessed and no personal identifying information was collected in order to maintain anonymity. Basic socio-demographics included age, urbanity, race, ethnicity, education, annual household income, gender of lifetime sexual partners and number of lifetime sexual partners. Race and ethnicity were combined to create one variable with three categories: White, Hispanic, and Non-White other, using White as the reference group. Urbanity was dichotomized into rural and urban, using urban as the reference group. Education was also recoded to construct a new variable with three categories: low education is synonymous with some college or less, medium education is synonymous with a college degree, and high education is synonymous with a graduate degree, using high education as the reference group. Annual household income was recoded in two different ways. The first method was into three different categories (low= < \$29,999, medium= \$30,000-\$59,999, high= \$60,000+) and the

second method was to recode income into a continuous variable. The number of sexual partners was recoded into two different ways as well because it was an open-ended question and responses were either written out or answered with intervals. The first method to recode the number of sexual partners was coded into 3 categories, (low = 1-10, medium= 11-20, high= 21+) and the second method to recode the variable was to make a continuous variable.

3.2.2 Knowledge of Safe Sexual Health Practices

The measures used to assess participants' knowledge of safe sexual health practices were the following statements:

- 1) *“Women who have sex with women should wash sex toys before, after use, and before sharing.”*
- 2) *“Women who have sex with women should use condoms on sex toys.”*
- 3) *“Using a dental dam or a condom cut open between the vagina/anus and mouth is needed during oral sex for women who have sex with women.”*
- 4) *“Women who have sex with women should avoid oral sex if you or your partner has cuts or sores in or around the mouth.”*

The statements used to assess participants' knowledge of safe sexual health practices were developed from tips for safer sex practices defined by the Center for Young Women's Health, Boston Children's Hospital, and National Health Services UK.

3.2.3 Perceptions of Sexual Health Risk

The measures used to assess perceptions of sexual health risk were assessed using the following questions:

- 1) *“Do you personally feel at risk of catching a sexually transmitted infection?”*
- 2) *“Are sexually transmitted infections a risk for women who have sex with women?”*
- 3) *“In your experience, is it common for women who have sex with women to practice safer sex methods (e.g. use condoms, dental dams, gloves, etc.)?”*
- 4) *“Is HIV a risk for women who have sex with women?”*

The questions used to assess perceptions of sexual health risk were developed from our pertinent literature review (Herrick et al., 2010; Marrazzo et. al, 2005; McNair, 2005; Richardson, 2010).

3.2.4 Sexual Health Behaviors

To assess, sexual health behaviors the following questions were asked to participants:

- 1) *“How often do you get tested for STIs?”*
- 2) *“How often does your current partner get tested for sexually transmitted infections?”*
- 3) *“Do you find it hard to negotiate/communicate safer sex practices with a new partner?”*
- 4) *“How important is it to you that your partner(s) gets tested for STIs before having sexual contacts?”*
- 5) *“How often do you visit an OB/GYN?”*
- 6) *“When did you last have your last Pap smear test?”*

Questions for this section of the questionnaire were developed from our knowledge of sexual health behaviors and previous literature review (McNair, Power, & Carr, 2009).

The data collected from the online survey tool Qualtrics was exported to IBM SPSS software for data analysis. The data analysis includes descriptive statistics, correlations, Generalized Linear Modeling, and ANOVAs.

Chapter 4- Results

4.1 Demographics

A total of 254 self-identified women who report having sex, or having had sex, with women participated in this study. The average age for participants is 38.8 years (SD=11.54; range 18-72), 14% of participants are racial minorities, and 20% of participants self-identified as Hispanic/Latinx. The average household income is between \$40,000 and \$49,999 and the average level of education for participants is a 4-year degree. Descriptive statistics can be found in Table 1 below.

Table 1 Demographic Descriptive Statistics

	N	Percent	Mean	SD	% Missing
Gender	238				
Female	224	94.1	-	-	12.60
Age	208	-	38.88	11.54	20.50
Race	234				7.90
White	201	85.90	-	-	
Black	8	3.40	-	-	
American Indian/ Alaska Native	4	1.70	-	-	
Asian	1	.40	-	-	
Native Hawaiian/ Pacific Islander	1	.40	-	-	
Two or more races	12	5.10	-	-	
Other	7	3.00	-	-	
Ethnicity	225				11.40
Non-Hispanic/Latinx	180	80.00	-	-	
Hispanic/Latinx	45	20.00	-	-	
Education level	238				6.30
Less than high school	2	.80	-	-	
High school graduate	13	5.50	-	-	
Some college	56	23.50	-	-	
2-year degree	23	9.70	-	-	
4-year degree	58	24.00	-	-	
Professional degree	18	7.60	-	-	
Masters	34	14.30	-	-	
Doctorate	34	14.30	-	-	

Annual Household Income	236				9.80
Less than \$20,000	26	11.40	-	-	
\$20,000 - \$29,999	37	16.20	-	-	
\$30,000 - \$39,999	31	13.50	-	-	
\$40,000 - \$49,999	12	5.20	-	-	
\$50,000 - \$59,999	31	13.50	-	-	
\$60,000 - \$69,999	19	8.30	-	-	
\$70,000 or more	73	31.90	-	-	
Urbanity	236				7.10
Inner suburban or urban	100	42.40	-	-	
Outer Suburban	29	12.30	-	-	
Regional center/city	57	24.20	-	-	
Rural area (5,000 to 50,000)	34	14.40	-	-	
Rural area (< 5,000)	16	6.80	-	-	
Gender of sexual partner ever	237				6.70
Women only	49	20.70	-	-	
Both Women and Men	188	79.30	-	-	
Currently in a relationship	236				7.10
No	82	34.70	-	-	
Yes	154	65.30	-	-	
# of sexual partners	223				12.2
1-10	89	39.90	-	-	
11-20	66	29.60	-	-	
21+	68	30.50	-	-	

4.2 Knowledge of Safe Sexual Health Practice

To assess the knowledge participants had for safe sexual health practices, descriptive statistics and bivariate association using correlations, and ANOVAs were conducted using the safe sexual health practices items. The four items on the included questions regarding safe sexual health practices such as washing sex toys before, after use, and before sharing, condom use on sex toys, dental dam/ condom use for oral sex, and avoidance of oral sex if cuts or sores are present. 99.6 % of participants answered the question “WSW should wash sex toys before, after use, and before sharing.” as true. 87.3% answered the statement “WSW should use condoms on sex toys.” as either “Sometimes” or “Always.” When asked, “Using a dental dam or a condom

cut open between the vagina/anus and mouth is needed during oral sex for WSW.” 80.5% of participants answered either “Sometimes” or “Always” and notably, 15.3% didn’t know if a dental dam or a cut-open condom should be used for oral sex. In response to the question, “*WSW should avoid oral sex if you or your partner have cuts or sores in or around the mouth.*” 95% of participants responded either “Sometimes” or “Always” (See Tables 2). A total score for sexual health knowledge was calculated for each participant, the four items were summed to create a total score. The average total score for sexual health knowledge among participants is $\bar{x} = 3.56$, $SD = .90$. The total scores for sexual health knowledge ranged from -1 to 5 with -1 being the lowest score and 5 being the highest score. Correlations between variables were checked. The original coding (see Appendix D) of the variables was used. Results of the correlation analysis indicate that the average total knowledge score and Ethnicity are negatively correlated ($r = -.159$, $p = .015$). The results suggest that those that identify as Hispanic have less knowledge than those who do not identify as Hispanic. The correlation analysis also indicates that the average total knowledge score and Education are positively correlated ($r = .140$, $p = .032$). As the level of education increases, there is an increase in the level of safe sexual health practices knowledge (See Appendix C for correlation table).

