

Title: MEASURING “WHAT COUNTS”: A NOVEL APPROACH TO EXAMINING
BIOLOGICAL SEX AND ORIENTATION BASED DIFFERENCES IN HOW SEX
AND LOSS OF VIRGINITY ARE SOCIALLY CONSTRUCTED

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ABSTRACT

Several studies have explored which sexual behaviors constitute *having sex* and *losing virginity*. These studies have examined participants' definitions of sex and virginity across gender, age, and religiosity using a variety of methodologies. However, few have explored these behaviors across sexual orientation. This study adds to the current body of knowledge by utilizing hypothetical heterosexual, gay, and lesbian actors to explore which sexual behaviors constitute *having sex* and *virginity loss*.

Article one covers the design, creation, and implementation of the survey tool—*The Sexual Behaviors Scenario Questionnaire* (SBSEQ). Previous studies have used qualitative and quantitative survey tools that require participants to place themselves directly in the sexual scenario. However, the SBSEQ is a quantitative tool designed to (1) limit pressure placed on participants during the survey by providing hypothetical actors and (2) explore definitions of *sex* and *virginity* for a heterosexual couple, male couple, and female couple. To our knowledge, this is the second study to use hypothetical actors in the survey tool and the first employ multiple sexual orientations.

Article two is a quantitative study that utilized the SBSEQ. The purpose of the study was to examine which behaviors (e.g., penile-vaginal intercourse, anal intercourse, oral intercourse, manual stimulation, and penetration with a sex toy) participants counted as *having sex* or *virginity loss* across couples with varying sexual orientations. Results suggest that (1) female participants hold slightly broader definitions of *sex* than male participants across all couples as well as sexual behaviors outside manual stimulation and (2) female participants hold a broader definition of *virginity loss* than male participants across all sexual behaviors and couples. Additionally, results suggest participants who

self-identified as members of the lesbian, gay, and bisexual (LGB+) community hold broader definitions of *sex* and *virginity loss* than heterosexual participants across all sexual behaviors and hypothetical couples.

Keywords: sexual intercourse, virginity, heterosexual, LGBT, sexual behavior, scale development.

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CHAPTER 1: INTRODUCTION

Within academia there is a bit of ambiguity surrounding the definition of sex (Orbe et al., 2014; Trotter & Alderson, 2007). However, researchers and society have come to a mutual understanding that sex holds a different meaning and value depending on the individual and social group to which that individual belongs (e.g., gender or sexual orientation) (Carpenter, 2001). Traditionally, the exploration to defining *had sex* has exclusively focused on the following—(1) penile-vaginal intercourse, (2) presence of an orgasm, and (3) the differences between male and female definition of “had sex”.

An extensive number of studies have examined sex as it relates to an individual’s first time having sex and defining virginity (Averett & Moore, 2014; Barnett & Moore, 2017; Carpenter, 2001 & 2010; Huang, 2018; Orbe et al., 2014; Sanders & Reinisch, 1999; Trotter & Alderson, 2007), sex as it relates to health (Epstein et al., 2018; Heck et al., 2006; Lara & Abdo, 2015; Magnusson & Trost, 2006; Rouche et al., 2019), and the emotional and physiological response to sexual intercourse (Darling et al., 1992; DeLamater, 1987). However, very few research studies have explored sexual intercourse and sexual orientation (Dewaele et al., 2017) or what it means “to have sex” at a fundamental level.

Past research has acknowledged “sexual orientation does play a role in shaping how youth understand virginity loss” (Huang, 2018, p. 738). Yet, Carpenter (2010) points out that literature regarding virginity loss and first-sexual experiences remain largely heteronormative. Despite this information, current research efforts have neglected to study the lesbian, gay, and bisexual (LGB+) community (Watson et al., 2017). The lack of research on LGB+ sexual experiences is troublesome.

Purpose

According to the National Center for Health Statistics (NCHS), an estimated 55% of teens report having had sexual intercourse by 18 years old (Centers for Disease Control and Prevention, 2017). Unfortunately, the National Survey of Family Growth, a division of the NCHS and the Centers for Disease Control and Prevention (CDC), defines sexual intercourse as “vaginal sexual intercourse between opposite-sex partners” (CDC, 2017, p. 4). Limiting the definition of *sexual intercourse* to a traditional, heteronormative definition is problematic for a multitude of reasons.

First, for LGB+ individuals there may not be either a penis or a vagina involved depending on the participant’s sexual partner(s). Secondly, sexual education courses, which are often abstinence based, typically do not explore sexual behavior beyond penile-vaginal intercourse (PVI) (Kohler et al., 2008; Leung et al., 2019). Meaning, if a teenager were to google “what is sex” this definition would not be informative enough regarding anal or oral sexual intercourse. Furthermore, a limiting definition of sex is dangerous to an individual’s overall sexual health—regardless of their sexual orientation. For example, during examinations by gynecologist, or other medical providers, routine questions often time include “number of sexual partners” and “frequency of sex with the use of protection.” Two vital questions that have varying definitions depending on how the individual defines sex.

The purpose of this research is to create a conversation about what it means “to have sex” for LGB+ individuals and determine a more inclusive and definitive meaning of having *had sex*. In doing so, the intent is to lessen the potential for confusion between medical providers, desired sexual partners, and researchers.

Research Questions

To address the need for more LGB-inclusive research regarding sexual behavior the objectives of this dissertation were:

- 1) To advance the field's conceptualization of sex and determine how individuals define "what counts" as *having sex* and what qualifies as *losing your virginity*.
- 2) To determine whether an individual's sexual orientation impacts their perception of "what counts" as *having sex*, and whether the sexual act or presence of orgasm influences qualification for *loss of virginity*.
- 3) To create a valid and reliable method of inquiring about sexual experiences for future research.

Research Article 1 (A1)

Article 1 focused on the methodology and creation of our survey tool, *The Sexual Behavior Scenario-Extended Questionnaire (SBSEQ)*. The SBSEQ uses hypothetical actors to assess participants' view of what sexual behaviors constitute *having sex* and *virginity loss*. The new tool must prove to be a valid and reliable method of inquiring about sexual experiences for future research. While primarily focusing on survey construction and countermeasures taken to ensure assumptions for validity and reliability were met, A1 will also illustrate the process of creating more LGB-inclusive research.

Research Article 2 (A2)

Article 2 will focus on survey results of the sexual behavior scenarios adapted by Bogart et al. (2000). More specifically, A2 will explore the definition of "what counts" as *having sex* or *virginity loss*. Exploring (1) which sexual behaviors will qualify as having *had sex* or *virginity loss*, (2) how the definition of *sex* or *virginity loss* change depending

on the participants' biological sex or sexual orientation, and (3) if the definition of *sex* or *virginity loss* changes depending on the hypothetical couple's gender identity in the scenario.

Methodology

To achieve these objectives, an adaptation of the work completed by Bogart et al. (2000) was created to be more inclusive of all sexual orientations, including LGB+. In the original questionnaire, Bogart et al. (2000) explored only heterosexual sexual behavior. This research will contain hypothetical sexual scenarios exploring sexual behaviors between three sets of individuals—a heterosexual pairing, two gay men, and two lesbian women. Though there are numerous variations of gender identity—and those social groups are important to the body of knowledge—the exploration of gender identities outside of cisgender are outside the scope of this research.

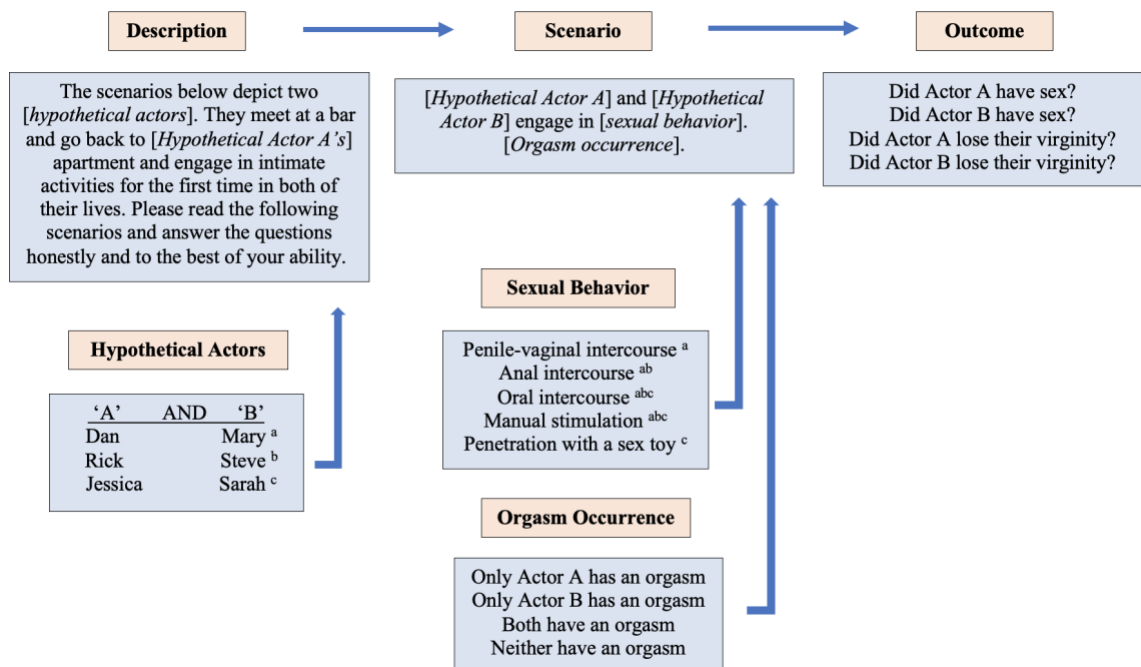
All pairings are cisgender and each scenario dictates that these are random “hook ups,” as well as the first time the hypothetical actors have performed the listed sexual act. These specific parameters were given to participants in each description to limit bias. The 46 scenarios include the following sexual acts: (1) penis-vaginal intercourse (PVI), (2) anal sex, (3) oral sex, (4) manual stimulation and (5) penetration with a sex toy. Each scenario contains a specific sexual behavior, as well as supplemental information regarding the presence or absence of an orgasm. Research participants will decide if they believe Actor A or Actor B had sex, and if Actor A or Actor B lost their virginity.

For example, Figure 1 depicts an overview of each possible scenario participants will face. Sexual behaviors are couple specific and noted in the figure. For example, heterosexual couple Dan and Mary will be the only couple with the option for “penile-

vaginal intercourse.” Whereas lesbian couple Jessica and Sarah will be the only couple with the sexual behavior “penetration with a sex toy.” Oral intercourse and manual stimulation behaviors will be evaluated for all three hypothetical couples.

Figure 1

An Overview of Possible Sexual Scenarios Encountered During the Sexual Behavior Scenario-Extended Questionnaire (SBSEQ)



In addition to the 46 hypothetical sexual scenarios, participants were asked three open-ended questions: (1) *In your own words, how would you define sex?* (2) *In your own words, how would you define virginity?* and (3) *Would you like to make any clarifications or additional comments about the questions or topics (e.g., sex, virginity, sexuality, foreplay, etc.)?* Though this research design is primarily quantitative, it is imperative to

include a qualitative section to allow participants the opportunity to further explain any additional thoughts.

Conclusion

Understanding how we, as a society, define sex and virginity is critical to guiding public health and safety, conducting research, challenging social norms, and navigating conversations with prospective partners. The World Health Organization (WHO, 2002) defines sexual health as “a state of physical emotion, mental, and social well-being in relation to sexuality” (p. 6). Regrettably, as Watson et al. (2017) determined, LGB+ youth are a “population that is typically at higher risk for sexual, mental, and emotional health issues” (p. 801). Concluding, this research is even more important to at-risk populations like the LGB+ community. As previously discussed, limited amounts of research explore what sex is, let alone what sex is in the LGB+ community. This research aims to be an all-encompassing model to challenge the status quo and to create a conversation about what it truly means to have sex.

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CHAPTER II: REVIEW OF THE LITERATURE

The purpose of this review of literature is to present past methodologies in studying sexual intercourse (i.e., sex) and virginity. The following section will focus on sex and virginity as a social science. The review contains a brief history of sex and virginity in research; how our understanding of sex and virginity have been influenced overtime by various cultural perspectives; the various theoretical perspectives involved in researching sex and virginity; and finally, an overview of the tools used in the scientific measurement of sex and virginity.

A Brief History of Sexology

A considerable amount of research has been dedicated to sexual intercourse as it relates to health, virginity, intimacy, and physiology. In fact, sexologist, or individuals who study human sexuality, come from a variety of academic disciplines including biology, sociology, psychology, medicine, epidemiology, and criminology (Djajic-Horváth, 2015).

The scientific study of sexual behavior, *sexology*, was first noted during the Victorian era (mid- to late-1800s) when Heinrich Kaan, of Russia, published *Psychopathia Sexualis* (Latin for Sexual Psychopathy) in 1844. While Kaan is credited with one of the first published works addressing sexual behavior, the term sexology would not be popularized until 20 years later by Elizabeth Osgood Goodrich Willard of the United States in 1867 (Kahan, 2021). Kaan's (1844) work utilized The Catholic Church's teaching of the cardinal sins (e.g., gluttony and lust) and reinterpreted these sexual sins as mental illness (Haeberle, 2008).

During this period, Germany and England were also simultaneously developing sexology as a scientific discipline with Richard Freiherr von Krafft-Ebing and Henry Havelock Ellis at the forefront of their respective countries (Hoenig, 1977). Krafft-Ebing's works *Psychopathia Sexualis: eine Klinisch-Forensische Studie* (a mixture of German and Latin meaning *Sexual Psychopathy: A Clinical-Forensic Study*) studied sexual behaviors as pathological issues from 1886 to 1906 when his twelfth and final edition was published. It is important to note that topics of "perversion" discussed ranged from homosexuality to "*paedophilia erotica*" (i.e., pedophilia), necrophilia (i.e., sexual attraction or action toward corpses), and sadomasochism (i.e., someone who feels pleasure from sexual acts involving receiving or inflicting pain). While these sexual behaviors were commonly viewed as a sickness of the mind in the early- to mid-19th century, through his research Krafft-Ebing came to believe homosexuality for those over 18 years old should not be criminalized (Djajic-Horváth, 2015; Kennedy, 2002).

For England, Henry Havelock Ellis emerged as a progressive sexologist by using his medical background to establish a more objective outlook on sexual behavior (Hoenig, 1977). In 1897 Ellis and John Addington Symonds published the first English medical textbook on homosexuality; and unlike Krafft-Ebing, Ellis did not believe sexual behaviors such as masturbation or sexual intercourse for pleasure should be considered perverted fantasies, immoral, or criminal (Doe, 2013; White, 1999).

Additionally, scholars such as Magnus Hirschfeld began to emerge. Hirschfeld was a strong proponent of equal rights for the lesbian, gay, bisexual, and transgender (LGBT) community and established the Scientific Humanitarian Committee in 1897. The Scientific Humanitarian Committee became the first LGBT rights organization (Peters,

2019). Within his research, Hirschfield sought to show homosexuality as a universal phenomenon. With their medical backgrounds, Hirschfield and Ellis can be credited with defining the difference between people who are *transgender* and those who identify as *lesbian, gay, or bisexual* (Ekins & King, 2006; Lucas & Fox, 2021). This foundational work paved the way for other late-19th to early-20th century scholars Sigmund Freud, Alfred Kinsey, and Ernst Gräfenberg. Though Gräfenberg's research was primarily clinical with his discovery of "the G-spot," the social implications of achieving an orgasm are relevant to this study.

While the work of Ellis, Hirschfield, and Kinsey may have helped to create a more modern and progressive approach to sex research, the ideologies shared by Kaan and Krafft-Ebing still linger in society today. Over 175 years have passed since Kaan's publication of *Sexual Psychopathy* (1844), and his views of homosexuality as a mental disorder or disease are still prevalent.

Understanding Cultural Perspectives

According to Burton (2015), it was not until 1987 that the American Psychiatric Association (APA) voted (5,854 to 3,810) to remove homosexuality as a mental disorder from their *Diagnostic and Statistical Manual of Mental Disorders* (DSM). Five years later the World Health Organization (WHO) followed suit by eliminating homosexuality from the International Classification of Diseases (ICD) in 1992 (Cochran, 2014; Burton, 2015). While it has been 30 years since these actions, the international and local views on members of the LGBT community remain divided. There are many factors involved shaping our cultural perspective. This review will focus on potential social, political, and

religious entities that have may have influenced views on sex, virginity, and the LGBT community.

Social Factors

The choice to engage in sexual intercourse (i.e., sex) is a highly researched field that has found sexual behaviors to be influenced by many factors. A systematic review by Potki et al. (2017) analyzed articles published between 1996-2016 assessing the various factors affecting sexual self-concept. The factors were categorized into three divisions: biological, psychological, and social. Age, gender, race, disability, and sexually transmitted infections (STIs) were all biological factors. Whereas body image, history of sexual abuse, and mental health were psychological factors; and social factors included parents and the media. Additional research has found *sexual self-concept*, or “an individual’s evaluation of his or her own sexual feelings and actions” (Winter, 1988, p. 123), to be intertwined with our sexual behaviors and attitudes (Impett & Tolman, 2006) as well having been influenced by positive and negative sexually significant events (Hensel et al., 2011).

While the factors that influence one’s choice to engage in sex is highly researched, the factors that influence what we believe to count as having sex or losing virginity is not. Most research in defining sex and virginity have focused on gender differences. Sanders & Reinisch (1999) and Pitts & Rahman (2001) found men consistently have broader definitions of having sex; while others have found no gender differences in the definition of sex (Bogart et al., 2000; Randall & Byers, 2003; Trotter & Alderson, 2007). This is not surprising considering researchers have continuously noted the ambiguity surrounding the definition of sex and virginity (Orbe et al., 2014; Trotter &

Alderson, 2007). This is not to say there are no social factors that influence our definitions of sex and virginity; just that they are not commonly studied.

Religious Factors

The impact of religiosity on sexual behaviors is a heavily researched area, but, just as with social factors, the literature is limited when examining what behaviors count as sex or loss of virginity. Abstinence and sex for procreation are key pillars to most religious teachings and were commonly studied at the beginning of sexology. In fact, Kaan and Krafft-Ebing alike believed sexual pleasure outside traditional heterosexual intercourse (e.g., penile-vaginal intercourse for procreation) was considered deviant fantasies.

Penhollow et al. (2005) attest that religion continues to play a large role in attitudes toward sex and sexual decision making. Religiosity has also been explored by its impact on women's sexual self-esteem (Abbott et al., 2016), explaining sex outside marriage (Adamczyk & Hayes, 2012), sexual frequency and satisfaction in older adults (McFarland et al., 2011), and the abstinence movement regarding politics in sex education (Williams, 2011).

As with most sex research up to this point, religiosity explores sex and virginity in a heteronormative sense. While research exploring religiosity and sexual orientation has been primarily limited to exploring attitudes on same-sex marriage there has been some research addressing religious conflict and suicidal behaviors among the LGBT community (Gibbs & Goldbach, 2015). In recent years, attitudes toward same-sex marriage have shifted.

A study by Gay et al. (2015) used data from the General Social Surveys (GSS) and found a significant difference in attitudes toward same-sex marriage between millennials and previous generations. Millennial participants reported far more support from same-sex marriage than their elders. Gay et al. (2015) along with others (Cadge et al., 2008; Kenneavy, 2012; Olson & Cadge, 2002; Sherkat et al., 2010; Van Geest, 2007) have noted differences in religious affiliation (i.e., denomination) and support for same-sex marriage. With this shift in mindset, it is important to also look at the political factors and legality surrounding sexual behaviors.

Political Factors

As with social and religious factors, no research was found linked to political ideology and what sexual behaviors someone counts as having sex or qualifies as virginity loss. Most research regarding political ideology and sex has focused on the differences in sexual behaviors between conservatives and liberals. The sexual behaviors explored have touched on online pornographic consumption (MacInnis & Hodson, 2015; Perry & Whitehead, 2020; Whitehead & Perry, 2018), sexual fantasies and kinks (Hatemi et al., 2016), likelihood of faking an orgasm (Harris, 2019), and usage of adultery websites (Arfer & Jones, 2019).

Regarding political ideology and the lesbian, gay, bisexual and transgender (LGBT) community nearly all research has focused on same-sex marriage. The PEW Research Center (2017) noted an all-time high for support of same-sex marriage for both political parties; with 47% of Republicans and 76% of Democrats in favor of allowing same-sex marriage.

Two years after same-sex marriage was legally recognized by the Supreme Court in the case of *Obergefell v. Hodges* (2015), there has been a significant spike in favor of allowing same-sex marriage. An explanation of this spike could be that the legality of a practice influences our beliefs of whether that practice is moral or immoral. Hence, once same-sex marriage was legalized in 2015, PEW (2017) found more individuals were in favor of allowing same-sex marriage. Research by Ofofu et al. (2019) explored this very phenomenon. They found that—following the federal legalization of same-sex marriage—if the state-level passed local legislation expanding marriage rights to same-sex couples, there was a greater decrease in anti-gay bias. However, if the state-level never passed legislation expanding marriage rights to same-sex couples, the anti-gay bias increased (Ofofu et al., 2019). Supporting that government legislation does have an impact on our attitudes and beliefs of behaviors.

Overall, the interplay between social, religious, and political entities should not be ignored. Currently, there is no one size fits all model for which cultural factors influence our perception of what sexual behaviors constitute having sex or losing your virginity as the research simply does not exist. For now, research in this dissertation will focus on biological sex and sexual orientation by exploring if those factors influence our perception of what sexual behaviors constitute having sex or virginity loss.

Theoretical Perspectives

This research focused primarily on the social interactive aspect of sexual behavior, exploring the following theories—Margaret Jackson’s (1984) work on the *coital imperative* and William Simon and John Gagnon’s (1986) *sexual script theory*. This section reviews (1) the main components of each theory and (2) the hypotheses

established for this dissertation based on those theories, beginning with the coital imperative.

The Coital Imperative

The term coital imperative was coined by Margaret Jackson (1984) to challenge the heteronormative foundation of sexology. Jackson (1984) states:

Two of the most fundamental assumptions of sexology are that heterosexuality is natural and that the most natural form of heterosexual activity is coitus, i.e., penetration of the vagina by the penis. All other kinds of sexual activity are regarded as either preliminary (as indicated by the term ‘foreplay’), or optional extras, or substitutes when the ‘real thing’ is for some reason not available. (p. 44)

Specifically, in her article *Sex Research and The Construction of Sexuality: A Tool of Male Supremacy* (1984), Jackson explicitly explains her qualms with the inadvertent heteronormative ideologies lining sex research by addressing certain hypocrisies of scholars at the forefront of “women’s sexual liberation.” As noted in the first section of this chapter (and by Jackson), Havelock Ellis and Alfred Kinsey are pillars of sexology; their contribution to the study of sexual behavior as a social science is paramount and cannot be ignored.

However, Jackson points out that while both scholars believe they were actively engaged in “objective research,” they were “unaware of the contradiction between being simultaneously ‘neutral’ and ‘progressive’” (Jackson, 1984, p. 43). Ellis and Kinsey are not the only two scholars with whom Jackson had suspicions of being seemingly “neutral”; William Masters and Virginia Johnson were both sexologists who specialized in the human anatomical and physiological response to sexual stimulation (Kinsey

Institute, n.d.). All four scholars are addressed personally in Jackson's presentation of the coital imperative.

As stated previously, the coital imperative is notion that "real sex" is attributed to penile-vaginal intercourse (PVI) and that PVI is most natural form of heterosexuality (Jackson, 1984; McPhillips et al., 2001). Jackson's (1984) claim was that "sex research was no more neutral than any other type of body" (p. 44) and scholars (i.e., Ellis, Kinsey, Masters, and Johnson) had unintentional biases in their research regarding sexual behaviors. Jackson continuously draws parallels between each scholar and their accidental reinforcement of her new theory. Ultimately reporting, "coitus was implicitly the standard by which all other activities were evaluated," and the model of sexuality was essentially a biological model (or reproductive function) in which "... 'having sex' inevitably meant having babies. This assumes (a) that 'sex' means heterosexuality, and (b) that the 'natural' means of heterosexual expression is coitus" (Jackson, 1984, pp. 44-45).

With that in mind, the hypotheses established for this dissertation with influence from Margaret Jackson's (1984) theory of the coital imperative are:

- (H1) There will be a higher rate of affirmative responses for sexual behaviors that involve penile penetration of the vagina or anus than behaviors that do not involve penile penetration.
- (H2) There will be a higher rate of affirmative responses in *having sex* and *losing virginity* for the male-female and male-male sexual scenarios compared to the female-female sexual scenarios.

(H3) There will be a higher rate of affirmation for the lesbian couple *having sex* and *losing their virginity* during “penetration with a sex toy” than any other sexual behaviors.

Sexual Scripting Theory

Sexual Scripting Theory was first introduced by John Gagnon and William Simon in 1973. From their first book *Sexual Conduct* (1973) through their subsequent research (Gagnon, 1990; Gagnon & Simon, 1973, 2005; Simon & Gagnon, 1986, 1987, 2003), Simon and Gagnon have used sexual scripting theory to help us better understand patterns of sexual behaviors. Michael Wiederman (2005) put it best:

Social scripting theory rests on the assumption that people follow internalized scripts when constructing meaning out of behavior, responses, and emotions. With regard to potentially sexual situations, scripts provide meaning and direction for responding to sexual cues and for behaving sexually. (p. 496)

There are three levels to sexual scripting theory that aid us in constructing that meaning: (1) cultural scenarios, (2) interpersonal scripts, and (3) intrapsychic scripts (Simon & Gagnon, 1986). Each level plays a distinct role in shaping our perception of sexual behavior. For example, cultural scenarios are culturally shared values (i.e., social norms) that serve as guidelines in sexual scenarios. From here our interpersonal scripts are formed, or how we believe we should act during sexual encounters based on our interactions with others and social norms. Finally, intrapsychic scripts are the product of levels one and two. Intrapsychic scripts reflect our motives (or attitudes) toward engaging in the sexual behavior (Bowleg et al., 2015; Simon & Gagnon, 1986).

Throughout our lifetime these scripts are subconsciously reviewed and revised as our environment changes and social norms shift (Gagnon, 1990; Laumann et al., 1994; Oldham, 2019). For example, the AIDS epidemic of the 1980s persuaded researchers to begin exploring sexual scripts involved in sexual decision making. Maticka-Tyndale (1991) found that while condom usage among males was significantly influenced by the number of friends they believed were actively using condoms; females were significantly influenced by the number of friends they believed were using condoms and how participants believed their friends would feel about their condom usage.

Sexual scripting theory has continually been used to study a variety of sexual contexts including the relationship between pornographic consumption and sexual scripts (Braithwaite et al., 2015; Gecas, & Libby, 1976; Sun et al., 2016), timing of first sex in a relationship (Baxter & Bullis, 1986; Oldham, 2019); sexual coercion, or the sexual pressure created by sexual scripts (Byers, 1996; Jones & Gulick, 2009; Scappini & Fioravanti, 2022), and the influence of media (e.g., television, movies, radio, etc.) on sexual scripts (Gardner, 2019; Markle, 2008; Timmermans & Van den Bulck, 2018; Wright, 2011).

Specifically, this dissertation employed sexual scripting theory to focus on gender differences (e.g., male vs. female) as well as differences in sexual orientation (e.g., heterosexual vs. people who identify as lesbian, gay, bisexual, etc.) and their affirmation of what counts as *having sex* or *virginity loss* by exploring the following hypotheses:

- (H4) There will be difference in affirmative responses for what counts as *having sex* and *losing virginity* between male and female participants for

each sexual behavior (e.g., penile-vaginal intercourse, anal intercourse, oral intercourse, manual stimulation, and penetration with a sex toy).

(H5) There will be a difference in affirmative responses for what counts as *having sex* and *losing virginity* between heterosexual and LGB+ participants for each sexual behavior (e.g., penile-vaginal intercourse, anal intercourse, oral intercourse, manual stimulation, and penetration with a sex toy).

Measuring Sex and Virginity

The scientific study of what counts as sexual intercourse and virginity loss is primarily thought of as social research, though medical research has been used in the past exploring the physiological components of sex. Virginity testing is a gynecological examination used to examine a female's hymen (Independent Forensic Expert Group, 2015). This examination involves sticking two fingers inside the vagina and testing the presence and elasticity of the hymen. If the hymen is broken it is assumed the woman had traditional penile-vaginal intercourse (PVI) and was no longer a virgin. While virginity tests are perceived to be outdated and unethical in many Western countries, virginity tests are tied to decades of cultural, spiritual, and religious beliefs and still exist in certain regions (Olson & Garcia-Moreno, 2017).

Social scholars, however, move past exploring sex and virginity in physiological absolutes. New theories in social research have emerged exploring what it means to have sex or lose one's virginity. The 1990s and early 2000s introduced several measures to address various sexual behaviors and if those behaviors resulted in having had sex or virginity loss. Carpenter (2001, 2002, 2011), among others (Averett et al., 2014; Ho &

Sim, 2014; Humphreys, 2013), employed traditional qualitative methodology (e.g., in-depth interviews and focus studies) while other colleagues relied primarily on quantitative data (see Table 1). This research will collect both qualitative and quantitative data, but prioritize the quantitative data.

Past Survey Tools

After a thorough review of the literature, 25 studies (see Table 1) were found to have used quantitative methodologies to explore what sexual behaviors participants would classify as *having sex* or *losing virginity*. The most popular survey tools used were *The Sexual Definition Survey* (SDS; Sanders & Reinisch, 1999), *The Sexual Definition Survey-Expanded* (SDSE; Randall & Byers, 2003), and the *Sexual Behavior Scenario* (SBS) survey (Bogart et al., 2000). All three surveys (i.e., the SDS, SDSE, and SBS) record participant responses dichotomously (e.g., yes or no) and rely on self-reported data; however, questions are framed differently in the SBS by utilizing hypothetical actors.

A comprehensive review of each measurement tool is recorded in the following section. Table 1 contains an overview of each tool (i.e., SDS, SDSE, SBS, and miscellaneous studies) and the studies in which they were used.

Table 1

Summary of Literature Using Quantitative Methods to Explore Which Sexual Behaviors Count as “Having Sex” or “Losing Virginity”

Survey Tool	Authors	Year	Demographics and Sample Size	LGB+ inclusive ^a	Had Sex	Lost Virginity ^b
<i>The Sexual Definitions Survey (SDS)</i>						
	Sanders & Reinisch	1999	599 college students (US)	No	Yes	No
	Pitts & Rahman	2001	314 college students (UK)	No	Yes	No
	Rawlings, Graff, Calderon, Casey-Bailey, & Pasley ^c	2006	279 HIV+ patients	No	Yes	No
	Gute, Eshbaugh, & Wiersma ^d	2008	839 college students (US)	No	Yes	No
	Hill, Rahman, Bright, & Sanders ^e	2010	370 gay men (190 US, 180 UK)	Yes	Yes	No
	Hans, Gillen, & Akande	2010	477 college students (US)	No	Yes	No
	Sanders, Hill, Yarber, Graham, Crosby, & Milhausen ^f	2010	486 US participants to a telephone survey	No	Yes	No
	Hans & Kimberly	2011	584 (454 college students, 126 AASECT ^g professionals)	No	Yes	Yes

Survey Tool	Authors	Year	Demographics and Sample Size	LGB+ inclusive ^a	Had Sex	Lost Virginity ^b
<i>SDS (continued)</i>						
	Horowitz, & Spicer ^h	2013	124 adults (UK)	Yes	Yes	No
	Schick, Rosenberger, Sanders, Herbenick, Reece, & Collazo	2016	4,156 women (International)	Yes	Yes	No
	Hill, Sanders, & Reinisch ⁱ	2016	1,380 bisexual men and women (US)	Yes	Yes	No
	Horowitz & Bedford ^j	2017	300 adults (UK)	Yes	Yes	Yes
	Peck, Manning, Tri, Skrzypczynski, Summers, & Grubb	2016	577 participants recruited online	No*	Yes	No
<i>The Sexual Definitions Survey-Expanded (SDSE)</i>						
	Randall & Byers	2003	164 college students (Canada)	No	Yes	No
	Trotter & Alderson ^k	2007	174 college students (Canada)	Yes	Yes	Yes
	Byers, Henderson, & Hobson	2009	298 college students (Canada)	No	Yes	No*
	Barnett, Fleck, Marsden III, & Martin ^l	2017	956 college students (US)	No	Yes	Yes

Survey Tool	Authors	Year	Demographics and Sample Size	LGB+ inclusive ^a	Had Sex	Lost Virginity ^b
<i>The Sexual Behavior Scenarios (SBS) survey</i>						
	Bogart, Cecil, Wagstaff, Pinkerton, & Abramson	2000	223 college students (US)	No*	Yes	No
<i>Miscellaneous</i>						
	Richters & Song	1999	545 college students (Australia)	No*	Yes	No
	Sawyer, Howard, Brewster-Jordan, Gavin, & Sherman	2007	324 college students	No	Yes	Yes
	Bersamin, Fisher, Walker, Hill, & Grube ^m	2007	925 youth ages 14-19 years old (US)	No	No	Yes
	Peterson & Muehlenhard	2007	100 college students (US)	No	Yes	No
	McBride, Sanders, Hill, & Reinisch	2017	3,214 cisgender men and women (US)	No	Yes	No
	Huang	2018	251 cisgender men (114 straight, 137 gay)	Yes	No	Yes
	Hille, Simmons, & Sanders	2020	1,093 individuals who identified as asexual or on the ace spectrum	Yes	Yes	No

^a Items “No*” indicate the survey was not specifically targeting LGB+ (members of the lesbian, gay, bisexual plus community) but they do mention LGB+ participants briefly in their demographic or analyses. ^b Items “No*” indicate the survey explored ‘abstinence,’ not ‘virginity.’

^c The SDS was modified to differentiate between insertive and receptive anal intercourse. ^d The SDS scenarios were modified to include a

significant other having sexual relationship outside the primary relationship. ^e The SDS was modified to include additional sexual behaviors (e.g., stimulation with a sex toy, manual/oral stimulation of anus, and insertive/receptive anal intercourse). Responses are recorded with a 5-point Likert scale from 1 (*strongly agree*) to 5 (*strongly disagree*). ^f The SDS was modified to include performative and receptive sexual behaviors as well as presence of an orgasm/ejaculation, brevity of behavior, and condom use. ^g AASECT = American Association of Sexuality Educators, Counselors, and Therapists. ^h The SDS was modified to become the “Sexual Behaviors Questionnaire (SBQ).” Responses are recorded with a 6-point Likert scale from 1 (*definitely NOT sex*) to 6 (*definitely sex*) and include the additional sexual behavior “you/[they] used a sex aid to stimulate their/[your] genitals.” ⁱ The SDS was modified to include performative and receptive sexual behaviors for all scenarios (excluding PVI and kissing). ^j The SBQ (Horowitz & Spicer, 2013) was revised to include additional behaviors regarding masturbation, brevity of PVI contact, and non-penetrative genital contact. ^k The SDSE was modified to specify who had an orgasm (e.g., you, them, both, and neither) as well as gender of partner (e.g. same or opposite sex) and dating status (e.g., not dating, been on one date, and dating for three months). ^l Further modified the SDSE (Trotter & Alderson, 2007) to include “you/[they] stimulate their/[your] genitals with a sex toy.” ^m Research was funded by the National Institute of Child Health and Human Development.

The Sexual Definitions Survey. Sanders and Reinisch (1999) are credited with creating the first survey tool evaluating which sexual behaviors participants would consider *sex*. The SDS (1999) emphasizes the participant's perception by asking , "Would you say you had sex with someone if the most intimate behavior you engaged in was [sexual scenario]?" This phrasing places participants directly in the scenario and then asks them to select 'yes' or 'no' for each of the following sexual scenarios: (a) *a person had oral contact with your breasts or nipples?* (b) *you touched, fondled, or manually stimulated a person's genitals?* (c) *you had oral contact with a person's breasts or nipples?* (d) *penile-vaginal intercourse (penis in vagina)?* (e) *you touched, fondled, or manually stimulated a person's breasts or nipples?* (f) *a person had oral contact with your genitals?* (g) *you had oral contact with a person's genitals?* (h) *deep kissing (French or tongue kissing)?* (i) *penile-anal intercourse [penis in anus (rectum)]?* (j) *a person touched, fondled, or manually stimulated your genitals?* And (k) *a person touched, fondled, or manually stimulated your genitals?*

Since the launch of the SDS (1999) minor modifications have been made (notated in Table 1). Researchers have added questions to differentiate between insertive and receptive anal intercourse (Hill et al., 2010; Rawlings et al., 2006), to assess the use of a sex toy or sex aid (Hill et al., 2010; Horowitz, & Spicer, 2013); and to explore if participants would apply a different standard of "had sex" to themselves or a significant other engaging in sexual relations outside of their primary relationship (Gute et al., 2008). Additionally, Randall and Byers (2003) used the SDS to create The Sexual Definitions Survey-Expanded (SDSE).

The Sexual Definitions Survey-Expanded. The SDSE created by Randall and Byers (2003) expands on the original 11 items in the SDS by introducing the presence of an orgasm and additional sexual scenarios involving masturbation. Just as with the SDS, participants were asked, “Would you say you had sex with someone if the most intimate behavior you engaged in was [sexual scenario]?” To explore if the presence of an orgasm changed participants perspective, penile-vaginal intercourse (PVI), anal intercourse, oral intercourse with the genitals, and touching the genitals were distinguished by *resulting in an orgasm*, and *not resulting in an orgasm*. Masturbation was measured by adding three additional scenarios: (1) *masturbation in each other’s presence*, (2) *masturbation while in telephone contact*, and (3) *masturbation while in computer contact with each other*.

Trotter and Alderson (2007) further adapted *The Sexual Definition Survey-Expanded (SDSE)* to examine the effect of dating status and gender of sexual partner on definitions of had sex. They were the first to be LGB+ inclusive by exploring different genders of the sexual partner (e.g., with a same-sex partner or with an opposite sex partner) and the second to explore the effect of dating status (e.g., not dating, been on one date, and dating for three months). Additionally, the presence of an orgasm was modified from *resulting in an orgasm* and *not resulting in an orgasm* to be more specific (i.e., *you had an orgasm*, *the other person had an orgasm*, *both of you had an orgasm*, or *neither of you had an orgasm*).

Additional Adaptions of the SDS and SDSE. Additional studies modified the SDS (1999) and SDSE (2003) to explore virginity loss (Barnett et al., 2017; Han & Kimberly, 2011; Trotter & Alderson, 2007), what sexual behaviors lead to classifying someone as a sexual partner (Randall & Byers, 2003; Trotter & Alderson, 2007), what

sexual behaviors constitute maintaining abstinence (Barnett et al., 2017; Byers et al., 2009; Han & Kimberly, 2011), and what sexual behaviors would be considered unfaithful if performed outside of the primary relationship (Randall & Byers, 2003).

For example, Trotter and Alderson created *The Sexual Partner Definition Survey-Expanded (SPDSE)* and *The Virginitv Definitions Survey-Expanded (VDSE)*. Both assessments were used alongside the SDSE to explore university students' definition of having sex, losing their virginitv, and who they consider a sexual partner. Both the SPDSE and VDSE used an identical format and sexual scenarios of the SDSE (Trotter & Alderson, 2007). However, the new phrases exchange the opening statement, "*Would you say you had sex with someone...*" to "*Would you say that someone had been your sexual partner...*" (SPDSE, 2007) or "*Would you say that you had lost your virginitv to someone...*" (VDSE, 2007). This format is consistent with the other adaptations exploring abstinence and potentially unfaithful sexual behaviors.