A one-way between-subjects ANOVA was conducted to compare the knowledge of safe sexual health practices based on the gender of lifetime sexual partners in women sexual partners only and both men and women sexual partners. There was not a significant effect on the knowledge of safe sexual health practices at the $p < .05$ level for the three groups [$F(1, 225) = .078$, $p = .78$].

Table 2 Descriptive Statistics for Knowledge of Sexual Health Practices

	N	Percent	% Missing
WSW should wash sex toys before, after use, and before sharing.	230		
True	229	99.60	9.40
False	1	.40	
Don't Know	0	0	
WSW should use condoms on sex toys.	228		10.20
Never	9	3.90	
Sometimes/Always	199	87.30	
Don't know	20	8.80	
Using a dental dam or a condom cut open between the vagina/anus and mouth is needed during oral sex for WSW.	228		
Never	10	4.40	9.90
Sometimes/Always	185	81.10	
Don't know	33	14.50	
WSW should avoid oral sex if you or your partner have cuts or sores in or around the mouth.	230		9.40
Never	1	.40	
Sometimes/Always	220	95.70	
Don't know	9	3.90	

4.3 Perceptions of Sexual Health Risk

To assess the perception of sexual health risk between WSW, descriptive statistics and Chi-Square analysis was conducted using the perceptions of sexual health risk items. The perceptions of sexual health risk items included questions regarding self-perceived STI risk, WSWs STI risk, WSWs HIV risk, and how prevalent is the use of safer sex methods between WSW. 82.6% of participants said they did not personally feel at risk of catching an STI. In response to, “*Are sexually transmitted infections a risk for WSW?*” 44.3% of participants responded “Sometimes” and 54.4% responded “Always.” When asked, “*In your experience, is it common for WSW to practice safer sex methods?*” 86.3% reported “No” and when asked, “*Is HIV a Risk for WSW?*” 50.2% responded “Sometimes” and 47.9% responded “Always” (See Table 3). The Chi-Square tests of independence were invalid because the expected cell counts were less than five.

Table 3 Perception of Sexual Health Risk Descriptives

	N	%	% Missing
Do you personally feel at risk of catching an STI?	235		
No	194	82.60	7.50
Yes	41	17.40	
Are STIs a risk for WSW?	228		
Never	3	1.30	10.20
Sometimes	101	44.30	
Always	124	54.40	
In your experience, is it common for WSW to practice safer sex methods?	233		
No	201	86.30	8.30
Yes	32	13.70	
Is HIV a risk for WSW?	211		
Never	4	1.90	16.90
Sometimes	106	50.20	
Always	101	47.90	

4.4 Sexual Health and Sexual Health Care

To access the sexual health behaviors and sexual health care participants partake in, six different models were built using generalized linear modeling (GzLM). Based on the dependent variable of the model we selected the distribution and the link function. The model fit for each model was compared when using different link functions appropriate for each model to select the best fitting GzLM and we used the Akaike information criterion (AIC; Garson, 2012). Each model reported has the lowest AIC values. Descriptive statistics are provided below for dependent variables (See Table 4).

Table 4 Sexual Health Behaviors Descriptive Statistics

	N	Percent	% Missing
How often do you get tested for STIs?	222		15.30
Yes	179	83.60	
No	35	16.40	
How often does your current partner get tested for STIs?	207		17.90
Monthly	15	7.20	
Yearly	46	22.20	
With every new partner	49	23.70	
Never	23	11.10	
Don't know	74	35.70	

Do you find it hard to negotiate/communicate safer sex practices with a new partner?	215		
No	121	56.30	15.40
Sometimes	5	25.60	
Yes	39	18.10	
How important is it to you that your partner(s) gets tested for STIs before having sexual contacts?	228		
Not all Important	8	7.90	13.00
Slightly important	35	15.40	
Moderately Important	50	21.90	
Very Important	61	26.80	
Extremely Important	64	28.10	
How often do you visit an OB/GYN?	216		15.00
Never	21	9.70	
Every 2-3 Years	64	29.60	
Yearly	120	55.60	
1-6 Months	11	5.10	
When did you last have your last Pap smear test?	213		
Never	16	7.50	16.10
> two years ago	65	30.50	
< two years ago	132	62.00	

In Model 1, we present the GzLM results for the dependent variable “*How often do you get tested for STIs?*” and the variables related to being tested. The dependent variable was recoded into binary categories (yes=1, no=0). The results of the GzLM indicate that those participants that have a low ($b=-1.76$, $p=.03$) or a medium ($b=-1.60$, $p=.02$) income are less likely to be tested for STIs than participants with a high income. The number of sexual partners is also a significant predictor ($b= .07$, $p=.05$) in the model; the more sexual partners a participant has the more likely it is they will be tested (See Table 5).

Table 5 Model 1: Generalized linear model using a binomial distribution with a logit link function predicting if participants are tested for STIs.

Variables	B	SE	P
Intercept	45.83	41948.55	0.10
Dichotomous			
Common for WSW to use Safer Sex Methods	0.06	0.81	0.94
Is HIV a Risk for WSW-Never	-21.04	36629.12	1.00
Is HIV a Risk for WSW-Always	-0.29	0.52	0.57
Race Hispanic	-0.09	0.81	0.91
Race Non White Other	-20.85	20444.76	0.10
Currently in a Relationship	-0.78	0.62	0.21

Rural	-0.44	0.68	0.52
Low education	0.20	0.79	0.80
Medium Education	0.71	0.65	0.27
Low Income	-1.76	0.79	0.03**
Medium Income	-1.60	0.69	0.02**
Continuous			
Total Knowledge Score	-0.04	0.40	0.93
Age	-0.01	0.03	0.73
# of sexual partners	0.07	0.04	0.05**

**p<.05

In model 2, we present the results for the dependent variable “*Do you find it hard to negotiate/communicate safer sex practices with a new partner?*” and its related variables. The GzLM results indicate that participants who are younger ($b=-.02$, $p=.02$) are more likely to find it harder to negotiate/communicate safer sex practices with a new partner than older participants. There is a negative association between age and finding it hard to negotiate/communicate safer sex practices with a new partner. Participants who are currently in a relationship ($b=.34$, $p=.02$) are more likely to find it hard to negotiate/communicate safer sex practices with a new partner than those who are not currently in a relationship. The GzLM also indicates that participants who believe that STIs are never a risk for WSW are more likely than participants who believe that STIs are sometimes a risk for WSW to find it hard to negotiate/communicate safer sex practices with a new partner ($b=.77$, $p=.03$) (See Table 6).

Table 6 Model 2: Generalized linear model using an inverse Gaussian distribution with an identity link function predicting if participants find it hard to negotiate/communicate safer sex practices with a new partner.

Variables	B	SE	P
Intercept	1.01	0.50	0.04
Dichotomous			
Common for WSW to use Safer Sex Methods	-0.04	0.16	0.79
Personally Feel at Risk for STIs	-0.09	0.19	0.62
Is HIV a Risk for WSW-Never	-0.05	0.39	0.90
Is HIV a Risk for WSW-Always	0.18	0.14	0.20
Are STIs a risk for WSW-Never	0.77	0.34	0.03**
Are STIs a risk for WSW-Always	-0.01	0.15	0.94

Race Hispanic	<0.01	0.17	0.10
Race Non White Other	-0.05	0.18	0.78
Currently in a Relationship	0.34	0.14	0.02**
Rural	0.05	0.15	0.75
Low education	0.17	0.16	0.29
Medium Education	0.21	0.14	0.12
Continuous			
Total Knowledge Score	<0.01	0.10	0.99
Age	-0.02	0.01	0.02**
Income continuous	<0.01	0.01	0.93
# of sexual partners	0.01	0.01	0.59

**p< 0.05

In model 3, we present the results for the dependent variable “*How important is it to you that your partner(s) gets tested for STIs before having sexual contacts?*” and its related variables. The GzLM results indicate that participants who personally feel at risk for STIs are less likely than participants who do not personally feel at risk for STIs to find it important their partner be tested before having sexual contact (b= -.15, p=.04). The model also indicates that those participants that believe STIs are always a risk for WSW are less likely than participants that believe STIs are sometimes a risk for WSW to find it important that their partner is tested before having sexual contact (b= -.15, p= .02). Also, significant in the model are participants who are currently in a relationship are less likely than participants who are currently not in a relationship to find it important that their partners be tested for STIs before having sexual contact than those participants who are not in a relationship (b= -.15, p= .04) (See Table 7).

Table 7 Model 3: Generalized linear model using a normal distribution with a log link function predicting how important it is that their partner(s) be tested for STIs before having sexual contact.

Variables	B	SE	P
Intercept	1.39	0.36	<0.01
Dichotomous			
Common for WSW to use Safer Sex Methods	-0.09	0.09	0.30
Personally Feel at Risk for STIs	-0.15	0.07	0.04**
Are STIs a risk for WSW-Never	0.40	0.33	0.23
Are STIs a risk for WSW-Always	-0.15	0.06	0.02**
Race Hispanic	-0.07	0.08	0.39

Race Non White Other	-0.15	0.09	0.08
Currently in a Relationship	-0.15	0.07	0.04**
Low education	0.07	0.08	0.41
Medium Education	0.02	0.07	0.79
Continuous			
Total Knowledge Score	0.02	0.05	0.67
Age	<0.01	<0.01	0.96
Income continuous	<-0.01	<0.01	0.41
# of sexual partners	<-0.01	<0.01	0.32

**p< 0.05

In model 4, we present the results for the dependent variable “*How often does your current partner get tested for STIs?*” and its related variables. The GzLM indicates that participants who identify as Hispanic are more likely than participants who identify as Non-Hispanic to know how often their partner is tested for STIs (b=.75, p=.02). Participants currently in a relationship are more likely than participants currently not in a relationship to know how often their partner is tested for STIs (b=.56, p=.03). Participants with a low (b= -.68, p= .03) and medium (b= -.50, p= .05) education are less likely than participants with a high education relationship to know how often their partner is tested for STIs (See Table 8).

Table 8 Model 4: Generalized linear model using a gamma distribution with an identity link function predicting how often a participant’s partner is tested for STIs

Variables	B	SE	P
Intercept	3.75	1.04	<0.01
Dichotomous			
Common for WSW to use Safer Sex Methods	-0.13	0.35	0.71
Personally Feel at Risk for STIs	0.09	0.28	0.74
Are STIs a risk for WSW-Never	-0.42	0.78	0.59
Are STIs a risk for WSW-Always	0.22	0.22	0.32
Race Hispanic	0.75	0.31	0.02**
Race Non White Other	0.46	0.38	0.23
Currently in a Relationship	0.56	0.25	0.03**
Low education	-0.68	0.31	0.03**
Medium Education	-0.50	0.26	0.05*
Continuous			
Total Knowledge Score	-0.23	0.16	0.14
Income continuous	0.01	0.01	0.32

**p< 0.05

In model 5, we present the results for the dependent variable “How often do you visit an OB/GYN?” and its related variables. The GzLM indicates that participants that believe HIV is always a risk for WSW are more likely than participants that believe HIV is sometimes a risk to visit the OB/GYN (b=.16, p=.01). Older participants are more likely than younger participants to visit the OB/GYN (b=.01, p<.01) (See Table 9).

Table 9 Model 5: Generalized linear model using a gamma distribution with an identity link function predicting how often participants visit an OB/GYN

Variables	B	SE	P
Intercept	0.57	0.26	0.03
Dichotomous			
Personally Feel at Risk for STIs	-0.03	0.07	0.61
Is HIV a Risk for WSW-Never	-0.09	0.16	0.60
Is HIV a Risk for WSW-Always	0.16	0.06	0.01**
Are STIs a risk for WSW-Never	0.23	0.18	0.19
Are STIs a risk for WSW-Always	-0.09	0.06	0.14
Race Hispanic	0.10	0.07	0.18
Race Non White Other	0.07	0.08	0.44
Currently in a Relationship	0.01	0.06	0.90
Rural	-0.03	0.06	0.59
Low education	-0.03	0.07	0.69
Medium Education	-0.06	0.06	0.38
Continuous			
Total Knowledge Score	0.02	0.04	0.69
Age	0.01	<0.01	<0.01**
Income continuous	<-0.01	<0.01	0.49
# of sexual partners	<0.01	<0.01	0.68

**p< 0.05

In model 6, we present the results for the dependent variable “When did you last have your last Pap smear test?” and its related variables. The GzLM indicates that participants who live in rural areas are less likely than participants who live in urban areas to have had a Pap smear (b= -.249, p=.049) (See Table 10).

Table 10 Model 6: Generalized linear model using a normal distribution with an identity link function predicting when participants had their last Pap smear test.

Variables	B	SE	P
Intercept	1.94	0.53	<0.01
Dichotomous			
Common for WSW to use Safer Sex Methods	-0.12	0.16	0.43
Personally Feel at Risk for STIs	0.04	0.14	0.78
Are STIs a risk for WSW-Never	0.23	0.38	0.54
Are STIs a risk for WSW-Always	0.09	0.13	0.50
Is HIV a Risk for WSW-Never	0.33	0.34	0.34
Is HIV a Risk for WSW-Always	0.10	0.13	0.44
Race Hispanic	-0.25	0.15	0.10
Race Non White Other	0.13	0.18	0.48
Rural	-0.25	0.13	0.05**
Low education	0.17	0.14	0.23
Medium Education	0.04	0.12	0.75
Continuous			
Total Knowledge Score	0.07	0.08	0.37
Income continuous	<-0.01	<0.01	0.85
# of sexual partners	<0.01	0.01	0.85

**p< 0.05

Chapter 5-Discussion

The data in this study both extend and confirm previous research regarding WSW sexual health. In terms of research question 1(What knowledge of safe sexual health practices do WSW have?), the findings in this study indicate that a participant's ethnicity and education level influence the knowledge of sexual health that WSW have. In general, WSW in this study report having average sexual health knowledge. This finding is not consistent with other literature that finds that WSW lack sexual health knowledge (Doull et al., 2018; Marrazzo et al., 2005); which could possibly be explained by this particular sample being highly educated and older in age as compared to other studies. However, when taking race/ethnicity into account, it is important to note that Hispanic participants had lower sexual health knowledge than Non- Hispanic participants. This finding is consistent with other literature; Hispanic participants have low sexual knowledge regardless of gender, sexual experience, or age (Padilla, 1991), or as this study showed, also regardless of education level.