The Sexual Behavior Scenario Survey. Contrary to the SDS (Sanders & Reinisch, 1999) and SDSE (Randall & Byers, 2003), The SBS (Bogart et al., 2000) does not place emphasis on the participant's perception. The SBS utilized hypothetical actors to explore participants' definitions of "had sex." For example, participants were provided with the following scenario, "*Jim and Susie meet at a bar. They go back to his apartment where they engage in [sexual behavior] intercourse. [Orgasm outcome]. Would Jim consider this sex? Would Susie consider this sex?*" The SBS (2000) inquiries about three sexual behaviors (e.g., vaginal, anal, or oral) with each behavior having different orgasm outcome (i.e., *Only Jim has and orgasm, Only Susie has an orgasm, Both have an orgasm, and Neither have an orgasm*).

By using hypothetical actors instead of placing participants in the scenarios Bogart et al. (2000) believed there would be reduced anxiety in completing the survey. Therefore, participants would be more truthful in their responses, increasing response rates and the validity of responses (Bogart et al., 2000). This dissertation will err on the side of caution by employing the SBS usage of hypothetical actors.

Miscellaneous Measurement Tools. Through the review of literature, six studies were found having measured *had sex* and *loss of virginity* outside the traditional survey tools (i.e., the SDS, SDSE, and SBS). Three studies (Huang, 2018; Richters & Song, 1999; Sawyer et al. 2007) employed the use of lists for participants to select which sexual behaviors counted toward *having sex* or *loss of virginity*. For example, Sawyer and colleagues (2007) conducted a 2-item survey asking, “*LIST all the sexual activities that in your opinion would be included in the term sexual intercourse*” and “*In order for a person to be a virgin, LIST all the activities in which he or she would NEVER have participated.*” Responses were then coded into categories: “(1) vaginal; (2) anal; (3) oral; (4) penetration; (5) vaginal, anal, but not oral; and (6) vaginal, and/or anal, and oral” (p. 48). While the three remaining studies (Bersamin et al., 2007; Hille et al., 2020; Peterson & Muehlenhard, 2007) employed their own individual measurement tools.

Bersamin et al. (2007) explored virginity and abstinence by asking, “Is a boy still a virgin if he has: (a) touched some’s genitals for a long time, (b) given oral sex to someone, (c) gotten oral sex from someone, (d) had sexual intercourse, (e) given anal intercourse to someone, and (f) gotten anal intercourse from someone?” (p. 183). The questions were modified in a second round of questions to include “girl” and “abstinent.”

The new questionnaire created by Bersamin et al. (2007) is not surprising given this was the only study located to involve participants under the age of 18 years old.

Peterson and Muehlenhard (2007) asked participants to describe past sexual experiences for each of the following scenarios: (1) almost but not quite sex, (2) just barely qualified as sex, (3) felt unsure about whether it was sex or not, and (4) you and someone else disagreed whether you had sex or not. In their descriptions participants were asked to explain why this did/did not qualify as sex and provide details such as the activity, situation, and relationship status. Responses for each scenario were then individually coded and analyzed.

Finally, work by Hille et al. (2020) most closely resembles the SDS (1999) and SDSE (2003, 2007) by asking “For each of the following behaviors, please indicate whether you would say you ‘had sex’ after engaging in the behavior with a partner” (p. 815). Participants were provided with 22 scenarios differentiated by giving or receiving, external or internal stimulation with a sex toy, and behavior (e.g., manual, oral, anal, and vaginal). Responses were recorded dichotomously (i.e., yes and no).

Obtaining Sexual History. Due to the ambiguous nature of sex and virginity, researchers must consider contextual factors that may influence participants perceptions. This is usually accomplished during demographic collection. *The Demographic and Dating History Questionnaire* (Renaud & Byers, 1999) and *The Sexual Experience Questionnaire* (SEQ) (Trotter & Alderson, 2007) were created to collect demographic information on participants (e.g., sex, age, religion, etc.) and their sexual activity (e.g., sexual experiences and dating history). Most demographic data was collected dichotomously by asking participants to select “yes” or “no” for the question, “have you

ever engaged in [sexual behavior]?” However, Trotter and Alderson (2007) assessed participants sexual history using a Likert-type scale by providing them with four options: *never, once, a few times, and many times*. Ultimately, these data allow researchers to create a sexual profile on participants.

Previous Findings

A review of the literature indicates results of which sexual behavior constitutes *having sex* and *loss of virginity* remain inconsistent among researchers regardless of the survey tool used [e.g., The SDS (1999), The SDSE (2003, 2007), The SBS (2000) and other miscellaneous tools]. Previous results will be broken into two categories—heterosexual research and LGB-inclusive research.

Heterosexual Research. Of the 25 studies located in this review, a majority (n = 17) were not LGB-inclusive. Fourteen of those studies focused on only heterosexual participants by explicitly removing LGB+ participants from the data, not mentioning the LGB+ participants at all, or did not provide LGB+ sexual scenarios for participants. Additionally, three studies (Bogart et al., 2000; Peck et al., 2006; Richters & Song, 1999) did briefly mention the LGB+ community in their demographics and analyses; however, the LGB+ participants were not the target demographic, and they did not provide LGB+ sexual scenarios.

Overall, while the results by individual sexual behavior have been inconsistent, the results have maintained a hierarchy among what sexual behaviors “count” as *having sex* (Horowitz & Spicer, 2013). Penile-vaginal intercourse (80.9-99.5%) is at the top of this hierarchy and deep kissing is at the bottom (1.4-36.3%). Anal intercourse (71.6-95.9%) is the second-highest behavior to count as “sex” followed by oral intercourse (21.2-85.2%), manual-genital contact (8.2-64.8%) in fourth, and oral (and manual) contact with breast/nipples ranking fifth (2.0-41.2%) and sixth (3.0-37.1), respectively.

Table 2 illustrates these rankings within 13 of the 17 studies dictated as heterosexual literature. Five studies were excluded from the table for various reasons—Bersamin et al. (2007) and Sawyer et al. (2007) were removed because these studies were based on what sexual behaviors constitute abstinence and virginity, not sex; Gute et al. (2008) and Peterson & Muehlenhard (2007) were excluded because the survey tool used does not present data in percentages comparable to those in Table 2; and although McBride et al. (2017) collected data on comparable sexual behaviors they did not provide those numbers in their results. Results were strictly linked to receptive and insertive anal intercourse (e.g., penile-anal intercourse, oral-anal contact, manual-anal contact; McBride et al., 2017).

Table 2

Overall affirmative responses for sexual behaviors that count as “having sex” in heterosexual only literature

Authors	Sexual Behavior						
	Penile-Vaginal Penetration	Anal Intercourse	Oral-Genital Contact	Manual-Genital Contact	Oral Contact with Breasts/Nipples	Manual Contact with Breasts/Nipples	Deep Kissing
Sanders & Reinisch (1999)	99.5	81.0	39.9 ; 40.2	13.9 ; 15.1	3.4 ; 3.0	3.4 ; 3.0	2.0
Richters & Song (1999)	98.0	90.0	56.0	30.0	-	-	7.0
Bogart et al. (2000) ^a	97.0	92.5	40.8	-	-	-	-
Pitts & Rahman (2001)	98.7	77.9	33.3 ; 33.8	17.8 ; 18.5	7.3 ; 6.7	6.7 ; 6.1	6.4
Randall & Byers (2003)	95.8	81.2	21.2 ; 21.7	11.3 ; 9.2	4.3 ; 4.3	-	2.4
Rawlings et al. (2006)	80.9	78.9 ; 71.6	74.5 ; 76.9	53.2 ; 54.9	41.2 ; 38.2	37.1 ; 35.6	36.3
Byers et al. (2009) ^a	88.8	80.9	22.4 ; 21.8	9.9 ; 11.1	3.7 ; 2.0	-	1.4
Hans et al. (2010)	97.5	78.4	18.7 ; 19.9	8.2 ; 8.6	5.5 ; 5.9	4.4 ; 5.5	5.9
Sanders et al. (2010) ^a	94.8	80.8	71.0 ; 72.9	44.9 ; 48.1	-	-	-
Hans & Kimberly (2011) ^b	97.8; 99.2	76.2; 95.9	23.0 ; 23.5 <i>85.2; 84.4</i>	11.5 ; 12.3 <i>64.8; 63.9</i>	7.6 ; 7.6 <i>35.2; 36.9</i>	5.4 ; 5.9 <i>32.0; 30.3</i>	7.4; 14.8
Peck et al. (2016)	97.4	85.4	57.7 ; 58.4	37.7 ; 38.6	15.7 ; 17.5	14 ; 14.2	14.4
Barnett et al. (2017) ^a	91.5	81.8	44.1 ; 45.3	29.5 ; 30.7	17.1 ; 17.6	-	15.4

Note. The table design was adapted from Table 1 (p. 140) of Horowitz & Spicer (2013). For clarity mean percentages were not separated by gender or orgasm occurrence. Boldface percentages are acts initiated by the survey participant (e.g., you had oral contact with their genitals).

^a In this study, researchers differentiated between the presence or absence of an orgasm. The value presented in the table is the mean of those percentages. ^b In this study, italicized values represent AASECT professional responses.

Regarding virginity, six of the 25 studies explored sexual behaviors that would qualify as virginity loss (Barnett et al., 2017; Bersamin et al., 2007; Hans & Kimberly, 2011; Horowitz & Bedford, 2017; Huang, 2018; Trotter & Alderson, 2007). One study (Horowitz & Bedford, 2017) was not included in the table as responses are recorded on a 6-point Likert scale from 1 (*definitely NOT virginity loss*) to 6 (*definitely virginity loss*).

Though there is more variation in responses regarding virginity loss. Horowitz and Bedford's (2017) hierarchy for *virginity loss* remains intact. Overall, for different-sex couples, PVI (89.2-98.3) remains the top contributor to virginity loss, followed by anal intercourse (52.0-84.1), oral-genital contact (10.6-63.0), manual-genital contact (7.3-63.5), oral contact with breast/nipples (2.1-16.6), then deep kissing (2.5-9.7) and manual contact with breast/nipples (0.8-3.9) swapping positions for sixth and seventh place.

Two studies explored virginity loss for same-sex couples (Huang, 2018; Trotter & Alderson, 2007). Huang (2018) used a sample of 352 cisgender males. With 54.6% identifying as "strictly gay" and 45.4% as "strictly straight." For male-on-male scenarios, Huang (2018) found an average of 85.5% of gay men included anal intercourse in their definition of virginity loss compared to 59.0% of straight men. Oral-genital contact was included for 73.5% of gay men and 72.0% of straight men. Leaving 67.0% of gay men to include manual-genital contact in their definition of virginity loss, whereas 64.0% of straight men concluded male-on-male manual-genital contact resulted in virginity loss. Results maintain the hierarchy seen in different-sex couples.

On the other hand, Trotter and Alderson (2007) had a predominately female (65%) and heterosexual sample (94%). They also used a hypothetical same-sex actor in their measurement. Responses constituting virginity loss were similar across all sexual

behaviors regardless of their hypothetical partner's gender. Again, the hierarchy remains. Penile-vaginal intercourse (89.2%) was the only behavior measured among opposite sex partners. All other behaviors were presented as different-sex partners and same-sex partners, respectively—anal intercourse (54.2%, 53.4%), oral-genital contact (12.8%, 15.9%), manual-genital contact (7.3%, 6.6%), deep kissing (5.6%, 0.6%), and oral contact with breast/nipples (4.9%, 0.6%). Table 3 houses percentage responses of behaviors that constitute virginity loss for studies located during the review.

Table 3

Overall percentage of affirmative responses for sexual behaviors that count as “virginity loss” in literature

Authors	Sexual Behavior						
	Penile-Vaginal Penetration	Anal Intercourse	Oral-Genital Contact	Manual-Genital Contact	Oral Contact with Breasts/Nipples	Manual Contact with Breasts/Nipples	Kissing
Bersamin et al. (2007)	94.2	83.9	29.4	16.6	-	-	-
Trotter & Alderson (2007) ^{ab}	89.2	54.2; 53.4	10.6 ; 14.9 <i>14.2</i> ; 17.5	6.6 ; 7.9 <i>4.9</i> ; 8.2	5.1 ; 4.8 <i>0.6</i> ; 0.6	-	5.6; 0.6
Hans & Kimberly (2011) ^c	98.3; 95.9	60.6; 67.8	9.6 ; 11.6 <i>20.7</i> ; 22.3	6.7 ; 7.9 <i>11.6</i> ; 9.9	3.7 ; 3.9 <i>2.5</i> ; 1.7	3.3 ; 4.4 <i>0.8</i> ; 0.8	4.2; 0.8
Barnett et al. (2017) ^a	92.1	84.1	37.7 ; 38.3	27.2 ; 28.1	16.3 ; 16.8	-	9.7
Huang (2018) ^d							
male-on-male	-	95.0 ; 76.0 <i>99.0</i> ; 19.0	75.0 ; 72.0 <i>76.0</i> ; 68.0	74.0 ; 60.0 <i>64.0</i> ; 64.0	-	-	-
male-on-female	96.0; 93.0	55.0 ; 72.0 <i>27.0</i> ; 77.0	73.0 ; 64.0 <i>54.0</i> ; 72.0	72.0 ; 74.0 <i>68.0</i> ; 59.0	-	-	-

Note. The table design was modified from Table 1 (p. 140) of Horowitz & Spicer (2013). For clarity mean percentages were not separated by gender, length of relationship, or orgasm occurrence. Boldface percentages are acts initiated by the participants (e.g., you had oral contact with their genitals).

^a In this study, researchers differentiated between the presence or absence of an orgasm. The value presented in the table is the mean of those percentages. ^b In this study, italicized values represent sexual behaviors performed with a member of the same sex. ^c In this study, italicized values represent AASECT professional responses. ^d In this study, italicized values represent responses from heterosexual men.

Lesbian, Gay, and Bisexual Inclusive Research. Within the eight studies found to be LGB-inclusive, analyzing the results across studies is even more difficult than heterosexual research when defining *had sex* and *loss of virginity*. The populations targeted in the LGB+ research are narrow, making it difficult to compare various sexual orientations within the LGB+ community. For example, six of the eight studies focus on the sexual orientation of participant—gay men (Hill et al., 2010; Huang, 2018), lesbian woman (Horowitz & Spicer, 2013), bisexuality among men and women (Hill et al., 2016), women who have sex with men (WSM) and women who have sex with women (WSW; Schick et al., 2016), and individuals who identify as asexual or on the Ace Spectrum (Hille et al., 2020). Whereas Horowitz and Bedford (2017) compare heterosexual men and women, gay men, and lesbian woman.

Additionally, Trotter and Alderson (2007) are the only authors found to compare participants responses for “Would you say that you had sex with someone if the most intimate behavior you engaged in involves...” (p. 15) with an opposite-sex partner and a same-sex partner. The study analyzed responses from 174 undergraduate students. Most of whom were White (72%), women (65%), or heterosexual (94%). Researchers did find that students were more likely to classify a sexual behavior as *having sex* or *loss of virginity* with an opposite-sex partner than a same-sex partner. Results also suggested that students used a different set of criteria when labeling sexual behaviors as *sex* or *virginity loss* depending on the sex of their hypothetical partner. For example, within oral-genital contact there were discrepancies for having sex and loss of virginity depending on the sex of hypothetical partner. Students reported oral-genital contact with a partner of the same-sex was considered sex for 38.5% of students, but it was only 35.9% with an opposite-sex

partner. Regarding virginity loss, students reported that oral-genital contact constituted loss of virginity with a same-sex partner (15.9%) more frequently than with an opposite-sex partner (12.8%).

Similarly, Schick et al. (2016) used an international sample comprised of 2,751 women who had previous sexual relations with men and women. Results indicate there is a statistically significant difference ($p < .0036$) in the number of sexual behaviors women included in having sex with a man ($M = 10.57$, $SD = 8.59$) versus having sex with a woman ($M = 18.73$, $SD = 6.89$). Further strengthening Trotter & Aldersons (2007) observation that there may be a different set of criteria for sexual relations between same-sex and opposite-sex partners. This dissertation explored those differences by having participants indicate which sexual behaviors constituted *having sex* or *losing virginity* for three sets of hypothetical actors: heterosexual, gay men, and lesbian women.

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CHAPTER III: DEVELOPMENT AND PSYCHOMETRIC VALIDATION OF A NOVEL APPROACH TO MEASURING HOW SEX AND LOSS OF VIRGINITY ARE DEFINED

Introduction

Historically, researchers have continuously reaffirmed a heteronormative view on having sex and virginity loss (Averett et al., 2014; Carpenter, 2010). For example, the Centers for Disease Control and Prevention's (CDC) uses "vaginal sexual intercourse between opposite-sex partners" [i.e., penis-vaginal intercourse (PVI)] as the standard measure of assessing youth sexual behaviors during data collection of the National Survey of Family Growth (CDC, 2017, p. 4).

Additionally, Merriam-Webster (n.d.) defines *sexual intercourse* as "heterosexual intercourse involving penetration of the vagina by the penis." On the surface this may seem like a trivial issue, but Barnett and Moore (2010) found that first sexual experiences can have a major impact of perceptions of sex, virginity, and subsequent sexual behaviors. Therefore, this standardized definition of *sex* is not only inherently dangerous to lesbian, gay, and bisexual (LGB+) individuals who may be struggling with their sexuality, it is also harmful to heterosexual individuals who may be exploring sexual behaviors outside of the penile-vaginal intercourse (e.g., anal or oral intercourse).

For the LGB+ community, research by Huang (2018) reports past research has acknowledged "sexual orientation does play a role in shaping how youth understand virginity loss" (p. 738). Yet, Carpenter (2010) and Averett et al. (2014) point out literature and research methodologies regarding virginity loss and first-sexual experiences remain largely heteronormative. Despite researchers calling attention to this

lack of representation, current efforts have neglected to equitably study the LGB+ community (Watson et al., 2017).

Purpose of Study

The current study places an emphasis on defining sex and virginity for the LGB+ populations. Due to the heteronormative and ambiguous nature of defining sex, a new scale of measurement was produced using an adaptation of Bogart et al. (2000) scale. *The Sexual Behavior Scenario* (SBS) survey was modified to be more inclusive of the LGB+ community and limit ambiguity in defining sex by constructing specific sexual scenarios.

Scenarios followed traditional methodologies by addressing various sexual behaviors (e.g., penile-vaginal intercourse, anal intercourse, oral intercourse, and manual stimulation), the presence or absence of an orgasm, and if participants believe the individuals from each scenario lost his/her virginity. However, contrary to traditional sex research, sexual scenarios had hypothetical actors representing different sexual orientations (e.g., heterosexual, gay, and lesbian).

This initial pilot study was conducted to evaluate the validity, reliability, and overall ability of the adapted questionnaire to measure individual definitions of sex and loss of virginity. Following Boateng et al. (2018) best practices for developing and validating scales, this survey took place in three phases: item development, scale development, and scale evaluation.

Methods

In the current study, a mixed methods approach with an emphasis on collecting quantitative data was used.