As such, preventive programs need to address sexual health knowledge in culturally appropriate ways and move away from the dominant heterosexual penetrative sex discourse. When sexual health discourse labels heterosexual penetrative sex as 'real sex' then by association non-penetrative sex is unreal and if 'real sex' is risky then unreal sex is not risky. If non-penetrative sex is perceived as safe then negotiations of safer sex practices and the use of safer sex practices between WSW are not of importance unless risk is perceived. In addition, when sexual health discourse does not include alternative practices for safer practices then WSW do not have an understanding of what sexual behaviors put WSW at risk for STIs, therefore, sexual health discourse fails to define what safer sex means for WSW.

In regard to research question 2 (What perceptions of sexual health risk for STIs do WSW have?), the findings indicate that the majority of participants in this sample do not personally feel at risk of contracting STIs and the majority stated that it is not common for WSW to practice safer sex methods. These findings are consistent with other literature where many factors contribute to this narrative of low-risk perception among WSW, where female partners are perceived as more trustworthy than male partners in terms of STI risks (Doull et al., 2018; Marrazzo et al., 2005). This in part is due to the sexual health discourse in preventative programs. Males are portrayed as risky sexual partners because they have the ability to impregnate females thus reinforcing that female-to-female sex is less risky than female-to-male sex. Also important to note is that more than half of the participants responded that STIs are a risk for WSW, however, when asked if safer sex methods were common practices, nearly 90% of participants said “no.” There is a disconnect between the perceived STI risk and the executions of safer sex practices in this study’s participants. A narrative of heterosexual penetrative sex defines the current understanding of STIs risk for WSW. WSW are not provided with a list of sexual activities that puts them at risk and what STIs are at risk for WSW as is done for heterosexuals and gay men. There needs to be a change in how sexual health discourse defines sexual health risk for WSW and a shift toward a more inclusive message for safer sex practices for WSW.

In regard to research question 3 (What sexual health behaviors do WSW engage in?), the results indicate the many factors influence the sexual health behaviors and sexual health care of participants in this study. Three variables were independently significant for predicting if participants are tested for STIs. Participants who had a higher number of sexual partners were more likely than those who had a low number of sexual partners to be tested for STIs and

participants with a low or medium-income were less likely than participants with a higher income to be tested for STIs. These findings are not surprising as the higher number of sexual partners puts an individual at a higher risk for STIs and being tested for STIs can be very costly if an individual does not have medical insurance or knowledge of low-cost testing services. Future research needs to address if specific risky sexual behaviors with specific genders will predict the likelihood of individuals being tested for STIs.

In predicting if participants find it hard to negotiate/communicate safer sex practices with a new partner, three factors were independently significant. Younger age was associated with finding it hard to negotiate/communicate safer sex practices with a new partner as was whether a participant was in a relationship. Those participants that are in a relationship were more likely than those participants that were not in a relationship to find it hard to negotiate/communicate safer sex practices with a new partner. Furthermore, participants who believe that STIs are never a risk for WSW are more likely than participants who believe that STIs are sometimes a risk for WSW to find it hard to negotiate/communicate safer sex practices with a new partner. The implication of this significance is that younger WSW are not prepared with the skills and strategies to communicate and negotiate safer sex practices with new partners. Communicating and negotiating safer sex practices with a new partner is an integral part of WSW sexual health, therefore, having such skills and strategies taught in preventive programs is a necessity.

In predicting how important it is for their partner to be tested for STIs before having sexual contact, several factors were independently significant. The results for this model are unexpected as personally feeling at risk for STIs and thinking that STIs are always a risk for WSW are negatively associated with how important it is to a participant that their partners be tested for STIs before having sexual contact. The logical expectation would be that if an

individual feels at risk for STIs then an individual would find it important for their partner to be tested for STIs before having sexual contact. However, that is not the case with this sample of participants this could be attributed to the age of this sample as older WSW are more likely to be in a monogamous relationship (and “currently in relationship” was associated with importance of partner STI testing), perceive themselves to be at a lower risk for STIs (Bauer & Welles, 2001), and potentially take precautionary measures into their hands, such as using personal STI testing to manage risk (Doull et al., 2018). However, there may be a lack of awareness of specific STI risks among WSW, as has been found in the literature (Doull et al., 2018; Marrazzo et al., 2005). Thus, rethinking how risk is defined within the WSW community is important to the well-being of the group. A shift towards sex positive attitudes in sexual health discourse and of STI risk for WSW is necessary so that WSW can make informed decisions about their sexual health.

In model 4, predicting how often a participant’s partner is tested for STIs had four factors that were independently significant. Participants who had low and medium levels of education were less likely than participants with a high level of education to have a partner that is often tested for STIs and participants currently in a relationship are more likely than participants currently not in a relationship to know how often their partner is tested for STIs. Race/Ethnicity was also significant in this model. Participants who self-identified as Hispanics are more likely than those who self-identify as White to have a partner that is often tested for STIs. This finding is surprising as race/ethnicity is usually found to be a barrier to health care access. However, research in a national study that focused on sexual health among U.S. Black and Hispanic men and women found that 79% of women had been tested for STIs and 84% had been tested for HIV (Dodge et.al, 2010). Further research on this outcome needs to be addressed such as taking into account the different subgroups in the Hispanic/Latinx umbrella and sexual orientation.

Model 5 used to predict how often a participant visits the OB/GYN had several factors that independently influenced the model. Participants who thought that HIV is always a risk for WSW were more likely than participants who thought HIV was sometimes a risk for WSW to visit the OB/GYN. In addition, age was also significant in the model; older participants were more likely to visit the OB/GYN. The results have an important implication for public health and clinical practitioners, the result suggests that in regards to age, there needs to be an emphasis on educating younger women in the importance of visiting an OB/GYN and look at why younger WSW are less likely to visit an OB/GYN and what other factors are contributing to this..

In predicting, when participants had their last Pap smear only one factor was significant. Participants who live in rural areas are independently less likely than those participants who live in urban areas to have had a recent Pap smear. This may be explained by the lack of resources in rural areas or not having LBGT affirmative providers within a rural area. It is important to note that in this model age is not significant as compared to the previous model predicting visits to the OB/GYN. This is surprising since getting a Pap smear is a service provided by an OB/GYN.