Item Development

Prior to data collection, an exhaustive review of the literature was completed (Averett et al., 2014; Barnett et al., 2017; Bersamin et al., 2007; Bogart et al., 2000; Byers et al., 2009; Carpenter, 2001, 2002, 2011; Gute et al., 2008; Hans et al., 2010, 2011; Ho & Sim, 2014; Horowitz & Spicer, 2013; Humphreys, 2013; Huang, 2018; Pitts & Rahman, 2001; Randall & Byers, 2003; Remez, 2000; Richters & Song, 1999; Sanders & Reinisch, 1999; Sawyer et al., 2007; Trotter & Alderson, 2007; Uecker et al., 2008). This study builds on Roberts et al. (2019), which used in-depth interviews to focus on lesbian women's first sexual experiences and their definition of sex. Appendix C contains all items developed for the *Sexual Behavior Scenario-Extended Questionnaire* (SBSEQ). These items were created based on the knowledge and information gained in the initial interview study (Roberts et al., 2019), the original SBS survey used by Bogart et al. (2000), and in consultation with a subject matter expert and a survey research methodologist.

Sexual Behavior Scenario-Extended Questionnaire

Participants were presented with a total of 12 demographic questions, 46 sexual behavior scenarios, three attention check questions, and three open-ended questions allowing space for participants to provide clarification or feedback for researchers. The SBSEQ is primarily focused on assessing the participant's view of "what counts" as *having sex* and *virginity loss*. Participants were given three sets of hypothetical actors: one heterosexual couple, one gay couple, and one lesbian couple. Prior to each set of sexual scenarios, participants were given a brief description of the hypothetical actors—

“The scenarios below depict two cis-gendered, heterosexual (straight) individuals, Dan and Mary. They meet at a bar and go back to Dan’s apartment and engage in intimate activities for the first time in both of their lives. Please read the following scenarios and answer the questions honestly and to the best of your ability.”

Each description is followed by various sexual behaviors (e.g., vaginal penetration, anal penetration, oral intercourse, or manual stimulation) and which actor, or actors, experienced an orgasm. Heterosexual actors Dan and Mary were depicted in all four sexual behaviors: penile-vaginal intercourse, anal intercourse, oral intercourse, and manual stimulation. Gay actors Steve and Rick were depicted in three of the four behaviors: anal intercourse, oral intercourse, and manual stimulation. Finally, lesbian actors Jessica and Sarah were depicted in two of the four sexual behaviors: oral intercourse and manual stimulation.

Each sexual behavior is involved in three to four sexual scenarios depending on the orientation of the actors. For example, Dan and Mary have four potential scenarios: (1) *Only Dan has an orgasm*, (2) *Only Mary has an orgasm*, (3) *Both Dan and Mary have an orgasm*, and (4) *Neither Dan nor Mary have an orgasm*. For same-sex couples, sexual behaviors were limited to three potential scenarios for oral intercourse and manual stimulation (*one has an orgasm*, *both have an orgasm*, or *neither have an orgasm*).

For example, the first sexual scenario participants encounter is *“Dan and Mary engage in vaginal intercourse. Only Dan has an orgasm.”* After which, participants are asked four questions: (1) *Do you think Dan had sex?* (2) *Do you think Mary had sex?* (3) *Do you think Dan lost his virginity?* and (4) *Do you think Mary lost her virginity?* The

response options for these four questions were dichotomous allowing participants to select *yes* = 1 or *no* = 0.

Scale Development

Following item development, a pilot study was conducted to assess the utility of the SBSEQ. During the pilot study, 56 participants responded over two days upon which time a technical error in delivery of the survey was revealed. The data from these 56 participants were discarded and the technical error was corrected.

Procedures

Following institutional review board approval (Appendix A), data were collected in an online survey format across 2 months. Convenience and snowball sampling were the primary sampling techniques with attempts to reach a predominantly LGB+ community sample. An anonymous survey link was administered through the online survey utility, Qualtrics. Through Qualtrics, the “prevent ballot box stuffing” setting was enabled to stop participants from completing the survey more than once. Electronic word-of-mouth (eWOM) was the main medium used to distribute the survey and recruit participants through social media platforms (e.g., Facebook and Twitter) and text messaging.

Participants

Data were collected from 52 participants. The sole inclusion criteria for participation was to be at least 18 years of age. Participants ranged in age from 21 to 65+ years old with an average age of 30.76 years ($SD = 8.42$). Most participants (85%) were White. Eighty-six percent ($n = 45$) described their gender identity as female, 12% as male ($n = 6$), and 2% self-identified as non-binary ($n = 1$). As it relates to sexual orientation,

64% ($n = 33$) identified as heterosexual, 15% ($n = 8$) as gay or lesbian, 12% ($n = 6$) as bisexual, and the remaining 9% make up participants selecting fluid, queer, questioning, or pansexual ($n = 5$).

Scale Evaluation

Data Cleaning

All collected responses ($N = 95$) were exported from Qualtrics to be analyzed using IBM SPSS Statistics (Version 27). Data were cleaned using preselected methods to ensure high data integrity. First, within the SBSEQ, three attention check items were assessed, and any participant who failed to correctly respond to any of the three checks were eliminated from further analysis. Second, listwise procedures were applied to participants who failed to respond to at least 80% of the SBSEQ items. Inclusion criteria for items included a minimum 95% response rate from participants. However, the three qualitative questions concluding the survey were excluded from the minimum response rates.

Finally, although there is no set standard for survey duration in research, an estimated time for survey completion was calculated at ~ 15 minutes with the following formula: $\text{Time} = (W/5 + R*1.8) / 60$. Where, W , is the word count of the survey and, R , is the total number of row options (Puleston, 2012). Due to the repetitive nature of the survey, a minimum completion time of 7 minutes and 30 seconds was selected for inclusion criteria. As shown by Figure 3, completion time was not a factor in eliminating participants who passed the first two phases of data cleaning.

Upon data cleaning a psychometric analysis of the survey characteristics was conducted. The internal consistency of the survey subscales was assessed using

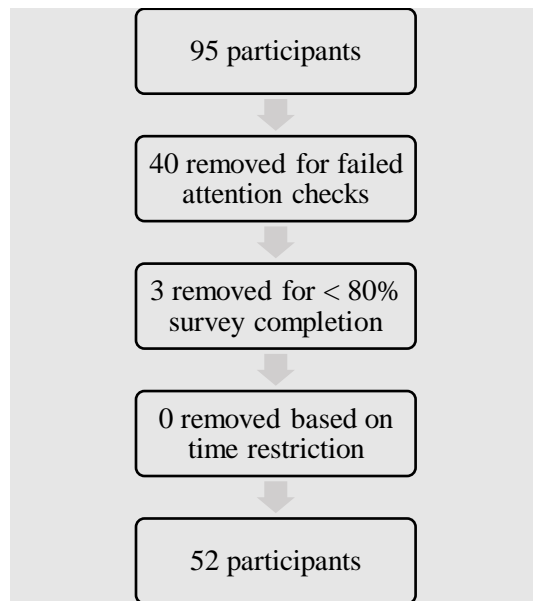
coefficient alpha and item total corrections. Data were then analyzed using descriptive analyses and crosstabulations.

Data Analysis

Due to the variation in hypothetical actors and number of sexual behaviors, descriptive data were analyzed individually by sexual scenario and results were presented as such. A crosstabulation of the participants' biological sex (male, female) and sexual orientation (heterosexual, LGB+) for each sexual scenario was conducted. A chi-square test of independence was conducted on appropriate outcomes to determine statistical significance between participants biological sex or participants sexual orientation. An alpha level of .05 was used for all statistical testing.

Figure 2

Flow Chart Showing the Pilot Study Data Cleaning Process



Validity

Following the development of the modified SBSEQ items, a panel of LGB+ community and expert judges (including content area experts and a survey research methodologist) were assembled to evaluate each scenario. Individual scenarios were assessed by the panel to ensure that the item best represents the domain of interest (i.e., content validity).

Three attention check items were added to each set of hypothetical actors to ensure participants were actively engaged in the survey. For example, within Dan and Mary's sexual behavior scenarios, participants were asked "*Dan and Mary want to know you are paying attention. Please select YES for all four questions.*" Whereas, in Rick and Steve's scenarios participants would be asked to "*select NO for all four questions.*" If a participant did not pass any portion of the three attention check questions their data was removed from analysis.

Results

Survey development results are provided first followed by a descriptive assessment of the quantitative and qualitative pilot study findings.

Content Validity

Based on feedback provided by the expert panel, items were either rejected, accepted, and/or modified based on the overall majority opinion of the panel. Forty-six sexual scenarios were selected to move forward, see Table 4. These scenarios were selected based on the following criteria: accuracy of measure, interpretability by participants, and appropriateness for domain of interest.

Table 4

Finalized Sexual Scenarios by Couple for “The Sexual Behavior Scenario-Extended Questionnaire”

Heterosexual couple scenarios

Dan and Mary engage in vaginal intercourse.

Only Dan has an orgasm.

Only Mary has an orgasm.

Both have an orgasm.

Neither have an orgasm.

Dan performs oral sex on Mary.

Mary has an orgasm.

Mary does NOT have an orgasm.

Mary performs oral sex on Dan.

Dan has an orgasm.

Dan does not have an orgasm.

Dan and Mary perform oral sex on each other.

Only Dan has an orgasm.

Only Mary has an orgasm.

Both have an orgasm.

Neither have an orgasm.

Dan and Mary engage in anal intercourse.^a

Only Dan has an orgasm.

Only Mary has an orgasm.

Both have an orgasm.

Dan penetrates Mary with his fingers.

Mary has an orgasm.

Mary does NOT have an orgasm.

Mary manually stimulates Dan’s penis.

Dan has an orgasm.

Dan does not have an orgasm.

Dan penetrates Mary with his fingers while Mary manually stimulates his penis.

Only Dan has an orgasm.

Only Mary has an orgasm.

Both have an orgasm.

Neither have an orgasm.

Gay couple scenarios

Rick performs oral sex on Steve.

Steve has an orgasm.

Steve does NOT have an orgasm.

Rick and Steve perform oral sex on each other.

Only Rick has an orgasm.

Both have an orgasm.

Neither have an orgasm.

Gay couple scenarios (continued)

Rick and Steve engage in anal intercourse.

Only Rick has an orgasm.

Both have an orgasm.

Neither have an orgasm.

Rick manually stimulates Steve's penis.

Steve has an orgasm.

Steve does NOT have an orgasm.

Rick and Steve manually stimulate each other's penis.

Only one has an orgasm.

Both have an orgasm.

Neither have an orgasm.

Lesbian couple scenarios

Jessica performs oral sex on Sarah.

Sarah has an orgasm.

Sarah does NOT have an orgasm.

Jessica and Sarah perform oral sex on each other.

Only Jessica has an orgasm.

Both have an orgasm.

Neither have an orgasm.

Jessica penetrates Sarah with her fingers.

Sarah has an orgasm.

Sarah does NOT have an orgasm.

Both women penetrate each other with their fingers.

Only one has an orgasm.

Both have an orgasm.

Neither have an orgasm.

Note. Each item in the SBSEQ is followed by four questions: (1) *Did Actor A have sex?* (2) *Did Actor B have sex?* (3) *Did Actor A lose their virginity?* and (4) *Did Actor B lose their virginity?*

^a “Neither have an orgasm” was not displayed to participants due to a technical error.

Reliability

The SBSEQ contains separate behavior subscales examining *sex* and *virginity* for each couple. The following questions assessed these subscales and are referred to as

“outcomes”—(1) *Do you think Actor A had sex?* (2) *Do you think Actor B had sex?* (3) *Do you think Actor A lost their virginity?* and (4) *Do you think Actor B lost their virginity?* Coefficient alpha was calculated for sex-virginity outcomes ($N = 184$) in all four behavior scales [i.e., penile-vaginal intercourse ($n = 16$), anal intercourse ($n = 24$), oral intercourse ($n = 72$), and manual stimulation ($n = 72$)] to assess internal consistency. Items with values under 0.7 were reviewed and assessed to determine whether the item should be removed from further consideration. Due to the dichotomous nature of each scale, Kuder-Richardson 20 (KR-20) was used to evaluate each subscale—penile-vaginal intercourse ($\alpha = .95$), anal intercourse ($\alpha = .95$), oral intercourse ($\alpha = .99$), and manual stimulation ($\alpha = .99$).

Demographics

Table 5 contains the demographic information collected on the survey participants including: biological sex, gender identity, age, household political affiliation during adolescence and participants’ current political leaning, race and ethnicity, and education level.

Table 5
Participant Demographics in the Pilot Study

	Item Choice	Frequency	%
<i>Sex at birth</i>	Male	6	11.50
	Female	46	88.50
<i>Gender identity</i>	Man	6	11.50
	Woman	45	86.50
	Non-binary	1	1.90

	Item Choice	Frequency	%
<i>Age</i>			
<i>(M = 30.76, SD = 8.42)</i>			
	21-29	33	64.70
	30-39	9	17.80
	40-49	7	13.80
	50-59	1	2.00
	60+	1	2.00
<i>Race</i>			
	White	44	84.60
	Black or African American	4	7.70
	Asian	2	3.80
	Other ^a	2	3.80
<i>Ethnicity</i>			
	Hispanic or Latino	2	3.90
	Not Hispanic or Latino	49	96.10
<i>Level of education</i>			
	Some college	3	5.80
	College graduate	29	55.80
	Post graduate Degree	19	36.50
	Other ^b	1	1.90
<i>Political leaning of childhood home</i>			
	Liberal	9	18.80
	Conservative	39	81.30
<i>Current political leaning</i>			
	Liberal	42	85.70
	Conservative	7	14.30

Note. $N = 52$

^a “Other” for race included *All the Above* ($n = 1$) and *Bi-racial* ($n = 1$).

^b “Other” for highest level of education included *Tech school* ($n = 1$).

Additional demographic questions were asked to assess the participants’ sexual history. A sexual profile of participants (Table 6) was created and contains information regarding participants’ virginity status, number of previous sexual partners, participants’ sexuality, and the gender of past sexual partners.

Table 6
Sexual Profile of Participants in The Pilot Study

	Item Choice	Frequency	%
<i>Virginity status</i>			
	Virgin	0	0.00
	Non-virgin	52	100.00
<i>Sexuality</i>			
	Heterosexual	33	63.50
	Gay or Lesbian	8	15.40
	Bisexual	6	11.50
	Fluid	1	1.90
	Pansexual	2	3.80
	Queer	1	1.90
	Questioning	1	1.90
<i>Number of sexual partners (M = 14.86, SD = 16.65)</i>			
	0-5	15	30.00
	6-10	14	28.00
	11-15	10	20.00
	16-20	3	6.00
	21-25	2	4.00
	26-30	1	2.00
	31+	5	10.00
<i>Gender of sexual partners</i>			
	Men only	30	57.70
	Women only	13	25.00
	Both men and women	9	17.30

Note. $N = 52$ (6 males, 46 females)

Quantitative Results

Penile-vaginal Intercourse

All Participants. Overall, 98% of participants ($N = 52$) overwhelmingly concluded penile-vaginal intercourse (PVI) counted as having sexual intercourse and losing one's virginity. Most notably, participants unanimously indicated Dan and Mary had sex (100%) or lost their virginity (100%) when both actors had an orgasm. There were differences in affirmative responses by participant biological sex and participant sexual orientation when only one or neither actor had an orgasm.

Results by Participant Biological Sex. Male and female participants were similar in their affirmation of Dan and Mary having sex (100.00%, 97.80%) and losing their virginity (100.00%, 97.80%) in sexual scenarios when Dan had an orgasm (e.g., Only Dan has an orgasm; or Both Dan and Mary have an orgasm). However, a crosstabulation of responses indicated a slight variation when presented with the sexual scenarios: "Dan and Mary engage in vaginal intercourse. Only Mary has an orgasm" and "Dan and Mary engage in vaginal intercourse. Neither have an orgasm." One male participant selected *no* for all four possible outcomes: (1) Do you think Dan had sex, (2) Do you think Mary had sex, (3) Do you think Dan lost his virginity, and (4) Do you think Mary lost her virginity. This was a consistent response given by that participant for both penile-vaginal intercourse and anal intercourse.

Results by Participant Sexual Orientation. When outcomes are analyzed by heterosexual (HET) or lesbian, gay, bisexual, etc. (LGB+) sexual orientation the results are similar. Participants more frequently indicated Dan and Mary had sex (HET = 100.00%, LGB+ = 94.70%) or lost their virginity (HET = 100.00%, LGB+ = 94.70%) if

the sexual scenario involved Dan having an orgasm. However, if both Dan and Mary had an orgasm during PVI those percentages move to 100% across the board regardless of participant sexual orientation. See Table 7 for the crosstabulation of percentages for affirmative responses by participant biological sex and participant sexual orientation.

Table 7

Crosstabulation of Percentage of Affirmative Responses for an Orgasm During “Penile-Vaginal Intercourse”

Hypothetical couple	Male	<u>Had Sex</u>					<u>Lost Virginity</u>					
		Dan Female	All	Male	Mary Female	All	Dan Female	All	Male	Mary Female	All	
<i>Heterosexual couple</i>												
Dan	100.00	97.80	98.10	100.00	97.80	98.10	100.00	97.80	98.10	100.00	97.80	98.10
Mary	83.30	97.80	96.20	83.30	97.80	96.20	83.30	97.80	96.20	83.30	97.80	96.20
Both	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Neither	83.30	100.00	98.00	83.30	100.00	98.00	83.30	100.00	98.00	83.30	100.00	98.00
		Dan HET	All	HET	Mary LGB+	All	HET	Dan LGB+	All	HET	Mary LGB+	All
<i>Heterosexual couple</i>												
Dan	100.00	94.70	98.10	100.00	94.70	98.10	100.00	94.70	98.10	100.00	94.70	98.10
Mary	97.00	94.70	96.20	97.70	94.70	96.20	97.00	94.70	96.20	97.00	94.70	96.20
Both	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Neither	96.90	100.00	98.00	96.80	100.00	98.00	96.90	100.00	98.00	96.90	100.00	98.00

Note. $N = 52$ (6 males, 46 females; 33 heterosexual, 19 LGB+). HET = heterosexual participants; LGB+ = participants identified as lesbian, gay, bisexual, etc. Orgasm key:

Name (Dan, Mary) = refers to which hypothetical actor had an orgasm; Both = both orgasm; Neither = neither orgasm.

* $p < .05$. ** $p < .001$

Anal Intercourse

All Participants. Similarly, to PVI, anal intercourse was considered sex for both heterosexual and gay actors by most participants. Within the couples, responses for Dan and Mary had a similar trajectory. Ninety-one percent of participants considered Dan and Mary to have had sex after engaging in anal intercourse. Whereas only 64.30% indicated they believed Mary lost her virginity and 74.70% believed Dan lost his virginity through anal intercourse. When analyzed by participant sex, female participants account for the 9% difference between Dan and Mary's virginity loss.

There was a distinct difference in whether anal intercourse resulted in the loss of virginity between the two couples. Between 64-75% of participants reported Dan and Mary lost their virginity while 89.33% of participants believed Rick and Steve lost their virginity. Around 95% of participants indicated both Rick (96.03%) and Steve (95.37%) had sex.

Results by Participant Biological Sex. Generally, more male than female participants indicated anal intercourse constituted having sex for all hypothetical actors—Dan and Mary (94.43%, 90.50%); Rick (100%, 95.50%); and Steve (100%, 94.77%). The opposite is true for virginity loss. Female participants more frequently indicated anal intercourse counted as virginity loss than male participants. Of the hypothetical actors, Rick (90.13%) and Steve (90.17%) had the most affirmative responses from females regarding virginity loss, while Mary (63.93%) had the least.

Results by Participant Sexual Orientation. A crosstabulation of affirmative responses by participant sexuality indicated participants who identified as something other than heterosexual (e.g., lesbian, gay, bisexual, etc.) more frequently indicated anal

intercourse counts as sex. One hundred percent of LGB+ participants indicated anal intercourse was sex for Rick and Steve, while fewer than 95% of heterosexual participants indicated Rick (93.83%) and Steve (92.83%) had sex. Similarly, 92.97% of LGB+ participants indicate Dan and Mary had sex, while 89.77% report Dan and 93.10% report Mary had sex during anal intercourse. A chi-square test of independence was performed to assess the relationship between the outcome and the participants sexual orientation (HET = heterosexual; LGB+ = identified as lesbian, gay, bisexual, etc.) and no statistically significant relationships were found. Further results from the crosstabulations are in Table 8.