Chapter 6-Limitations

Using quantitative methods for this kind of research has its strengths and limitations. A strength of using an online survey tool is that it allows participants to maintain their anonymity and increases the reliability of responses (Seale, 2016), particularly with sensitive health questions. Utilizing online survey tools with a self-completion option reduces interviewer bias caused by different interviewer skills. Employing survey methods allows the capture of large trends in the population and increases response rates within the target population. Limitations for using an online survey tool is that there is no opportunity to clarify a misunderstanding or to probe as used in qualitative methods. Participants must have access to the internet to complete the questionnaire. Another limitation is that the participants can choose not to finish the survey at any time, leaving incomplete data or refusing to answer questions. Recruiting participants from LGBTQIA+ online groups and social hang out places has its limitations because not everyone identifies and participates in the LGBTQIA+ community, therefore, this sample may not be representative of the LGBTQIA+ population. There may also be distribution limitations due to the fact that we are recruiting specifically to LGBTQIA+ online groups and social hang out places and some women who have sex with women might not frequent such places of recruitment.

Chapter 7-Conclusion

The sexual health of WSW is an important part of the overall wellbeing of WSW yet it has been neglected for too long. The discourse around WSW sexual health has assumed that WSW are at low risk or have no risk at all for the transmission of STIs. Thus, creating a perception of immunity or low risk within the WSW community and consequently generating a lack of interest in safer sex practices as it is shown in this study. The findings of this study have major implications for the development of new all-inclusive preventive programs and for sexual health healthcare providers. Sexual health healthcare providers need to be well informed about WSW sexual health risks and how to safely preventive those risks. Preventive programs need to change how risk is defined for WSW and present information in culturally appropriate ways, and include sexual activities that places WSW at risk for STIs all while emphasizing sexual enjoyment and healthy sexuality. Thus, a movement towards sex positivity and sexual freedom must occur within our society for impactful changes to occur within medicine and medical discourse.

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Appendix A. Consent Form and Survey Tool

Q1

University of Texas at El Paso (UTEP) Institutional Review Board

Research Information Sheet

Protocol Title: Let's talk about what we otherwise risk ignoring: Sexual health among women who have sex with women.

Principal Investigator: Denise N. Delgado

UTEP: Department of Sociology and Anthropology

Sponsor: Research is supported by the National Institute of General Medical Sciences of the National Institutes of Health under linked Award Numbers RL5GM118969, TL4GM118971, and UL1GM118970. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Introduction

You are being asked to take part voluntarily in the research project described below. Please take your time making a decision. Before agreeing to take part in this research study, it is important that you read the consent form that describes the study.

Why is this study being done?

You have been asked to take part in a research study on sexual health among women who have sex, or who have had sex, with women. Approximately, three hundred study subjects will be enrolling in this study.

You are being asked to be in the study because you are a woman who has had or is in a sexual relationship with a woman and are 18 years of age or older.

If you decide to enroll in this study, your involvement will last about 15 minutes.

If you agree to take part in this study, you will complete an online survey. The survey contains demographic questions, as well as questions about your knowledge of sexual health and your sexual health behavior history. You can skip any questions you do not feel comfortable answering. The survey will be available for you to complete at a time that is most convenient for you.

Risks and Benefits

There are no known risks associated with this research. There will be no direct benefits to you for taking part in this study. This research may help us to promote and develop safer sex education and increase access to safer sex information for women who have sex with women.

What other options are there?

You have the option not to take part in this study. There will be no penalties involved if you choose not to take part in this study. If you choose to take part, you have the right to skip any questions or stop at any time. If there are any new findings during the study that may affect whether you want to continue to take part, you will be told about them.

Will I be paid to participate in this study? What are my costs?

There are no direct costs. You will not be compensated for taking part in this research study.

What if I want to withdraw, or am asked to withdraw from this study?

Taking part in this study is voluntary. You have the right to choose not to take part in this study. If you do not take part in the study, there will be no penalty or loss of benefit.

The researcher may decide to stop your participation without your permission, if he or she thinks that being in the study may cause you harm. The researcher may also exclude your responses if you do not meet the sampling criteria.

What about confidentiality and my personal information?

Every effort will be made to keep your information confidential and anonymous. Your individual privacy will be maintained in all published and written data resulting from the study. No identifying information such as IP address, name, address, or date of birth will be collected from the online survey. You will be assigned a subject number and it will be associated with your survey responses. You will never be identified in any research reports or research publications. Organizations that may inspect and/or copy your research records for quality assurance and data analysis include, but are not necessarily limited to:

UTEP Institutional Review Board

Qualtrics- privacy restrictions/information can be found on the following link.
<https://www.qualtrics.com/privacy-statement/>

Because of the need to release information to these parties, absolute confidentiality cannot be guaranteed.

Who do I call if I have questions or problems?

You may ask any questions you have now. If you have questions or concerns, or if you have a research-related problem you may call Denise Delgado at (915-747-6679) or dndelgado@miners.utep.edu

You can contact the Human Subjects Protection office to speak to someone independent of the research team if you have questions or concerns about your rights as a research participant, please contact the UTEP Institutional Review Board (IRB) at (915-747-7693) or irb.orsp@utep.edu.

Authorization Statement I have read each page of this paper about the study (or it was read to me). I know that being in this study is voluntary and I choose to be in this study. Please feel free to print a copy for your records. By clicking on the "I agree to participate in this research project" option, you are agreeing to participate in this research project.

- I AGREE to participate in this research project. (1)
- I DO NOT AGREE to participate in this research project. (2)

Skip To: End of Block If Q1 = 1

Skip To: End of Survey If Q1 = 2

End of Block: Study Information Sheet

Start of Block: Demographics

Q2 In what year were you born? _____

Q3 Which best describes the area in which you live?

- Inner suburban or urban (within 3 miles of city) (1)
- Outer Suburban (2)

- Regional center/ city (50,000 or more) (3)
- Rural area (5,000 to 50,000) (4)
- Rural area (less than 5,000) (5)
- Refuse to answer (88)

Q4 Ethnicity

- Hispanic/LatinX (1)
- Non-Hispanic/LatinX (0)
- Refuse to answer (88)

Q5 Race (Select all the apply)

- White (1)
- Black or African American (2)
- American Indian or Alaska Native (3)
- Asian (4)
- Native Hawaiian or Pacific Islander (5)
- Other (6) _____
- Refuse to answer (88)

Q6 Highest level of education

- Less than high school (1)
- High school graduate (2)
- Some college (3)
- 2 year degree (4)
- 4 year degree (5)
- Professional degree (6)
- Masters (7)
- Doctorate (8)
- Refuse to answer (88)

Q7 Annual Household Income

- Less than \$20,000 (1)
- \$20,000 - \$29,999 (2)
- \$30,000 - \$39,999 (3)
- \$40,000 - \$49,999 (4)

- \$50,000 - \$59,999 (5)
- \$60,000 - \$69,999 (6)
- \$70,000 or more (7)
- Refuse to answer (88)

Q8 Employment

- Employed full time (1)
- Employed part time (2)
- Unemployed looking for work (3)
- Unemployed not looking for work (4)
- Retired (5)
- Student (6)
- Disabled (7)
- Refuse to answer (88)

Q9 What is your gender? (Select all that apply)

- Male (1)
- Female (2)
- Transgender F-M (3)
- Transgender M-F (4)
- Gender queer/non-binary (5)
- Other (6) _____
- Refuse to answer (88)

Q10 How do you currently identify yourself? (Select all the apply)

- Heterosexual/ Straight (1)
- Lesbian (2)
- Bisexual (3)
- Pansexual (4)
- Asexual (5)
- Queer (6)
- Questioning (7)
- I do not know/ unsure (8)
- I do not label myself (9)

- Other (10) _____
- Refuse to answer (88)

Q11 Are you currently in a relationship?