Table 8
Crosstabulation of Percentage of Affirmative Responses for an Orgasm During ‘‘Anal Intercourse’’

Hypothetical couple	Had Sex						Lost Virginity					
	Male	Dan Female	All	Male	Mary Female	All	Male	Dan Female	All	Male	Mary Female	All
<i>Heterosexual couple</i>												
Dan	100.00	91.30	92.30	100.00	91.30	92.30	66.70	73.90	73.10	66.70	63.00	63.50
Mary	83.30	91.10	90.20	83.30	91.10	90.20	66.70	75.60	74.50	66.70	64.40	64.70
Both	100.00	89.10	90.40	100.00	89.10	90.40	66.70	77.80	76.50	66.70	64.40	64.70
Neither	-	-	-	-	-	-	-	-	-	-	-	-
		Rick			Steve			Rick			Steve	
	Male	Female	All	Male	Female	All	Male	Female	All	Male	Female	All
<i>Gay couple</i>												
Rick	100.00	93.30	94.10	100.00	93.30	94.10	83.30	88.60	88.00	83.30	88.90	88.20
Both	100.00	95.50	96.00	100.00	95.50	96.00	83.30	90.90	90.00	83.30	90.70	89.80
Neither	100.00	97.70	98.00	100.00	95.50	96.00	83.30	90.90	90.00	83.30	90.90	90.00
<i>Heterosexual couple</i>												
		Dan			Mary			Dan			Mary	
	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All
Dan	90.90	94.70	92.30	90.90	94.70	92.30	72.70	73.70	73.10	63.60	63.20	63.50
Mary	87.50	94.70	90.20	97.50	94.70	90.20	75.00	73.70	74.50	68.80	57.90	64.70
Both	90.90	89.50	90.40	90.90	89.50	90.40	78.10	73.70	76.50	68.80	57.90	64.70
Neither	-	-	-	-	-	-	-	-	-	-	-	-
		Rick			Steve			Rick			Steve	
	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All
<i>Gay couple</i>												
Rick	90.90	100.00	94.10	90.90	100.00	94.10	84.40	94.40	88.00	81.80	100.00	88.20
Both	93.80	100.00	96.00	93.80	100.00	96.00	87.50	94.40	90.00	87.10	94.40	89.80
Neither	96.80	100.00	98.00	93.80	100.00	96.00	87.50	94.40	90.00	87.50	94.40	90.00

Note: $N = 52$ (6 males, 46 females; 33 heterosexual, 19 LGB+). HET = heterosexual participants; LGB+ = participants identified as lesbian, gay, bisexual, etc. Orgasm key: Name (Dan, Mary, Rick) = refers to which hypothetical actor had an orgasm; Both = both orgasm; Neither = neither orgasm.

* $p < .05$. ** $p < .001$

Oral Intercourse

All Participants. Contrary to the previous sexual scenarios, penile-vaginal intercourse and anal intercourse, there is more variation in the data for oral intercourse. Overall, participants were much more conflicted in whether oral intercourse should be considered sex for any of the hypothetical actors. Just over half of the participants believed oral intercourse was considered sex for Dan (54.35%), Mary (54.21%), Rick (53.06%), and Steve (53.66%). And approximately 65% of participants reported oral intercourse was sex for lesbian couple Jessica (65.26%) and Sarah (65.76%).

Results by Participant Biological Sex. A crosstabulation of responses by participants' biological sex (see Table 9) revealed female participants more frequently indicated oral intercourse counted as having sex and virginity loss than male participants. Around 56% of females reported the heterosexual couple (Dan and Mary, 56.99%) and gay couple [Rick (55.70%) and Steve (56.40%)] had sex during oral intercourse. While just one-third of male participants (33.30%) indicated Dan, Mary, Rick, and Steve had sex. Overall, more participants (male and female) indicated Jessica (43.32%, 68.30%) and Sarah (50.00%, 67.94%) had sex during oral intercourse.

However, male participants (100%) unanimously agreed that oral intercourse does not qualify as virginity loss for any of the hypothetical actors regardless of their sexual orientation or presence of an orgasm. Similarly, female participants indicated oral intercourse did not count as virginity loss for either the heterosexual couple [Dan (78.10%) and Mary (79.22%)], gay couple [Rick (73.14%) and Steve (69.76%)], or lesbian couple [Jessica (62.12%) and Sarah (61.42%)].

Table 9

Crosstabulation of Percentage of Affirmative Responses for an Orgasm During “Oral Intercourse” by Participant’s Sex

Behavior by Couple	Had Sex						Lost Virginity					
	Male	Dan Female	All	Male	Mary Female	All	Male	Dan Female	All	Male	Mary Female	All
<i>Heterosexual couple</i>												
Dan performs oral sex on Mary												
Mary had an orgasm	33.30	55.60	52.90	33.30	57.80	54.90	0.00	17.80	15.70	0.00	24.20	21.60
Mary does not have an orgasm	33.30	56.50	53.80	33.30	56.50	53.80	0.00	15.20	13.50	0.00	21.70	19.20
Mary performs oral sex on Dan												
Dan had an orgasm	33.30	58.70	55.80	33.30	58.70	55.80	0.00	23.90	21.20	0.00	15.20	13.50
Dan does not have an orgasm	33.30	56.50	53.80	33.30	56.50	53.80	0.00	23.90	21.20	0.00	17.40	15.40
They perform oral sex on each other												
Dan had an orgasm	33.30	57.80	54.90	33.30	55.60	52.90	0.00	24.40	21.60	0.00	22.20	19.60
Mary had an orgasm	33.30	55.60	52.90	33.30	55.60	52.90	0.00	22.20	19.60	0.00	22.20	19.60
Both have an orgasm	40.00	58.70	56.90	33.30	58.70	55.80	0.00	23.90	21.20	0.00	21.70	19.20
Neither have an orgasm	33.30	56.50	53.80	33.30	56.50	53.80	0.00	23.90	21.20	0.00	21.70	19.20
<i>Gay couple</i>												
	Male	Rick Female	All	Male	Steve Female	All	Male	Rick Female	All	Male	Steve Female	All
Rick performs oral sex on Steve												
Steve had an orgasm	33.30	56.50	53.80	33.30	56.50	53.80	0.00	21.70	19.20	0.00	30.40	26.90
Steve does not have an orgasm	33.30	56.50	53.80	33.30	56.50	53.80	0.00	22.20	19.60	0.00	30.40	26.90
They perform oral sex on each other												
Rick had an orgasm	33.30	55.60	52.90	33.30	55.60	52.90	0.00	28.90	25.50	0.00	28.90	25.50
Both have an orgasm	33.30	53.30	51.00	33.30	55.60	52.90	0.00	28.90	25.50	0.00	28.90	25.50
Neither have an orgasm	33.30	56.60	53.80	33.30	57.80	54.90	0.00	32.60	28.80	0.00	32.60	28.80
<i>Lesbian couple</i>												
	Male	Jessica Female	All	Male	Sarah Female	All	Male	Jessica Female	All	Male	Sarah Female	All
Jessica performs oral sex on Sarah												
Sarah had an orgasm	33.30	66.70	62.70	50.00	66.70	64.70	0.00	35.60	31.40	0.00	37.80	33.30
Sarah does not have an orgasm	33.30	66.70	62.70	50.00	66.70	64.70	0.00	35.60	31.40	0.00	37.80	33.30
They perform oral sex on each other												
Jessica had an orgasm	50.00	67.40	65.30	50.00	67.40	65.30	0.00	37.20	32.70	0.00	37.20	32.70
Both have an orgasm	50.00	72.50	69.60	50.00	70.70	68.10	0.00	41.50	36.20	0.00	41.50	36.20
Neither have an orgasm	50.00	68.20	66.00	50.00	68.20	66.00	0.00	39.50	34.70	0.00	38.60	34.00

Note: N = 52 (6 males, 46 females)

* $p < .05$. ** $p < .001$

Results by Participant Sexual Orientation. Consistent with findings in previous sexual behaviors, participants who identified as LGB+ (67.28-73.70%) more frequently affirmed oral intercourse counted as having sex than heterosexual participants (44.54-60.88%). Likewise, LGB+ participants (28.74-47.40%) also indicated oral intercourse counted as virginity loss more than heterosexual participants (12.54-25.72%). The crosstabulation results and a chi-square test of independence revealed no statistically significant relationships. Full crosstabulation results are in Table 10.

Table 10

Crosstabulation of Percentage of Affirmative Responses for an Orgasm During “Oral Intercourse” by Participant’s Sexual Orientation

Behavior by couple	Had Sex						Lost Virginity					
	HET	Dan LGB+	All	HET	Mary LGB+	All	HET	Dan LGB+	All	HET	Mary LGB+	All
<i>Heterosexual couple</i>												
Dan performs oral sex on Mary												
Mary had an orgasm	48.50	61.10	52.90	48.50	66.70	54.90	15.20	16.70	15.70	15.20	33.30	21.60
Mary does not have an orgasm	45.50	68.40	53.80	45.50	68.40	53.80	12.10	15.80	13.50	12.10	31.60	19.20
Mary performs oral sex on Dan												
Dan had an orgasm	48.50	68.40	55.80	48.50	68.40	55.80	12.10	36.80	21.20	12.10	15.80	13.50
Dan does not have an orgasm	45.50	68.40	53.80	45.50	68.40	53.80	12.10	36.80	21.20	12.10	21.10	15.40
They perform oral sex on each other												
Dan had an orgasm	46.90	68.40	54.90	43.80	68.40	52.90	12.50	36.80	21.60	12.50	31.60	19.60
Mary had an orgasm	45.50	66.70	52.90	45.50	66.70	52.90	12.10	33.30	19.60	12.10	33.30	19.60
Both have an orgasm	50.00	68.40	56.90	48.50	68.40	55.80	12.10	36.80	21.20	12.10	31.60	19.20
Neither have an orgasm	45.50	68.40	53.80	45.50	68.40	53.80	12.10	36.80	21.20	12.10	31.60	19.20
<i>Gay couple</i>												
Rick performs oral sex on Steve		Rick LGB+	All	HET	Steve LGB+	All	HET	Rick LGB+	All	HET	Steve LGB+	All
Steve had an orgasm	45.50	68.40	53.80	45.50	68.40	53.80	18.20	21.10	19.20	18.20	42.10	26.90
Steve does not have an orgasm	45.50	68.40	53.80	45.50	68.40	53.80	18.80	21.10	19.60	18.20	42.10	26.90
They perform oral sex on each other												
Rick had an orgasm	43.80	68.40	52.90	43.80	68.40	52.90	15.60	42.10	25.50	15.60	42.10	25.50
Both have an orgasm	42.40	66.70	51.00	45.50	66.70	52.90	18.20	38.90	25.50	18.20	38.90	25.50
Neither have an orgasm	45.50	68.40	53.80	46.90	68.40	54.90	21.20	42.10	28.80	21.20	42.10	28.80
<i>Lesbian couple</i>												
Jessica performs oral sex on Sarah		Jessica LGB+	All	HET	Sarah LGB+	All	HET	Jessica LGB+	All	HET	Sarah LGB+	All
Sarah had an orgasm	56.30	73.70	62.70	59.40	73.70	64.70	25.00	42.10	31.40	25.00	47.40	33.30
Sarah does not have an orgasm	56.30	73.70	62.70	59.40	73.70	64.70	25.00	42.10	31.40	25.00	47.40	33.30
They perform oral sex on each other												
Jessica had an orgasm	60.00	73.70	65.30	60.00	73.70	65.30	23.30	47.40	32.70	23.30	47.40	32.70
Both have an orgasm	66.70	73.70	69.60	64.30	73.70	68.10	28.60	47.40	36.20	28.60	47.40	36.20
Neither have an orgasm	61.30	73.70	66.00	61.30	73.70	66.00	26.70	47.40	34.70	25.80	47.40	34.00

Note. $N = 52$ (33 heterosexual, 19 LGB+). HET = heterosexual participants; LGB+ = participants identified as lesbian, gay, bisexual, etc.

* $p < .05$. ** $p < .001$

Manual Stimulation

All Participants. As predicted, manual stimulation is not considered sex by an overwhelmingly majority of participants. Less than 20% of participants considered manual stimulation as sex for heterosexual actors [Dan (17.79%) and Mary (17.94%)] or gay actors [Rick (19.68%) and Steve (19.52%)]; whereas over 40% of participants view manual stimulation counted as sex for lesbian actors (Jessica and Sarah, 43.6%). Around 11% of participants indicated manual stimulation counted as virginity loss for Dan (10.45%), Mary (11.88%), Rick (9.76%), and Steve (12.90%); whereas 28.66% indicated Jessica and 34.00% indicated Sarah lost their virginity.

Results by Biological Sex. Male participants (100%) unanimously agreed Dan, Mary, Rick, or Steve did not have sex or lose their virginity during manual stimulation. Only one male participant (16.70%) concluded Jessica and Sarah had sex during manual stimulation, though this participant did not believe either woman lost their virginity.

Female participants more frequently indicated Jessica and Sarah (47.28%) had sex than Rick (22.20%) and Steve (22.00%), or Dan (20.18%) and Mary (20.31%). Virginity loss shares similar results: Jessica (32.54%) and Sarah (38.62%); Rick (10.94%) and Steve (14.50%); and finally, Dan (11.83%) and Mary (13.41%). Crosstabulation percentages are in Table 11.

Table 11

Crosstabulation of Percentage of Affirmative Responses for an Orgasm During “Manual Stimulation” by Participants’ Sex

Behavior by couple	Had Sex						Lost Virginity					
	Male	Dan Female	All	Male	Mary Female	All	Male	Dan Female	All	Male	Mary Female	All
<i>Heterosexual couple</i>												
Dan penetrates Mary with his fingers												
Mary had an orgasm	0.00	19.60	17.30	0.00	21.70	19.20	0.00	4.30	3.80	0.00	15.20	13.50
Mary does not have an orgasm	0.00	20.00	17.60	0.00	21.70	19.20	0.00	4.30	3.80	0.00	13.00	11.50
Mary manually stimulates Dan’s penis												
Dan had an orgasm	0.00	20.00	17.60	0.00	17.80	15.70	0.00	13.30	11.80	0.00	4.40	3.90
Dan does not have an orgasm	0.00	17.40	15.40	0.00	17.40	15.40	0.00	13.00	11.50	0.00	4.30	3.90
They perform mutual manual stimulation												
Dan had an orgasm	0.00	20.00	17.60	0.00	20.00	17.60	0.00	15.60	13.70	0.00	20.00	17.60
Mary had an orgasm	0.00	22.20	19.60	0.00	22.20	19.60	0.00	15.60	13.70	0.00	17.80	15.70
Both have an orgasm	0.00	22.20	19.60	0.00	21.70	19.20	0.00	17.40	15.40	0.00	17.40	15.40
Neither have an orgasm	0.00	20.00	17.60	0.00	20.00	17.60	0.00	11.10	9.80	0.00	15.20	13.50
<i>Gay couple</i>												
	Male	Rick Female	All	Male	Steve Female	All	Male	Rick Female	All	Male	Steve Female	All
Rick manually stimulates Steve’s penis												
Steve had an orgasm	0.00	24.40	21.60	0.00	23.90	21.20	0.00	6.50	5.80	0.00	15.20	13.50
Steve does not have an orgasm	0.00	22.70	20.00	0.00	22.70	20.00	0.00	4.50	4.00	0.00	13.60	12.00
They perform mutual manual stimulation												
One has an orgasm	0.00	21.70	19.60	0.00	21.70	19.60	0.00	15.20	13.70	0.00	15.20	13.70
Both have an orgasm	0.00	21.70	19.20	0.00	21.70	19.20	0.00	15.20	13.50	0.00	15.20	13.50
Neither have an orgasm	0.00	20.50	18.00	0.00	20.00	17.60	0.00	13.30	11.80	0.00	13.30	11.80
<i>Lesbian couple</i>												
	Male	Jessica Female	All	Male	Sarah Female	All	Male	Jessica Female	All	Male	Sarah Female	All
Jessica penetrates Sarah with her fingers												
Sarah had an orgasm	16.70	50.00	46.00	16.70	50.00	46.00	0.00	22.70	20.00	0.00	40.90	36.00
Sarah does not have an orgasm	16.70	45.50	42.00	16.70	45.50	42.00	0.00	20.50	18.00	0.00	34.10	30.00
They perform mutual manual stimulation												
One has an orgasm	16.70	47.70	44.00	16.70	47.70	44.00	0.00	40.90	36.00	0.00	40.90	36.00
Both have an orgasm	16.70	47.70	44.00	16.70	46.70	43.10	0.00	40.00	35.30	0.00	38.60	34.00
Neither have an orgasm	16.70	45.50	42.00	16.70	46.50	42.90	0.00	38.60	34.00	0.00	38.60	34.00

Note. $N = 52$ (6 males, 46 females)

* $p < .05$. ** $p < .001$

Results by Sexual Orientation. A crosstabulation of affirmative responses regarding sex and virginity loss during manual stimulation was conducted by participants' sexual orientation. Far more participants who identified as LGB+ frequently indicated manual stimulation counted as having sex for all three couples than heterosexual participants, Dan (43.34%, 3.05%) and Mary (44.00%, 3.03%); Rick (47.32%, 3.72%) and Steve (47.32%, 3.66%); and lastly, Jessica (89.26%, 16.56%) and Sarah (89.26%, 16.56%). Results were similar comparing affirmative responses to virginity loss (see Table 8).

The crosstabulation results indicated a chi-square test of independence was appropriate to examine the relationship between participant sexual orientation and the outcomes for only Jessica and Sarah. Those outcomes include: 1) all outcomes regarding Jessica and Sarah having had sex; 2) Jessica and Sarah's virginity loss when they perform mutual manual stimulation; and 3) Sarah's virginity loss when Jessica penetrates her with her fingers. All outcomes were found to be statistically significant. Results indicated there was a statistically significant difference in the rate at which LGB+ participants and heterosexual participants affirmed manual stimulation to be sex or count as virginity loss for Jessica and Sarah. Significant outcomes are notated in Table 12.

Moreover, the most interesting portion of the manual stimulation data is the outcomes we could not examine with a chi-square based on sample size. Sexual scenarios for manual stimulation have a "giver" and a "receiver." For example, the sexual scenario "Dan penetrates Mary with his fingers" has two potential options (1) Mary has an orgasm, or (2) Mary does not have an orgasm. In both options, heterosexual participants

indicated the “giver” Dan and “receiver” Mary did not lose their virginity (97.00%; 94.70%).

However, when LGB+ participants were asked if Dan (the giver) and Mary (the receiver) lost their virginity there was more variation in the responses. Approximately 5.3% of LGB+ participants reported Dan lost his virginity, while 31.6% reported Mary lost hers if she had an orgasm and 26.3% if she did not have an orgasm. When the roles are reversed and Mary manually stimulates Dan’s penis, 26.3% of LGB+ participants indicated Dan (the receiver) lost his virginity; while only 5.3% indicate Mary (the giver) lost her virginity. Three percent of heterosexual participants reported Dan and Mary both lost their virginity when Dan receives manual stimulation (3.10%).

This finding is consistent for all hypothetical couples, regardless of the couple’s sexual orientation: Mary stimulating Dan’s penis, Rick manually stimulating Steve’s penis, and Jessica penetrating Sarah with her fingers. These results suggest that while LGB+ participants view “giving” as a sexual act, it does not necessarily qualify as losing your virginity. A full account of responses can be found below in Table 12.