- Yes (1)
- No (0)
- Refuse to answer (88)

Skip To: Q12 If Q11 = 1

Skip To: Q15 If Q11 = 0

Skip To: Q15 If Q11 = 88

Q12 How long have you been in your current relationship (years and months)? If multiple relationships, pick one to focus on for the survey. _____

Q13 What is the status your current relationship?

- Married to a man (1)
- Married to a women (2)
- Dating a man (3)
- Dating a woman (4)
- Dating multiple men (5)
- Dating multiple women (6)
- Dating multiple partners (men and women) (7)
- Refuse to answer (88)

Q14 Is your relationship monogamous (having sexual contacts with only one partner at a time)?

- Yes (1)
- No (0)
- Refuse to answer (88)

Q15 Do you feel connected to a LGBTQIA+ community?

- Very (1)
- Mostly (2)
- Somewhat (3)
- Rarely (4)
- Not at all (5)
- Refuse to answer (88)

Q16 Please tell us where you connect with LGBTQIA+ community or content online (bars, community centers, websites, groups, pages)

End of Block: Demographics

Start of Block: Partners/ Attraction

Q17 Which best describes your feelings? Are you

- Only attracted to females (1)
- Mostly attracted to females (2)
- Equally attracted to females and males (3)
- Mostly attracted to males (4)
- Only attracted to males (5)
- Not sure (6)
- Refuse to answer (88)

Q18 In the past 12 months, how many sexual partner(s) have you had? _____

Q19 How many sexual partner(s) have you had in your lifetime? _____

Q20 Gender of sexual partner(s) in the past 12 months (Select all the apply)

- Male (1)
- Female (2)
- Transgender M-F (3)
- Transgender F-M (4)
- Gender queer/non-binary (5)
- Other (please specify) (6) _____
- Refuse to answer (88)

Q21 Gender of sexual partner(s) in your lifetime (Select all the apply)

- Male (1)
- Female (2)
- Transgender M-F (3)
- Transgender F-M (4)
- Gender queer/ non-binary (5)
- Other (please specify) (6) _____

Refuse to answer (88)

Q22 Age when you starting engaging in sexual acts with men?

Q23 Age when you starting engaging in sexual acts with women?

End of Block: Partners/ Attraction

Start of Block: Knowledge and Perception

Q24 Do you personally feel at risk of catching a sexually transmitted infection?

- Yes (1)
- No (0)
- Refuse to answer (88)

Q25 Are sexually transmitted infections a risk for women who have sex with women?

- Never (1)
- Sometimes (2)
- Always (4)
- Don't know (3)
- Refuse to answer (88)

Q26 How do you think women get sexually transmitted infections?

- From sex with women (1)
- From sex with men (2)
- From sex with both women and men (3)
- Don't know (4)
- Other (please specify) (5) _____
- Refuse to answer (88)

Q27 In your experience, is it common for women who have sex with women to practice safer sex methods (e.g. use condoms, dental dams, gloves etc.)?

- Yes (1)
- No (0)
- Refuse to answer (88)

Skip To: Q28 If Q27 = 0

Skip To: Q29 If Q27 = 1

Skip To: Q29 If Q27 = 88

Q28 In your experience, why do you think it is uncommon for women who have sex with women to practice safer sex methods (e.g. use condoms, dental dams, gloves etc.)? (Select all that apply)

- Only women who have an STI practice safer sex methods (1)
- It kills the mood (2)
- Lesbian sex is safe (3)
- Dental dams are hard to find (4)
- Condoms/finger cots/ gloves are expensive (5)
- Other (please specify) (6) _____
- Refuse to answer (88)

Q29 Is HIV a risk for women who have sex with women?

- Never (1)
- Sometimes (2)
- Always (3)
- Don't know (4)
- Refuse to answer (88)

Q30 Women who have sex with women should wash sex toys before and after use and before sharing.

- True (1)
- False (2)
- Don't know (3)
- Refuse to answer (88)

Q31 Women who have sex with women should use condoms on sex toys.

- Never (1)
- Sometimes (2)
- Always (3)
- Don't know (4)
- Refuse to answer (88)

Q32 Using a dental dam or a condom cut open between the vagina/anus and mouth is needed during oral sex for women who have sex with women.

- Never (1)
- Sometimes (2)
- Always (3)
- Don't know (4)

- Refuse to answer (88)

Q33 Women who have sex with women should avoid oral sex if you or your partner have cuts or sores in or around the mouth.

- Never (1)
- Sometimes (2)
- Always (3)
- Don't Know (4)
- Refuse to answer (88)

End of Block: Knowledge and Perception

Start of Block: Personal History

Q34 Have you ever received Safer Sex Education (safe sex methods to protect yourself and your partner from sexually transmitted infections during sexual activities in a formal or informal setting)?

- Yes (1)
- No (0)
- Refuse to answer (88)

Skip To: Q35 If Q34 = 1

Skip To: Q38 If Q34 = 0

Skip To: Q38 If Q34 = 88

Q35 Please specify, where or from who you received Safer Sex Education (safe sex methods to protect yourself and your partner from sexually transmitted infections during sexual activities in a formal or informal setting)? (Select all that apply)

- School (1)
- Health Clinic (2)
- Internet (3)
- Sexual partner (4)
- Doctor (5)
- Friend (6)
- Family member (7)
- Other (Please specify) (8) _____
- Refuse to answer (88)

Q36 Did any of the Safe Sex Education (safe sex methods to protect yourself and your partner from sexually transmitted infections during sexual activities in a formal or informal setting) discuss safe sex methods for women who have sex with women?

- Yes (1)
- No (0)
- Refuse to answer (88)

Skip To: Q37 If Q36 = 1

Skip To: Q38 If Q36 = 0

Q37 Which of the following talked about safe sex methods for women who have sex with women?

- School (1)
- Health Clinic (2)
- Internet (3)
- Sexual partner (4)
- Doctor (5)
- Friend (6)
- Family member (7)
- Other (please specify) (8) _____
- Refuse to answer (88)

Q38 When you have a question about sexual health, where do you get your sexual health information?
(Select all that apply)

- Internet (1)
- Friends (2)
- Family (3)
- Sexual partner (4)
- OB/GYN/ physician/ health professional (5)
- Other (please specify) (6) _____
- Refuse to answer (88)

Q39 Have you ever received pamphlets with safer sex education (safe sex methods to protect yourself and your partner from sexually transmitted infections during sexual activities) for women who have sex with women?

- Yes (1)
- No (0)
- Refuse to answer (88)

Skip To: Q40 If Q39 = 1

Skip To: Q41 If Q39 = 88

Q40 Please specify from where or from who you received pamphlets with safer sex education for women who have sex with women. (Select all that apply)

- School (1)
- Health Clinic (2)
- Internet (3)
- Sexual Partner (4)
- Doctor (5)
- Friend (6)
- Family Member (7)
- Other (please specify) (8) _____
- Refuse to answer (88)

Q41 Have you ever had a sexually transmitted infection?

- Yes (1)
- No (0)
- Refuse to answer (88)

Skip To: Q42 If Q41 =

Skip To: Q44 If Q41 = 0

Skip To: Q44 If Q41 = 88

Q42 If yes, select all that apply.

- Bacterial Vaginosis (BV) (1)
- Chancroid (2)
- Chlamydia (3)
- Gonorrhea (4)
- Herpes (5)
- Hepatitis (6)
- HIV/AIDS (7)
- Human Papillomavirus (HPV) (8)
- Syphilis (9)
- Trichomoniasis (10)
- Other (please specify) (11) _____
- Refuse to answer (88)

Q43 Did you contract this/these sexually transmitted infection(s) from...?

- Female partner (1)
- Male partner (2)
- Both female and male partners (3)
- Don't know (4)
- Refuse to answer (88)

Q44 Have you ever had an infection, like a yeast infection, that you think you got from female sexual partner?

- Yes (1)
- No (0)
- Don't Know (2)
- Refuse to answer (88)

Q45 How often do you get tested for sexually transmitted infections?

- Monthly (1)
- Every 3 months (2)
- Every 6 months (3)
- Every 9 months (4)
- Yearly (5)
- With every new partner (6)
- Never been tested (7)
- Refuse to answer (88)

Q46 How often does your current partner (or last sexual partner if you are not involved with someone right now) get tested for sexually transmitted infections? (If you are dating multiple partners, please choose one as a reference to these questions.)

- Monthly (1)
- Every 3 months (2)
- Every 6 months (3)
- Every 9 months (4)
- Yearly (5)
- With every new partner (10)
- Never been tested (6)
- Not applicable (7)

- Don't know (8)
- Refuse to answer (88)

Q47 How important is it to you that your partner(s) gets tested for sexually transmitted infections before having sexual contacts?

- Extremely important (1)
- Very important (2)
- Moderately important (3)
- Slightly important (4)
- Not at all important (5)
- Refuse to answer (88)

Q48 Do you find it hard to negotiate/communicate safer sex practices with a new partner?

- Yes (1)
- No (0)
- Sometimes (2)
- Refuse to answer (88)

Q49 Is it expected for women who have sex with women to carry barriers (dental dams, gloves, condoms, finger cots) for casual sex?

- Yes (1)
- No (0)
- Don't Know (2)
- Refuse to answer (88)

Q50 How often do you visit an OB/GYN?

- Every 1-6 months (1)
- Yearly (2)
- Every 2 years (3)
- Every 3 years (4)
- Never visit OB/GYN (5)
- Refuse to answer (88)

Q51 Are you out to your doctor about your sexuality?

- Yes (1)
- No (0)
- Don't have a regular doctor (2)

- o Refuse to answer (88)

Skip To: Q52 If Q51 = 1

Skip To: Q53 If Q51 = 0

Q52 Which doctor(s) are you out about your sexuality?(Select all that apply)

- Primary care doctor (1)
- OB/GYN (2)
- Other (3) _____

Q53 Do you feel your doctor understands health issues for women who have sex with women?

- o Yes (1)
- o No (0)
- o Refuse to answer (88)

Skip To: Q54 If Q53 = 1

Skip To: Q55 If Q53 = 0

Q54 Which doctor(s) understands health issues for women who have sex with women? (Select all that apply)

- Primary care doctor (1)
- OB/GYN (2)
- Other (3) _____

Q55 Has a doctor discussed health issues for women who have sex with women with you?

- o Yes (1)
- o No (0)
- o Refuse to answer (88)

Skip To: Q56 If Q55 = 1

Skip To: Q57 If Q55 = 0

Q56 Which doctors have discussed health issues for women who have sex with women? (Select all that apply)

- Primary care doctor (1)
- OB/GYN (2)
- Other (3) _____

Q57 When did you last have your last Pap smear test?

- o Less than 2 years ago (1)
- o 2-3 years ago (2)

- 3-5 years ago (3)
- More than 5 years ago (4)
- Never (5)
- Not sure (6)
- Refuse to answer (88)

Q58 Have you ever had an abnormal Pap test?

- Yes (1)
- No (2)
- Refuse to answer (3)

Skip To: Q59 If Q58 = 1

Skip To: Q60 If Q58 = 2

Skip To: Q60 If Q58 = 3

Q59 What was the result(s)? (Select all that apply)

- Benign change (1)
- HPV change (2)
- Low grade change (CIN 1) (3)
- High grade change (CIN 2 or 3) (4)
- Cancer of the cervix (5)
- Don't know (6)
- Refuse to answer (88)

Q60 Have you heard of the Human Papillomavirus (HPV)?

- Yes (1)
- No (0)
- Refuse to answer (88)

Q61 Have you been vaccinated against Human Papillomavirus (HPV, Gardasil/Cervix)?

- Yes, at least 1 dose (1)
- Yes, at least 2 doses (2)
- Yes, at least 3 doses (3)
- No, never (4)
- Not sure (5)
- Unsure how many doses (6)

Refuse to answer (88)

Q62 Has your partner been vaccinated against Human Papillomavirus (HPV, Gardasil/Cervix)?

Yes, at least 1 dose (1)

Yes, at least 2 doses (2)

Yes, at least 3 doses (3)

No, never (4)

Not sure (5)

Refuse to answer (88)

Q63 In the past 12 months, which of the following have you done while having sex with..					
	a woman?	a trans man?	a man?	a trans man?	Did you practice safer sex methods (e.g. used condom, dental dam etc.) while engaging in this sexual act:
Fingers/hand on external genitals (1)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Never(1) <input type="radio"/> Sometimes(2) <input type="radio"/> Always (3) <input type="radio"/> N/A (4)
Finger/hand inside vagina (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Never(1) <input type="radio"/> Sometimes(2) <input type="radio"/> Always (3) <input type="radio"/> N/A (4)
Finger/hand inside anus (3)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Never(1) <input type="radio"/> Sometimes(2) <input type="radio"/> Always (3) <input type="radio"/> N/A (4)
Oral sex (your mouth, their genitals) (4)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Never(1) <input type="radio"/> Sometimes(2) <input type="radio"/> Always (3) <input type="radio"/> N/A (4)
Oral sex (their mouth, your genitals) (5)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Never(1) <input type="radio"/> Sometimes(2) <input type="radio"/> Always (3) <input type="radio"/> N/A (4)
Rimming (mouth to anus) (6)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Never(1) <input type="radio"/> Sometimes(2) <input type="radio"/> Always (3) <input type="radio"/> N/A (4)
Sex toys used on external genitals (7)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Never(1) <input type="radio"/> Sometimes(2) <input type="radio"/> Always (3) <input type="radio"/> N/A (4)