Table 12

Crosstabulation of Percentage of Affirmative Responses for an Orgasm During “Manual Stimulation” by Participants’ Sexual Orientation

Behavior by couple	Had Sex						Lost Virginity					
	HET	Dan LGB+	All	HET	Mary LGB+	All	HET	Dan LGB+	All	HET	Mary LGB+	All
<i>Heterosexual couple</i>												
Dan penetrates Mary with his fingers												
Mary had an orgasm	3.00	42.10	17.30	3.00	47.40	19.20	3.00	5.30	3.80	3.00	31.60	13.50
Mary does not have an orgasm	3.10	42.10	17.60	3.00	47.40	19.20	3.00	5.30	3.80	3.00	26.30	11.50
Mary manually stimulates Dan’s penis												
Dan had an orgasm	3.10	42.10	17.60	3.10	36.80	15.70	3.10	26.30	11.80	3.10	5.30	3.90
Dan does not have an orgasm	3.00	36.80	15.40	3.00	36.80	15.40	3.00	26.30	11.50	3.10	5.30	3.90
They perform mutual manual stimulation												
Dan had an orgasm	3.00	44.40	17.60	3.00	44.40	17.60	3.00	33.30	13.70	6.10	38.90	17.60
Mary had an orgasm	3.10	47.40	19.60	3.10	47.40	19.60	3.10	31.60	13.70	3.10	36.80	15.70
Both have an orgasm	3.10	47.40	19.60	3.00	47.40	19.20	3.00	36.80	15.40	3.00	36.80	15.40
Neither have an orgasm	3.00	44.40	17.60	3.00	44.40	17.60	3.00	22.20	9.80	3.00	31.60	13.50
<i>Gay couple</i>												
	HET	Rick LGB+	All	HET	Steve LGB+	All	HET	Rick LGB+	All	HET	Steve LGB+	All
Rick manually stimulates Steve’s penis												
Steve had an orgasm	6.30	47.40	21.60	6.10	47.40	21.20	6.10	5.30	5.80	6.10	26.30	13.50
Steve does not have an orgasm	3.10	50.00	20.00	3.10	50.00	20.00	3.10	5.60	4.00	3.10	27.80	12.00
They perform mutual manual stimulation												
One has an orgasm	3.10	47.40	19.60	3.10	47.40	19.60	3.10	31.60	13.70	3.10	31.60	13.70
Both have an orgasm	3.00	47.40	19.20	3.00	47.40	19.20	3.00	31.60	13.50	3.00	31.60	13.50
Neither have an orgasm	3.10	44.40	18.00	3.00	44.40	17.60	3.00	27.80	11.80	3.00	27.80	11.80
<i>Lesbian couple</i>												
	HET	Jessica LGB+	All	HET	Sarah LGB+	All	HET	Jessica LGB+	All	HET	Sarah LGB+	All
Jessica penetrates Sarah with her fingers												
Sarah had an orgasm	19.40**	89.50**	46.00**	19.40**	89.50**	46.00**	12.90	31.60	20.00	19.40*	63.20*	36.00*
Sarah does not have an orgasm	15.60**	88.90**	42.00**	15.60**	88.90**	42.00**	9.40	33.30	18.00	12.50**	61.10**	30.00**
They perform mutual manual stimulation												
One has an orgasm	16.10**	89.50**	44.00**	16.10**	89.50**	44.00**	16.10**	68.40**	36.00**	16.10**	68.40**	36.00**
Both have an orgasm	16.10**	89.50**	44.00**	15.60**	89.50**	43.10**	15.60**	68.40**	35.30**	15.60**	66.70**	34.00**
Neither have an orgasm	15.60**	88.90**	42.00**	16.10**	88.90**	42.90**	15.60**	66.70**	34.00**	15.60**	66.70**	34.00**

Note: N = 52 (33 heterosexual, 19 LGB+). HET = heterosexual participants; LGB+ = participants identified as lesbian, gay, bisexual, etc.

* $p < .05$. ** $p < .001$

Qualitative Results

While this research is predominately quantitative, an open-ended response section was supplied at the end of the survey to allow participants a chance to further explain their definition of sex and virginity. Additionally, a final question provided space for any further clarification participants wished to make regarding the survey or survey topic (e.g., sex, virginity, sexuality, foreplay, etc.). This portion of the qualitative data was analyzed first for possible improvements to the survey. Following the analysis of improvements (e.g., wording, inclusivity, and additional questions), three themes emerged from the data: penetration, confusion, and virginity as a social construct.

Improvements

Wording. Consistent terminology is important in any form of research, but consistency is especially important with topics as subjective as sex and virginity. One participant notes:

“I noticed that when discussing male-female relations it was described as "fingering" the female. Yet in follow-up questions the language changed from fingering to penetrating. This inconsistency could bias your results - be careful with interpretations.”

This important observation led to an immediate review of questions for any discrepancies prior to relaunching the survey. The following questions were reworded to use the phrasing “penetrates with fingers” instead of “fingering”—(1) Dan penetrates Mary with his fingers. Mary has an orgasm, and (2) Dan penetrates Mary with his fingers. Mary does not have an orgasm.

Inclusivity. Over recent years additional focus has been placed on creating demographic questions that are more inclusive of all participants. Within this research creating demographic questions and sexual scenarios inclusive of all communities was important. Scenarios were created using a cisgender heterosexual couple, a gay couple, and a lesbian couple. Unfortunately, being as specific as “cisgender” did not create the environment we hoped.

P1: “I’m not familiar with LGBT terminology. I don’t know what cis-gendered means.”

P2: “The survey seemed limited in that it only offers cisgender options on who the participant has had sex with.”

Often, the terminology associated with the lesbian, gay, and bisexual (LGB) community can be considered quite complex for those who are not direct, or indirect, members of the community. For participant number one (P1), describing the heterosexual couple as “cisgender” seemed to create added confusion. Whereas, participant number two (P2), did not feel that having only cisgender actors in each scenario were inclusive enough of other communities. Though it is not specified, an educated guess would indicate the *other* communities would be those individuals who identify as transgender or non-binary.

Additional Questions. In addition to creating more inclusive demographics, we wanted to ensure we gathered the maximum amount of information on participants to understand their decision-making process on what they did or did not consider *having sex* or *losing virginity*. One participant suggests, “Follow up studies could include asking demographic information regarding kink interest. In personal experience, the kink

community has a more open-minded (and perhaps more informed/well thought out) concepts of sexual activity.”

An additional demographic question was included to assess participants past sexual behavior. This question was adapted from *The Sexual Experience Questionnaire* (SEQ) (Trotter & Alderson, 2007). The SEQ asked participants to select any of the sexual behaviors they had ever participated in (a) kissing; (b) touching breast or stimulating nipples; (c) manually stimulating the genitals with hands; (d) oral sex; (e) vaginal penetration with a penis, finger, and/or sex toy; and finally, (f) anal penetration with a penis, finger, and/or sex toy.

In addition to the SEQ demographic question, one final revision was made to the sexual scenarios after reviewing the data. Jessica and Sarah were given the scenario, “Jessica penetrates Sarah with a sex toy.” There were four possible orgasm occurrences: (1) *Sarah has an orgasm*, (2) *Sarah does not have an orgasm*, (3) *Both have an orgasm*, and (4) *Neither have an orgasm*. As with previous research (Hill et al., 2010), type of sex toy was purposefully omitted for participants. Explicitly informing the participant of the type of sex toy (e.g., dildo, strap-on, etc.), would have a greater impact on their views on sex and virginity than leaving room for interpretation.

Penetration, Confusion, and Virginity as a Social Construct

Penetration. Consistent with other findings throughout the literature and the quantitative data collected in this study, participants stood by their beliefs of penile-vaginal intercourse (PVI) and anal intercourse counting as sex. When asked to define sex, many participants simply put a variation of penetration (e.g., “penetration of the penis into a vagina or rectum,” “penetration,” “vaginal or anal penetration,” etc.). A few

participants were specific and inclusive enough to say, “Penetration by whatever means possible by your preferred sexual gender” and “Penetration in whatever way is possible for the couple.” While others just missed the mark of inclusivity, “Any act of penetration with a sexual organ, or in case of two ladies, a fake phallic object if used.”

When asked to define virginity, “Not being penetrated” and “Lack of penetration” were popular answers among participants. This is not surprising as it follows that the natural progression of sexual intercourse (or, in this case, penetration) being an action and the loss of virginity is the outcome of said action.

Confusion. While most participants appeared to be confident in their responses to the open-ended questions. Some did admit to confusion or, if not confusion, a predetermined view of sex and virginity that made the survey difficult, or thought provoking, based on their own experiences:

- “Gosh, now I don't know. I've always defined it with penile penetration anal or vaginal, but hadn't thought about it with lesbians.”
- “This is a very difficult and individualized question. I believe that virginity is determined based upon the individual's interpretation of what defines their own virginity. Throughout this process I realized my own definition of virginity requires a male genitalia which I think it wrong. I personally need to re-evaluate my thoughts on virginity - but not entirely sure how to redefine without the male bias.”
- “Before this survey - penetration. Now I'm not so sure.”
- “Now after answering the questions, I wish I could go back and change my answers. I think being straight and coming from a conservative family, I never

thought about what sex was for anyone other than a straight couple. I'm actually pretty ashamed of that. So I could change it to include sex as being penetration in the vagina or anus with a penis, fingers dildo, ect with or without an orgasm. I do not consider oral for anyone sex but more of foreplay.”

Social Construct. In recent years, virginity has come to be viewed as a social construct to many. Participants from this research were no different. When asked to define virginity, one participant said, “I feel like virginity is more a social construct than anything else, but I personally define a virgin as someone who has not engaged in a sexual act.” Three other participants express their displeasure of the concept of virginity—

- “Virginity is a construct that is harmful to girls and women especially.”
- “A socially constructed myth originally created to devalue and suppress women.”
- “A crappy social construct meant to shame women into not having sex till marriage, but also a intimate moment between two people who either one or neither have preformed before.”

While this pilot study has limited data, participants consistently, and albeit unknowingly, reinforced heteronormative views on sex and virginity. Further data collection resulting in a larger sample size is needed to provide a more accurate measure of the data.

Discussion

The primary aim of this article was to create a valid and reliable scale in measuring what sexual behaviors participants believed counted as having sex or losing

virginity. In doing so, the SBSEQ was reviewed and reevaluated upon conclusion of the study. Some improvements made to the SBSEQ were easy to address (e.g., consistent wording and including additional questions). However, feedback regarding the use of cisgender hypothetical actors was particularly difficult to address.

After reevaluating the literature and our adapted sexual scenarios, the decision was made to remove the term “cisgender” and the sexual orientation of the hypothetical actors from the scenarios altogether. This decision was made to give participants additional room to make their own assumptions about the actors in each scenario. Though we removed the sexual orientation of the hypothetical actors and term *cisgender*, it was important to be specific about the biological sex of each actor in the same-sex couple scenarios.

For example, if a participant comes from a more conservative, heteronormative background it can be assumed that they will interpret the lesbian actors (Sarah and Jessica) as a biologically female couple. On the other hand, participants familiar with the lesbian, gay, bisexual, and transgender (LGBT) community would be more likely to accept and possibly interpret the hypothetical actors as transgender. Dan, Rick, and Steve could be interpreted as female-to-male (FtM) and actors Mary, Jessica, and Sarah as male-to-female (MtF).

Although there are numerous variations of sexual orientation and gender identities, and those social groups are important to the body of knowledge; the exploration of transgender hypothetical actors is outside the scope of this current study. Future research will explore transgender hypothetical actors with an emphasis on data collection from transgender participants. With that, it was important to explicitly indicate

the biological sex of the same-sex hypothetical actors. An example of the updated descriptions is in Table 13.

Table 13

Example Scenario for “Oral Intercourse” Between Hypothetical Female Actors, Jessica and Sarah

The scenarios below depict two female individuals, Jessica and Sarah. They meet at a bar and go back to Sarah’s apartment and engage in intimate activities for the FIRST TIME in both of their lives. Please read the following scenarios and answer the questions honestly and to the best of your ability.

Jessica performs oral sex on Sarah. Sarah has an orgasm.	Yes	No
Do you think Jessica had sex?		
Do you think Sarah had sex?		
Do you think Jessica lost her virginity?		
Do you think Sarah lost her virginity?		

Quantitative findings suggest female and LGB+ participants hold broader definitions of having sex and loss of virginity than heterosexual or male participants. Additionally, there was a clear hierarchy of which sexual behaviors constituted *having sex* and *virginity loss*. These findings were consistent with previous research (Bogart et al., 2000; Horowitz & Spicer, 2013; Horowitz & Bedford, 2017; Sanders & Reinisch, 1999). The hierarchy is consistent across all three hypothetical couples. More participants affirmed penile-vaginal intercourse (PVI) as sex (98.08%) and virginity loss (98.08%) than any other sexual behavior (e.g., anal intercourse, oral intercourse, and manual stimulation).

The heterosexual couple's had sex hierarchy is then followed by anal intercourse (Dan and Mary = 90.97%), oral intercourse (Dan = 54.35%, Mary = 54.21%), and manual stimulation (17.79%, 17.94%). For Rick and Steve (e.g., gay couple), anal intercourse is the highest affirmed "had sex" behavior (Rick = 96.03%, Steve = 95.37%) followed by oral intercourse (53.06%, 53.66%) and manual stimulation (19.68%, 19.52%). Finally, for the lesbian couple (e.g., Jessica and Sarah) more participants affirmed oral intercourse (Jessica = 65.26%, Sarah = 65.76%) counted as having sex than manual stimulation (Jessica and Sarah = 43.6%). Results were similar for the loss of virginity hierarchy.

Limitations

Unfortunately, the original pilot survey was launched without (1) the consent form being forced response and (2) with a block of questions not visible to the participants. This mechanical oversight greatly reduced the sample size from 151 participants to 95 participants prior to any data cleaning. After data cleaning, 52 participants remained.

The sample size ($N = 52$) was not large enough to generalize about society's view of what it means to have had sex or to lose your virginity. Although there was a fair mix of sexual orientations (63% heterosexual, 37% LGB+) it would be ideal to have more LGB+ participants. Other demographic data indicated we were lacking diversity with a majority of participants being White (85%), females (89%). Moreover, not a single participant self-identified as a virgin. Future studies should focus on oversampling specific target demographics [i.e., males; Black, Indigenous, and people of color (BIPOC); and members of the LGB+ community].

Future Research

While results from this study were primarily descriptive, there were still important findings that need to be explored further. Overall, the data did not produce many statistically significant interactions. Penile-vaginal intercourse, anal intercourse, and oral intercourse contained a handful of meaningful interactions based on participants' sexual orientation. However, when examining manual stimulation data by participants' sexual orientation, nearly all the outcomes were statistically significant.

Additionally, our chosen sexual scenarios often had a “giver” (i.e., the individual performing the sexual behavior) and a “receiver” (i.e., the individual being acted upon). There were a few sexual behavior scenarios (e.g., manual stimulation between Dan and Mary) where the outcomes appeared to be influenced by the role of the hypothetical actor. These are noteworthy patterns that should be explored further.

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CHAPTER IV: MEASURING “WHAT COUNTS”: AN EXAMINATION OF BIOLOGICAL SEX AND ORIENTATION BASED DIFFERENCES IN HOW SEX AND LOSS OF VIRGINITY ARE SOCIALLY CONSTRUCTED

Introduction

Researching what it means to “have sex” was popularized in the early 2000s following President Clinton’s claim on January 26, 1998, “I did not have sexual relations with that woman” regarding his relationship with Monica Lewinsky (Barnett et al., 2017; Carpenter, 2001; Gute et al., 2008; Hans et al., 2010). Several researchers began exploring what sexual behaviors qualify as *having sex* during that period (Bogart et al., 2000; Peterson & Muehlenhard, 2007; Pitts & Rahman, 2001; Randall & Byers, 2003; Rawlings et al., 2006; Ritchers & Song, 1999, Sanders & Reinisch, 1999; Sawyer et al., 2007; Trotter & Alderson, 2007).

However, only one study (Trotter & Alderson, 2007) was inclusive of the lesbian, gay, and bisexual (LGB+) community. From 2007 to 2020, there have been seven additional LGB-inclusive studies exploring what sexual behaviors constitute *having sex* or *virginity loss* (Hill et al., 2010; Hill et al., 2016; Hille et al, 2020; Horowitz & Spicer, 2013; Horowitz & Bedford, 2017; Huang, 2018; Schick et al., 2017). However, only five explicitly explore heterosexual versus LGB+ definitions of sex (Hill et al., 2010; Horowitz & Spicer, 2013), virginity (Huang, 2018), or both sex and virginity (Horowitz & Bedford, 2017).

Findings among heterosexual (Barnett et al, 2017; Pitts & Rahman, 2001; Randall & Byers, 2003; Sanders & Reinisch, 1999) and LGB-inclusive research (Hill et al., 2010; Horowitz & Spicer, 2013; Trotter & Alderson, 2007) suggest a hierarchy exists between behaviors that constitute *having sex* and *virginity loss*. Horowitz and Bedford (2017)

further explored this hierarchy, “demonstrating a graded structure in definitions of sex and virginity loss” (p. 1663) does exist; placing penile-vaginal intercourse (PVI) at the top followed by anal intercourse, oral-genital contact, manual-genital contact, contact with breast/nipples, and deep kissing.

Additionally, research suggests there may be a different set of criteria for sexual relations between same-sex and different-sex partners (Schick et al., 2017; Trotter & Alderson, 2007). DeLamater (1987) and Wiederman (2005) have noted the importance of exploring gender differences in relation to sex research. However, within this body of literature, gender differences remain highly inconsistent and the exploration of differences among sexual orientations is nearly non-existent (Horowitz & Bedford, 2017).

Purpose of Study

Research conducted by Averett et al. (2014) found traditional sex research and the methodologies used in exploring sex to be largely heteronormative. For those reasons, this research places an emphasis on defining sex and virginity for the lesbian, gay, and bisexual (LGB+) populations. Due to the heteronormative and ambiguous nature of defining sex, a new scale of measurement was produced.

An adaptation of Bogart et al. (2000) scale was created to be more LGB-inclusive and limit ambiguity in defining sex by constructing specific sexual scenarios. Scenarios followed tradition by addressing various sexual behaviors (e.g., penile-vaginal intercourse, anal intercourse, oral intercourse, manual stimulation, and penetration with a sex toy); the presence or absence of an orgasm; and if participants believe the individuals from each scenario “had sex” or “lost their virginity.” Additionally, this study aims to

bring clarity between definitions of sex and virginity within gender differences as well as differences in sexual orientation.

Research Hypotheses

- (H1) There will be a higher rate of affirmative responses for sexual behaviors that involve penile penetration of the vagina or anus than behaviors that do not involve penile penetration.
- (H2) There will be a higher rate of affirmative responses in *having sex* and *losing virginity* for the male-female and male-male sexual scenarios compared to the female-female sexual scenarios.
- (H3) There will be a higher rate of affirmation for the lesbian couple *having sex* and *losing their virginity* during “penetration with a sex toy” than any other sexual behaviors.
- (H4) There will be difference in affirmative responses for what counts as *having sex* and *losing virginity* between male and female participants for each sexual behavior (e.g., penile-vaginal intercourse, anal intercourse, oral intercourse, manual stimulation, and penetration with a sex toy).
- (H5) There will be a difference in affirmative responses for what counts as *having sex* and *losing virginity* between heterosexual and LGB+ participants for each sexual behavior (e.g., penile-vaginal intercourse, anal intercourse, oral intercourse, manual stimulation, and penetration with a sex toy).

Methods

In the current study a mixed methods approach with an emphasis on collecting quantitative data was used.