Sex toys inside vagina (8)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Never(1) <input type="radio"/> Sometimes(2) <input type="radio"/> Always (3) <input type="radio"/> N/A (4)
Sex toys inside anus (9)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Never(1) <input type="radio"/> Sometimes(2) <input type="radio"/> Always (3) <input type="radio"/> N/A (4)
Shared sex toys (10)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Never(1) <input type="radio"/> Sometimes(2) <input type="radio"/> Always (3) <input type="radio"/> N/A (4)
Vaginal-Penile penetration (11)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Never(1) <input type="radio"/> Sometimes(2) <input type="radio"/> Always (3) <input type="radio"/> N/A (4)
Anal penetration (his genitals, your anus) (12)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Never(1) <input type="radio"/> Sometimes(2) <input type="radio"/> Always (3) <input type="radio"/> N/A (4)
Refuse to answer (88)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0) <input type="radio"/> N/A (2)	

Q64 In the past 12 months, have you done with;				
	a woman?	a trans man?	a man?	a trans man?
S/M dominance/bondage (no blood) (1)	<input type="radio"/> Yes (1) <input type="radio"/> No (0)	<input type="radio"/> Yes (1) <input type="radio"/> No (0)	<input type="radio"/> Yes (1) <input type="radio"/> No (0)	<input type="radio"/> Yes (1) <input type="radio"/> No (0)
S/M dominance/bondage (with blood) (2)	<input type="radio"/> Yes (1) <input type="radio"/> No (0)	<input type="radio"/> Yes (1) <input type="radio"/> No (0)	<input type="radio"/> Yes (1) <input type="radio"/> No (0)	<input type="radio"/> Yes (1) <input type="radio"/> No (0)
Refuse to answer (3)	<input type="radio"/> Yes (1) <input type="radio"/> No (0)	<input type="radio"/> Yes (1) <input type="radio"/> No (0)	<input type="radio"/> Yes (1) <input type="radio"/> No (0)	<input type="radio"/> Yes (1) <input type="radio"/> No (0)

Q65 In the past 12 months have you had vaginal/anal intercourse with a gay/bisexual man?

- Never (1)
- Once (2)
- Occasionally (3)

- Often (4)
- Refuse to answer (88)

Q66 Have you done any sex work?

- Never (1)
- In the past 12 months (2)
- Over 12 months ago (3)
- Refuse to answer (88)

Q67 Have you ever injected drugs?

- Yes (1)
- No (0)
- Refuse to answer (88)

Skip To: Q68 If Q67 = 1

Skip To: End of Block If Q67 = 0

Skip To: End of Block If Q67 = 88

Q68 Have you ever shared any injecting equipment (e.g. needles, cotton, water or cooker)?

- Yes (1)
- No (0)

End of Block: Personal History

Appendix B. Recruitment Flyers and Business Cards

B.1 8X10 Flyers



**LET'S TALK ABOUT WHAT WE
OTHERWISE RISK IGNORING.**



MUST BE:

18+

You are being asked to take part in a research study on sexual health among women who have sex, or have had sex, with women. This research study is being conducted by a Master's thesis student at UTEP. Questions can be directed to dndelgado@miners.utep.edu

https://utep.qualtrics.com/jfe/form/SV_8JlIkqMR08iWFy5



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OTHERWISE RISK IGNORING.**



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B.2 3X6 Business cards



Let's talk about what we otherwise risk ignoring.



Let's talk about what we otherwise risk ignoring.



Let's talk about what we otherwise risk ignoring.



Let's talk about what we otherwise risk ignoring.



Let's talk about what we otherwise risk ignoring.



Let's talk about what we otherwise risk ignoring.



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Let's talk about what we otherwise risk ignoring.



Let's talk about what we otherwise risk ignoring.



Let's talk about what we otherwise risk ignoring.



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Appendix C. Correlation Table for Sexual Health Knowledge and Demographics

		1	2	3	4	5	6	7	8
1.Total Knowledge Score	Pearson	1							
	Sig. (2-tailed)	-							
2.Age	Pearson	0.073	1						
	Sig. (2-tailed)	0.303	-						
3. Race	Pearson	0.032	0.083	1					
	Sig. (2-tailed)	0.627	0.241	-					
4. Ethnicity	Pearson	-.144*	-.206**	.204**	1				
	Sig. (2-tailed)	0.032	0.004	0.002					
5. Urbanity	Pearson	-0.081	0.047	-0.024	-0.014	1			
	Sig. (2-tailed)	0.220	0.502	0.716	0.826	-			
6. Education	Pearson	.140*	0.074	-.142*	-.235**	-0.092	1		
	Sig. (2-tailed)	0.032	0.288	0.028	0.000	0.152	-		
7. Income	Pearson	0.068	.253**	-0.107	-.179**	0.017	.425**	1	
	Sig. (2-tailed)	0.313	0.000	0.104	0.007	0.798	0.000	-	
8. Gender of sexual partner	Pearson	-0.014	-0.134	-0.042	0.069	0.013	0.038	-0.068	1
	Sig. (2-tailed)	0.836	0.056	0.515	0.294	0.846	0.557	0.303	-

Appendix D. Coding of Demographic Variables

Demographic Variables	Original Coding	New coding
Age	Continuous	Continuous
Race	White= 1 Black= 2 American Indian/ Alaska native=3 Asian=4 Native Hawaiian/ Pacific Islander=5 Two or more races= 6 Other=7	*race and ethnicity were merged* White=1 Hispanic=2 Non-White Other=3
Ethnicity	Non-Hispanic?Latinx=0 Hispanic/Latinx=1	
Urbanity	Inner suburban or urban=1 Outer Suburban=2 Regional center/city= 3 Rural area (5,000 to 50,000)=4 Rural area (< 5,000)= 5	Urban=0 Rural=1
Education Level	Less than high school=1 High school graduate=2 Some college=3 2 year degree=4 4 year degree=5 Professional degree=6 Masters=7 Doctorate=8	Some college or less= 1 College degree= 2 Graduate degree= 3
Annual Household Income	Less than \$20,000= 1 \$20,000 - \$29,999= 2 \$30,000 - \$39,99= 3 \$40,000 - \$49,999=4 \$50,000 - \$59,999= 5 \$60,000 - \$69,999= 6 \$70,000 or more= 7	Less than \$29,999= 1 \$30,000-\$59,999= 2 \$60,000+ = 3
Gender of sexualpartner	Women only=1 Both Women and Men=2	Women only=1 Both Women and Men=2
Number of Sexual Partner	Open	1-10=1 11-20=2 21+= 3
Curretnly ina Relationship	Yes=1 No=0	Same

Vita

Denise Natalia Delgado was born in El Paso, Texas where she currently resides. Delgado received a B.S. in Psychology with a minor in Statistics from the University of Texas at El Paso in August 2010 and a B.A. in Sociology in May 2015. In Fall of 2015, Delgado began studying to earn her Masters of Arts in Sociology at The University of Texas at El Paso, where she has worked as a teaching assistants and research assistant during her time in the masters program. Delgado is currently a program evaluator for the Research Evaluation and Assessment unit at The University of Texas at El Paso.