Participants

Of the 228 participants analyzed for this study, the majority were female (82.9%) and White (93.0%). Participants ranged in age from 18 to 65 years old with the average age of participants being 33.76 years ($SD = 10.67$). As it relates to sexual orientation, just over half (52.0%) of the participants identified as heterosexual with the remaining 48% of participants making up members of the LGB+ community. Ninety-three percent of participants report they were not a virgin, with the average number of sexual partners being just over 13 ($M = 13.69$, $SD = 18.17$). On average, heterosexual participants reported ~10 sexual partners ($M = 9.75$, $SD = 10.99$) and LGB+ participants reported having ~18 sexual partners ($M = 17.92$, $SD = 22.87$) in their lifetime.

Assessment Tool

Sexual Behavior Scenario-Extended Questionnaire

The development and validation process of the *Sexual Behavior Scenario-Extended Questionnaire* (SBSEQ) designed for this study was previously described. The SBSEQ is an adaptation of the *Sexual Behavior Scenario* (SBS) survey used by Bogart et al (2000) to assess participants views of what actions (i.e., sexual behaviors) indicate having sexual intercourse or losing one's virginity. The coefficient alpha was calculated for each of the five subscales [i.e., vaginal intercourse ($\alpha = .95$), anal intercourse ($\alpha = .95$), oral intercourse ($\alpha = .99$), manual stimulation ($\alpha = .99$), and penetration with a sex toy ($\alpha = .96$)]. Additionally, an adaption of *The Sexual Experience Questionnaire* (SEQ)

by Trotter & Alderson (2007) was used to assist in creating a sexual profile of participants based on their demographic data.

The SBSEQ is comprised of 19 demographic questions, 10 questions assessing participants' past sexual behavior, 49 hypothetical sexual scenarios, three attention check questions, and three open-ended questions allowing space for participants to provide clarification or feedback for researchers. The primary research focus was the responses to hypothetical sexual scenarios.

Participants were given three sets of hypothetical actors: one heterosexual couple, one gay couple, and one lesbian couple. Prior to each set of sexual scenarios, participants were provided with a brief description of the hypothetical actors:

“The scenarios below depict two individuals, Dan and Mary. They meet at a bar and go back to Dan’s apartment and engage in intimate activities for the first time in both of their lives. Please read the following scenarios and answer the questions honestly and to the best of your ability.”

Descriptions were followed by a variety of sexual behaviors (e.g., vaginal intercourse, anal intercourse, oral intercourse, manual stimulation, and penetration with a sex toy). Heterosexual actors Dan and Mary were depicted in four of five sexual behaviors: penile-vaginal intercourse, anal intercourse, oral intercourse, and manual stimulation. Gay actors Steve and Rick were depicted in three of the five behaviors: anal intercourse, oral intercourse, and manual stimulation. Finally, lesbian actors Jessica and Sarah were depicted in three of the five sexual behaviors: oral intercourse, manual stimulation, and vaginal penetration with a sex toy.

Each sexual behavior has three to four sexual scenarios depending on the sexual orientation of the actors. For example, Dan and Mary have four potential scenarios—(1)

Only Dan has an orgasm, (2) Only Mary has an orgasm, (3) Both Dan and Mary have an orgasm, and (4) Neither Dan nor Mary have an orgasm. For same-sex couples (Rick and Steve, Jessica and Sarah), sexual behaviors were limited to three potential scenarios for oral intercourse and manual stimulation (*one has an orgasm, both have an orgasm, or neither have an orgasm*).

After each sexual scenario, participants are asked four questions: (1) *Do you think Actor A had sex?* (2) *Do you think Actor B had sex?* (3) *Do you think Actor A lost their virginity?* and (4) *Do you think Actor B lost their virginity?* The responses to each of these questions is recorded as an outcome. Outcomes were dichotomous in nature and analyzed as such (e.g., *No* was coded as 0, and *Yes* was recorded as 1). A sample question can be seen in Table 14. The fully adapted SBSEQ is in Appendix C.

Table 14

Example Scenario for “Manual Stimulation” Between Hypothetical Male Actors, Rick and Steve

The scenarios below depict two male individuals, Rick and Steve. They meet at a bar and go back to Rick’s apartment and engage in intimate activities for the FIRST TIME in both of their lives. Please read the following scenarios and answer the questions honestly and to the best of your ability.

	Yes	No
Rick manually stimulates Steve’s penis. Steve has an orgasm.		
Do you think Rick had sex?		
Do you think Steve had sex?		
Do you think Rick lost his virginity?		
Do you think Steve lost his virginity?		

Procedures

Following Middle Tennessee State University's institutional review board (IRB) approval (found in Appendix A). An anonymous survey link was administered through the online survey utility, Qualtrics. Data were collected across two months in Spring of 2021. Convenience and snowball sampling were the primary sampling techniques. Electronic word-of-mouth (eWOM) was the main medium used to distribute the survey and recruit participants through social media platforms (Facebook and Twitter). Due to data collection being completed solely online, the "prevent ballot box stuffing" setting in Qualtrics was enabled to stop participants from completing the survey more than once.

Data Analysis Plan

Data Cleaning

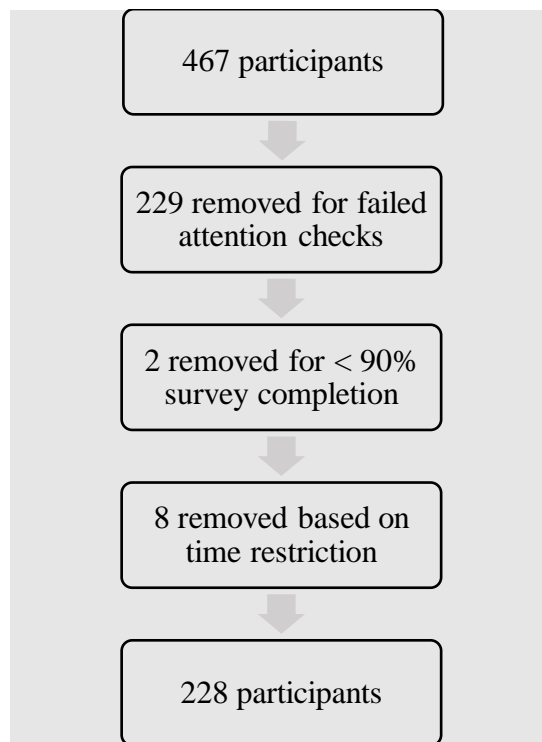
All 467 collected responses were exported from Qualtrics to be analyzed using Statistical Package for the Social Sciences (SPSS) v. 27 software. Data were cleaned using preselected methods to ensure high data integrity. First, within the SBSEQ three attention check items were assessed, and any participant who failed to correctly respond to any of the three checks were eliminated from further analysis. Second, listwise procedures were applied to participants who failed to respond to at least 90% of the SBSEQ items. Inclusion criteria for items included a minimum 95% response rate from participants. However, the three qualitative questions concluding the survey were excluded from the minimum response rates.

Finally, while there is no set standard for survey duration in research. An estimated time for survey completion was calculated at 14.63 minutes with the following formula: $\text{Time} = (W/5 + R*1.8) / 60$. Where, W , is the word count of the survey and, R , is

the total number of row options (Puleston, 2012). Due to the repetitive nature of the survey, a minimum completion time of 7 minutes and 30 seconds was selected for inclusion criteria. Upon completion of data cleaning, 228 participants remained. See Figure 3 for results of the data cleaning process during the dissertation stage.

Figure 3

Flow Chart Showing the Dissertation Data Cleaning Process



Data Analysis

Crosstabulation analyses were used to quantify the percentage of affirmative responses for each sex-virginity outcome by participant biological sex (male, female) and

participant sexual orientation (heterosexual, LGB+). Affirmative responses indicate which sexual scenarios participants believe counted as having sex or virginity loss for each actor.

After which, a chi-square test of independence was run on each outcome (that was deemed appropriate by sample size during crosstabulations) to examine the relationship between participant biological sex or participant sexual orientation. This helped us determine if any differences between male and female participants or heterosexual and LGB+ participants were statistically significant.

Finally, a binary logistic regression was performed to assess the effects of survey participants' biological sex and sexual orientation on the likelihood that participants would indicate each hypothetical actor had sex or lost their virginity. An alpha level of .05 and confidence intervals of 95% were used for all statistical testing.

Results

Due to the volume of data collected during this study, results are broken into two categories: (1) demographic data and (2) quantitative data. Each category is independent of one another and contains information specific to that section.

Demographic Data

Demographic information of participants was collected immediately following the informed consent (Appendix B). Table 15 contains the results for each category of demographic information collected. Information collected included the following: biological sex, gender identity, age, race and ethnicity, highest level of education level, household political affiliation during adolescence and current individual political leaning, current religious affiliation, religiosity of current and childhood households, typical

church attendance in the past year, and the region of the United States where participants currently reside and where they spent most of their childhood.

Of the 228 participants analyzed, 73.2% described their gender identity as a woman, 14.9% as a man, and 11.4% self-identified their gender outside the cisgender binary (e.g., man/male or woman/female). Non-cisgender participants were composed of those who identified as transgender ($n = 11$), non-binary ($n = 12$), and questioning ($n = 2$).

Most participants (83.3%) reported graduating college. Of those who reported graduating college, 44.9% have also earned a graduate degree. Political ideation appeared to shift for participants throughout their lifetime. Fifty-two percent of participants reported growing up in a conservative leaning political household, while only 12.7% currently identified their political leaning as conservative.

Just under half (43.5%) of participants indicate they maintain religious affiliation; with 73.7% of those participants identifying as Protestant Christian. Of participants who reported maintaining religious affiliation, 44.7% reported they attended religious services at least once a month with 8.5% reporting they had not attended any religious services in the 12-month period prior to the COVID-19 pandemic. Over 60% of participants grew up (61.8%) or currently reside (66.1%) in the southeast region of the United States.

Table 15
Participants' Profile from Dissertation Data

	Item Choice	Frequency	%
<i>Sex at birth</i>			
	Male	39	17.10
	Female	189	82.90
	Intersex	0	0.00
<i>Gender Identity</i>			
	Man	34	14.90
	Woman	167	73.20
	Trans-man (FtM) ^a	4	1.80
	Trans-woman (MtF) ^b	4	1.80
	Non-binary	12	5.30
	I prefer to self-describe ^c	6	2.60
	I prefer not to answer	1	0.40
<i>Age</i> ($M = 33.70$, $SD = 10.67$)			
	18-25	41	19.30
	26-35	95	44.80
	36-45	40	18.90
	46-55	22	10.40
	56-65	14	6.60
	65+	0	0.00
<i>Race^d</i>			
	White	211	93.00
	Black or African American	6	2.60
	Asian	4	1.80
	Other, please specify ^e	5	2.60
<i>Ethnicity</i>			
	Hispanic or Latino	9	4.00
	Not Hispanic or Latino	218	96.00
<i>Highest level of education</i>			
	High school diploma	3	1.30
	Some college	34	14.90
	College graduate	104	45.60
	Master's or law degree	65	28.50
	Ph.D. or M.D.	18	7.90
	Other, please specify ^f	4	1.80
<i>Political leaning of childhood home</i>			
	Consistently Liberal	16	7.00
	Mostly Liberal	21	9.30
	Somewhat Liberal	25	11.00
	Mixed	47	20.70
	Somewhat Conservative	23	10.10
	Mostly Conservative	42	18.50
	Consistently Conservative	53	23.30
<i>Current political leaning</i>			
	Consistently Liberal	82	37.10
	Mostly Liberal	62	28.10
	Somewhat Liberal	13	5.90
	Mixed	36	16.30
	Somewhat Conservative	9	4.10
	Mostly Conservative	12	5.40
	Consistently Conservative	7	3.20

	Item Choice	Frequency	%
<i>Religious affiliation</i>			
	Atheist / Agnostic	44	19.50
	Spiritual, no affiliation	67	29.60
	Catholic Christian	15	6.60
	Protestant Christian	70	31.00
	Jewish	4	1.80
	Muslim	0	0.00
	Buddhist	4	1.80
	Hindu	2	0.90
	Other affiliation not listed ^g	20	8.80
<i>Religiosity of childhood household</i>			
	Not religious	32	14.10
	Somewhat religious	67	29.50
	Moderately religious	68	30.00
	Very religious	60	26.40
<i>Current religiosity</i>			
	Not religious	102	45.70
	Somewhat religious	68	30.50
	Moderately religious	39	17.50
	Very religious	14	6.30
<i>Church attendance</i> ^h			
	Never	86	38.10
	Seldom	60	26.50
	Less than once a month	29	12.80
	Once or twice a month	23	10.20
	Once a week	22	9.70
	More than once a week	6	2.70
<i>Region of childhood residence</i> ⁱ			
	Northeast	11	4.80
	Midwest	48	21.10
	South	141	61.80
	West	15	6.60
	I did not grow up in the US	13	5.70
<i>Region of current residence</i>			
	Northeast	8	3.50
	Midwest	39	17.20
	South	150	66.10
	West	15	6.60
	I do not live in the US	15	6.60

Note. N = 228.

^a FtM = female to male. ^b MtF = male to female. ^c “I prefer to self-describe” for gender included Questioning ($n = 2$), Transmasculine ($n = 1$), Trans non-binary genderfluid ($n = 1$), and Trans non-binary femme ($n = 1$). One participant did not specify their gender. ^d Some participants identified themselves with multiple racial groups. ^e “Other” for race included White/Black, White/Native American, White/Asian, Black/Indian, Native Hawaiian or Pacific Islander, and Spanish/Filipino/White. ^f “Other” for highest level of education included GED ($n = 1$), Ed.S. ($n = 1$), Ed.D. ($n = 1$), and Some master’s courses ($n = 1$). ^g “Other” for religious affiliation included Pagan ($n = 11$), Progressive Liberal Christian ($n = 1$), Russian Orthodox ($n = 1$), Not religious ($n = 2$). Two participants did not specify their religious affiliation. ^h Church attendance was measured by average religious services attended (not including weddings, funerals, or baptisms) in 12 months prior to the COVID-19 pandemic. ⁱ Regions for residence were derived from the United States Census Bureau.

A sexual profile of participants was created using additional demographic questions. Table 16 contains information regarding participants' virginity status, number of previous sexual partners, participants' sexual orientation, their attraction to others, the gender of past sexual partners, and in which sexual behaviors they had previously been participants.

Of the 48% of participants who reported being members of the LGB+ community, those who identified as lesbian (30.0%), bisexual (32.7%), or queer (20.9%) make up most participants. Forty-seven percent of participants reported only being attracted to men (32.5%) or women (12.3%). Most participants (82.0%) reported having between one and twenty past sexual partners; with a 46.5% stating they've had sex with 1 to 5 individuals. Of the participants who reported having sexual intercourse in the past, 50.2% only had sex with men; 12.8% only had sex with women; and 37.0% indicated they have had sex with both men and women.

In the past, 99.1% of participants reported being kissed; 98.7% reported engaging in manual stimulation of genitals with their hands; and 95.2% reported having touched breasts or simulated nipples. Other popular sexual behaviors included having oral sex (94.7%), penile-vaginal penetration (84.1%), vaginal penetration with fingers (94.7%), and vaginal penetration with a sex toy (75.8%). While not as popular, around 50% of participants reported engaging in anal penetration with a penis (50.7%) or fingers (54.2%). Thirty-eight percent reported having attempted anal penetration with a sex toy

Table 16
Sexual Profile of Participants in Dissertation Data

	Frequency	%
<i>Virginity status</i>		
Virgin	11	4.80
Non-virgin	214	93.90
Unsure	3	1.30
<i>Sexuality</i>		
Heterosexual	118	52.00
Gay	11	4.80
Lesbian	33	14.50
Bisexual	36	15.90
Queer	23	10.10
Questioning	1	0.40
Asexual	2	0.90
I prefer to self-describe ^a	3	1.30
<i>Attraction to others</i>		
Only attracted to men	74	32.50
Mostly attracted to men	51	22.40
Equally attracted to men and women	28	12.30
Mostly attracted to women	37	16.20
Only attracted to women	34	14.90
Not sure	4	1.80
<i>Gender of sexual partners</i>		
Only men	110	48.20
Mostly men	34	14.90
Equally men and women	25	11.00
Mostly women	22	9.60
Only women	28	12.30
I have not had sexual contact with anyone	9	3.90
<i>Number of sexual partners</i> ($M = 13.69$, $SD = 18.17$)		
0	9	3.90
1-5	87	38.20
6-10	58	25.40
11-15	25	11.00
16-20	17	7.50
21-25	4	1.80
26-30	9	3.90
31+	19	8.30
<i>Past sexual behaviors^b</i>		
Kissing	226	99.10
Touching breast / Stimulating nipples	217	95.20
Manual stimulation of genitals with hands	225	98.70
Oral sex	216	94.70
Vaginal penetration with a penis	191	84.10
Vaginal penetration with fingers	215	94.70
Vaginal penetration with a sex toy	172	75.80
Anal penetration with a penis	115	50.70
Anal penetration with fingers	123	54.20
Anal penetration with a sex toy	87	38.30

Note. $N = 228$. ^a "I prefer to self-describe" for sexuality included Pansexual ($n = 2$) and Lesbian/Queer ($n = 1$). ^b Past sexual behaviors was measured by affirmative responses to the question "in the past, have you ever participated in the following sexual behavior."

Quantitative Data

Due to the variation in hypothetical actors and number of sexual scenarios, descriptive data were analyzed individually by the outcomes of each sexual scenario and results were presented as such. Frequencies were obtained by running a crosstabulations of the participants' biological sex and participants' sexual orientation for each sex outcome (e.g., Actor A had sex and Actor B had sex) and virginity outcome (e.g., Actor A lost their virginity and Actor B lost their virginity). A Chi-Square Test of Independence was conducted to determine any statistical significance of the crosstabulations. An alpha level of .05 was used for all statistical testing.

Penile-vaginal Intercourse

All Participants. Just over 98% of participants ($N = 228$) concluded penile-vaginal intercourse (PVI) counted as having sex for Dan (99.03%) and Mary (98.85%). Around 94% of participants believed Dan (95.03%) and Mary (94.78%) lost their virginity during PVI. A crosstabulation of percentages of affirmative responses regarding whether participants believe PVI counts as having sex or losing virginity is displayed by participant biological sex and participant sexuality (i.e., sexual orientation).

Results by Participant Biological Sex. A crosstabulation on biological sex indicated male and female participants closely agreed on what counts as having sex and losing your virginity for Dan and Mary. Due to sample size, we were unable to perform a chi-square test of independence to assess the relationship between the outcomes of each sexual scenario and the participant's biological sex (male, female).

Results by Participant Sexual Orientation. A chi-square test of independence identified four statistically significant relationships between sexual orientation (HET =

heterosexual, LGB+ = identified as lesbian, gay, bisexual, etc.) and virginity outcomes for the heterosexual couple (e.g., Dan and Mary). Statistically significant outcomes are notated in Table 17.

Most notably, heterosexual and LGB+ participants differed when asked about virginity loss for the actor who did not experience an orgasm. For example, when only Mary had an orgasm during PVI more heterosexual participants (97.4%) stated Dan lost his virginity than LGB+ participants (90.8%), $\chi^2(1, N = 224) = 4.41, p = .036$. Overall, more heterosexual participants (97.85%, 98.05%) indicated Dan and Mary lost their virginity than LGB+ participants (92.00%, 91.30%) during PVI. However, heterosexual and LGB+ participants were similar in their indication for Dan (98.73%, 99.34%) and Mary (98.50%, 99.10%) having had sex.

Logistic regression. A binary logistic regression was performed to assess the effects of survey participants' biological sex and sexual orientation on the likelihood that they will affirm penile-vaginal intercourse (PVI) counted as sex or losing virginity for hypothetical couple Dan and Mary. When controlling for participant biological sex, those who reported being LGB+ were more likely to have said Mary lost her virginity when neither she nor Dan had an orgasm during penile-vaginal intercourse (PVI) than participants who identified as heterosexual, (OR = 0.24, 95% CI [0.07, 0.88]; $p = .031$). All other significant interactions are notated in Table 17. No statistically significant outcomes were found based on participants' biological sex when controlling for their sexual orientation.

Table 17

Crosstabulation of Percentage of Affirmative Responses for an Orgasm During “Penile-Vaginal Intercourse”

Hypothetical couple	Had Sex						Lost Virginity					
	Dan			Mary			Dan			Mary		
	Male	Female	All	Male	Female	All	Male	Female	All	Male	Female	All
<i>Heterosexual couple</i>												
Dan	100.00	98.40	98.70	94.90	97.90	97.40	97.40	94.70	95.20	94.90	93.10	93.40
Mary	94.90	99.50	98.70	100.00	99.50	99.60	94.90	94.10	94.20	97.40	95.10	95.50
Both	100.00	100.00	100.00	100.00	100.00	100.00	97.40	96.30	96.50	97.40	96.20	96.40
Neither	97.40	98.90	98.70	97.40	98.40	98.20	94.90	94.10	94.20	94.90	93.50	93.80
	Dan			Mary			Dan			Mary		
	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All
<i>Heterosexual couple</i>												
Dan	97.50	100.00	98.70	96.60	98.20	97.40	97.50	92.70	95.20	96.60*	90.00*	93.40*
Mary	99.10	98.20	98.70	99.10	100.00	99.60	97.40*	90.80*	94.20*+	99.10	91.70	95.50+
Both	100.00	100.00	100.00	100.00	100.00	100.00	99.10	93.60	96.50	99.10	93.50	96.40
Neither	98.30	99.10	98.70	98.30	98.20	98.20	97.40*	90.90*	94.20*+	97.40*	90.00*	93.80*+

Note. $N = 228$ (39 males, 189 females; 118 heterosexual, 109 LGB+). HET = heterosexual participants; LGB+ = participants identified as lesbian, gay, bisexual, etc. Orgasm

key: Name (Dan, Mary) = refers to which hypothetical actor had an orgasm; Both = both orgasm; Neither = neither orgasm.

+ A binary logistic regression produced a statistically significant interaction when controlling for participant biological sex.

* $p < .05$. ** $p < .001$

Vaginal Penetration with a Sex Toy

All Participants. Crosstabulation results for Jessica penetrating Sarah with a sex toy revealed around a 10% difference in participants indicating Jessica (70.9-74.8%) having sex and Sarah (81.4-83.6%) having sex. There was an even larger contrast (approximately 29.5%) between their virginity loss—Jessica (39.2-46.4%) and Sarah (69.2-72.3%). Contrary to penile-vaginal intercourse (PVI), there appears to a difference in what participants classify as having sex versus losing your virginity when vaginal penetration comes from a sex toy. Of the participants who report Jessica had sex, 46.0% reported she did not lose her virginity if Sarah had an orgasm, $X^2(1, N = 227) = 51.10, p < .001$. Similarly, 15.3% of participants who reported Sarah had sex indicated she did not lose her virginity after having an orgasm from being vaginally penetrated with a sex toy, $X^2(1, N = 227) = 97.59, p < .001$.

Complete crosstabulation percentages based on participant biological sex and sexual orientation (HET = heterosexual, LGB+ = identified as lesbian, gay, bisexual, etc.) are in Table 18.

Results by Participant Biological Sex. A chi-square test of independence found no statistically significant relationships between participants biological sex and affirmative responses for Jessica and Sarah having sex or losing their virginity. Around 82% of male (82.10%) and female (82.90%) participants indicated Sarah had sex after Jessica vaginally penetrated her with a sex toy; while only 66.7% of males and 73.4% of females indicated Jessica had sex. More participants, male and female respectively, reported Sarah (67.34%, 71.40%) lost her virginity than Jessica (36.40%, 42.30%).

Results by Participant Sexual Orientation. All outcomes regarding sex and virginity during penetration with a sex toy were statistically significant when affirmative responses were examined by the participants sexual orientation (e.g., HET or LGB+). All statistically significant outcomes are in Table 18.

Overall, more members of the LBG+ community indicated Jessica (86.53%) and Sarah (94.48%) had sex than heterosexual participants (58.75%, 71.68%). Results by sexual orientation were similar when analyzing virginity. Participants (HET and LGB+, respectively) indicated Sarah (59.93%, 82.12%) lost her virginity at a higher rate than Jessica (32.53%, 50.68%). The closest heterosexual and LGB+ participants were in agreeing with their responses was Jessica's virginity loss when both actors have an orgasm. There was a 15.9% difference by sexual orientation. All other outcomes had around a 20%+ difference in affirmative responses to had sex and lost virginity.

Logistic Regression. A binary logistic regression was performed to assess the effects of survey participants biological sex and sexual orientation on the likelihood that they will affirm Jessica penetrating Sarah with a sex toy counts as having sex or losing virginity for both hypothetical actors. Most notably, when controlling for participant biological sex those who identified as LGB+ were 8.28 times more likely than non-LGB+ participants to indicate Sarah had sex when having an orgasm during vaginal penetration with a sex toy, [95% CI = 3.09, 22.16]; $p < .001$. Results are similar for affirmative responses for Sarah having sex when both actors have an orgasm, (OR = 8.04, 95% CI [2.99, 21.56]; $p < .001$). All other significant interactions are in Table 18.

Table 18

Crosstabulation of Percentage of Affirmative Responses for an Orgasm During “Vaginal Penetration with A Sex Toy”

Hypothetical couple	Had Sex						Lost Virginity					
	Male	Jessica Female	All	Male	Sarah Female	All	Male	Jessica Female	All	Male	Sarah Female	All
<i>Lesbian couple</i>												
Jessica penetrates Sarah with a sex toy												
Sarah had an orgasm	63.20	72.50	70.90	84.20	83.10	83.30	36.80	39.70	39.20	65.80	72.50	71.40
Sarah does not have an orgasm	64.90	72.70	71.40	81.60	83.00	82.70	34.20	40.70	39.60	65.80	69.80	69.20
Both have an orgasm	71.10	75.50	74.80	84.20	83.50	83.60	39.50	47.80	46.40	71.10	72.60	72.30
Neither have an orgasm	67.60	72.70	71.90	78.40	82.00	81.40	35.10	41.00	40.00	66.70	70.70	70.10
<i>Lesbian couple</i>												
Jessica penetrates Sarah with a sex toy												
Sarah had an orgasm	56.40**	86.40**	70.90***	71.80**	95.20**	83.30***	29.90*	49.10*	39.20**	60.70**	82.70**	71.40***
Sarah does not have an orgasm	57.40**	86.20**	71.40***	72.40**	93.60**	82.70***	30.80*	49.10*	39.60**	59.00**	80.00**	69.20***
Both have an orgasm	62.90**	87.30**	74.80***	72.40**	95.50**	83.60***	38.60*	54.50*	46.40**	60.50**	84.50**	72.30***
Neither have an orgasm	58.30**	86.20**	71.90***	70.10**	93.60**	81.40***	30.80*	50.00*	40.00**	59.50**	81.50**	70.10***

Note. $N = 228$ (39 males, 189 females; 118 heterosexual, 109 LGB+). HET = heterosexual participants; LGB+ = participants identified as lesbian, gay, bisexual, etc.

+ A binary logistic regression produced a statistically significant interaction when controlling for participant biological sex.

* $p < .05$. ** $p < .001$

Anal Intercourse

All Participants. Similarly, to penile-vaginal intercourse, most participants indicated anal intercourse constituted having sex for heterosexual couples (90.83-93.7%) and gay male couples (97.1-97.5%). Virginitly, however, is a different story. There is a 10% difference in anal intercourse counting as virginitly loss for Dan (74.47%) versus Mary (64.23%). Participants more closely agreed anal intercourse counted as virginitly loss for both Rick (89.87%) and Steve (88.67%).

Results by Participant Biological Sex. A crosstabulation on biological sex was run individually for both couples. Crosstabulation results indicated a chi-square test of independence was appropriate for all outcomes regarding virginitly loss in the heterosexual couple (Dan and Mary) and only one outcome for the gay couple (Rick and Steve). Due to sample size, the chi-square test could not be run for outcomes related to having sex for either couple. No statistically significant relationships were found examining the participants' biological sex and the virginitly outcomes for either the heterosexual couple or gay couple. However, there is a distinct difference between the frequency in which male and female participants indicate Dan and Mary had sex or lost their virginitly.

While most male participants (93.1%) reported Dan had sex, only 67.3% indicated they believed he lost his virginitly. Even fewer male participants believed Mary lost her virginitly (59.13%) through anal intercourse; though 90.4% indicated she had sex. Female participants shared similar results. Ninety-three percent of female participants indicated Dan had sex, while only 75.9% indicated he lost his virginitly. Just over 90% of females reported Mary had sex, but 65.3% reported she lost her virginitly. There was a

statistically significant difference in the number of the females who reported Mary had sex and number of females who report she lost her virginity when only Dan had an orgasm, $X^2(1, N = 187) = 29.94, p < .001$.

Rick and Steve shared a similar fate, though the numbers are not as dramatic. There is a 7-10% difference in the frequency in which males and females indicated the hypothetical actors had sex and lost their virginity. For Rick, the percentage of male and female participants who reported he had sex is 96.5% and 97.7%, respectively; while 86.1% of males and 90.6% of females indicated he lost his virginity. Whereas around 95% of males reported Steve had sex (95.63%), and 87.1% indicated he lost his virginity. And 97.4% of females reported Steve had sex and 89.0% indicated he lost his virginity.

Results by Participant Sexual Orientation. A crosstabulation on participant sexual orientation (HET = heterosexual, LGB+ = identified as lesbian, gay, bisexual, etc.) indicated a chi-square would be appropriate for all outcomes except those regarding Rick and Steve having sex. These outcomes were omitted due to sample size. There were no statistically significant outcomes related to virginity for either couple (heterosexual or gay). However, the chi-square revealed three statistically significant outcomes related to Mary having sex.

There was a statistically significant relationship between participants' sexual orientation and affirmative indication of Mary having sex in the following outcomes: (1) Only Dan had an orgasm [$X^2(1, N = 225) = 7.32, p = .007$]; (2) Only Mary had an orgasm [$X^2(1, N = 226) = 3.83, p = .050$]; and (3) both Dan and Mary had an orgasm, $X^2(1, N = 227) = 4.42, p = .036$. Overall, members of the LGB+ community (95.37%) more

frequently indicated Mary had sex than heterosexual participants (86.67%). All crosstabulation results for anal intercourse are in Table 19.

Logistic Regression. A binary logistic regression was performed on each outcome for both heterosexual and gay couples to assess the effects of survey participants biological sex and sexual orientation on the likelihood that they will affirm anal intercourse counts as having sex and losing virginity for either couple. Two statistically significant interactions were produced. When controlling for participant biological sex, those who reported being LGB+ were 3.56 times more likely to have said Mary had sex when only Dan had an orgasm during anal intercourse than participants who were not LGB+ [95% CI = 1.37, 9.26]; $p = .009$. Similarly, when controlling for participant biological sex affirmative responses for Mary having sex when both actors have an orgasm were more likely among LGB+ participants, (OR= 3.26, 95% CI [1.03, 10.36]; $p = .044$). There were no other statistically significant interactions for either couple when controlling for participant biological sex or participant sexual orientation.

Table 19

Crosstabulation of Percentage of Affirmative Responses for an Orgasm During “Anal Intercourse”

Hypothetical couple	Had Sex						Lost Virginity					
	Dan			Mary			Dan			Mary		
	Male	Female	All	Male	Female	All	Male	Female	All	Male	Female	All
<i>Heterosexual couple</i>												
Dan	92.10	93.10	92.90	86.50	88.80	88.40	68.40	75.50	74.30	60.50	63.60	63.10
Mary	92.30	93.60	93.40	92.30	91.40	91.60	66.70	76.50	74.80	59.00	65.80	64.60
Both	94.90	93.60	93.80	92.30	92.60	92.50	66.70	75.90	74.30	57.90	66.50	65.00
Neither	-	-	-	-	-	-	-	-	-	-	-	-
	Rick			Steve			Rick			Steve		
	Male	Female	All	Male	Female	All	Male	Female	All	Male	Female	All
<i>Gay couple</i>												
Rick	97.40	96.80	96.90	94.90	96.30	96.10	84.60	88.90	88.20	87.20	86.80	86.80
Both	97.40	97.90	97.80	97.40	97.40	97.40	87.20	92.00	91.20	87.20	90.40	89.90
Neither	94.70	98.40	97.80	94.60	98.40	97.80	86.50	90.90	90.20	86.80	89.80	89.30
	<u>Had Sex</u>						<u>Lost Virginity</u>					
	Dan			Mary			Dan			Mary		
	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All
<i>Heterosexual couple</i>												
Dan	90.70	95.40	92.90	82.90*	94.40*	88.40* ⁺	69.50	79.60	74.30	59.30	67.30	63.10
Mary	91.50	95.40	93.40	88.10*	95.40*	91.60*	71.20	78.70	74.80	60.20	69.40	64.60
Both	91.50	96.30	93.80	89.00*	96.30*	92.50* ⁺	70.30	78.70	74.30	61.50	68.80	65.00
Neither	-	-	-	-	-	-	-	-	-	-	-	-
	Rick			Steve			Rick			Steve		
	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All
<i>Gay couple</i>												
Rick	94.10	100.00	96.90	93.20	99.10	96.10	87.30	89.10	88.20	84.70	89.10	86.80
Both	95.80	100.00	97.80	95.80	99.10	97.40	90.50	91.80	91.20	88.90	90.90	89.90
Neither	96.60	99.10	97.80	96.60	99.10	97.80	90.40	89.90	90.20	89.70	88.90	89.30

Note. $N = 228$ (39 males, 189 females), (118 heterosexual, 109 LGB+). HET = heterosexual participants; LGB+ = participants identified as lesbian, gay, bisexual, etc. Orgasm key: Name (Dan, Mary, Rick) = refers to which hypothetical actor had an orgasm; Both = both orgasm; Neither = neither orgasm.

⁺ A binary logistic regression produced a statistically significant interaction when controlling for participant biological sex.

* $p < .05$. ** $p < .001$

Oral Intercourse

All Participants. Oral intercourse was a sexual behavior examined for all three hypothetical couples. Contrary to penile-vaginal intercourse and anal intercourse, participants appear to be conflicted with whether oral intercourse should be considered sex. Around 56% of participants believe Dan (56.85%) and Mary (56.51%) had sex. Where, 58% believe Rick (58.16%) and Steve (58.38%) had sex. Sixty-seven percent of participants considered oral intercourse sex for Jessica (67.44%) and Sarah (67.92%). Separate crosstabulations by participants' biological sex and sexual orientation determined a chi-square test of independence was appropriate for all outcomes, regardless of couple.

Results by Participant Biological Sex. No statistically significant relationships were found between the sex-virginity outcomes in each sexual scenario and the participants biological sex using a chi-square test of independence. This is true for all hypothetical couples (e.g., Dan and Mary; Rick and Steve; Jessica and Sarah). Crosstabulation results are in Table 20.

Generally, the frequency of male and female participants who reported oral intercourse as sex was the similar for all hypothetical actors—Dan (54.34%, 57.35%); Mary (54.48%, 56.96%); Rick (54.90%, 58.86%); Steve (54.36%, 59.22%); Jessica (64.10%, 68.10%); and Sarah (65.14%, 68.50%). However, loss of virginity was not—Dan (14.51%, 22.58%); Mary (14.50%, 22.83%); Rick (12.42%, 24.46%); Steve (13.44%, 25.52%); Jessica (24.22%, 38.26%); and Sarah (27.68%, 41.24%). Results indicate more female participants indicated oral sex as virginity loss than male participants.

When examining female participants and their affirmation of actors having and losing virginity, a chi-square of independence did find several statistically significant differences. For example, of the female participants who indicated Mary had sex after experiencing orgasm while receiving oral sex from Dan, 59.3% stated she did not lose her virginity, $\chi^2(1, N = 187) = 35.91, p < .001$.

Table 20

Crosstabulation of Percentage of Affirmative responses for an Orgasm During “Oral Intercourse” by Participants’ Sex

Behavior by Couple	Had Sex						Lost Virginity					
	Male	Dan Female	All	Male	Mary Female	All	Male	Dan Female	All	Male	Mary Female	All
<i>Heterosexual couple</i>												
Dan performs oral sex on Mary												
Mary had an orgasm	55.30	56.70	56.40	56.40	57.80	57.50	15.40	20.90	19.90	17.90	24.60	23.50
Mary does not have an orgasm	52.60	55.00	54.60	52.60	56.60	55.90	10.50	20.10	18.50	13.20	22.80	21.10
Mary performs oral sex on Dan												
Dan had an orgasm	56.40	57.40	57.30	53.80	54.50	54.40	15.40	23.90	22.50	12.80	20.70	19.40
Dan does not have an orgasm	52.60	56.10	55.60	52.60	54.30	54.00	13.20	21.40	20.00	10.50	20.70	19.00
They perform oral sex on each other												
Dan had an orgasm	53.80	59.50	58.50	53.80	58.90	58.00	15.40	23.80	22.30	15.40	23.70	22.20
Mary had an orgasm	53.80	58.50	57.70	56.40	57.80	57.50	15.40	23.50	22.10	15.40	23.40	22.00
Both have an orgasm	56.40	58.50	58.10	56.40	58.00	57.70	15.40	24.10	22.60	15.40	23.90	22.50
Neither have an orgasm	53.80	57.10	56.60	53.80	57.80	57.10	15.40	22.90	21.60	15.40	22.80	21.50
<i>Gay couple</i>												
Rick performs oral sex on Steve												
Steve had an orgasm	56.40	57.70	57.50	56.40	58.50	58.10	12.80	22.80	21.10	15.40	26.50	24.60
Steve does not have an orgasm	53.80	58.10	57.30	53.80	58.80	58.00	10.30	23.00	20.80	12.80	25.00	22.90
They perform oral sex on each other												
Rick had an orgasm	54.10	59.60	58.70	51.40	59.90	58.50	10.80	25.50	23.10 ⁺	10.80	24.50	22.20
Both have an orgasm	56.40	59.60	59.00	56.40	59.60	59.00	15.40	26.70	24.80	15.40	26.70	24.80
Neither have an orgasm	53.80	59.30	58.30	53.80	59.30	58.30	12.80	24.30	22.40	12.80	24.90	22.80
<i>Lesbian couple</i>												
Jessica performs oral sex on Sarah												
Sarah had an orgasm	61.50	66.10	65.40	66.70	67.20	67.10	17.90	33.30	30.70 ⁺	28.20	42.30	39.90 ⁺
Sarah does not have an orgasm	61.50	65.20	64.60	64.10	66.80	66.40	17.90	32.10	29.60	28.20	38.50	36.70
They perform oral sex on each other												
Jessica had an orgasm	66.70	69.80	69.30	64.10	69.70	68.70	28.20	41.80	39.50	25.60	41.30	38.60 ⁺
Both have an orgasm	66.70	69.50	69.00	66.70	69.50	69.00	30.80	42.80	40.70	30.80	42.80	40.70
Neither have an orgasm	64.10	69.90	68.90	64.10	69.30	68.40	26.30	41.30	38.80 ⁺	25.60	41.30	38.60 ⁺

Note. $N = 228$ (39 males, 189 females).

⁺ A binary logistic regression produced a statistically significant interaction when controlling for participant sexual orientation.

* $p < .05$. ** $p < .001$

Results by Participant Sexual Orientation. The chi-square test of independence found all outcomes to be statistically significant when examining the relationship between participants' sexual orientation (HET = heterosexual, LGB+ = identified as lesbian, gay, bisexual, etc.) and the sexual scenarios. All significant interactions based on participant sexual orientation are notated in Table 21.

Overall, LGB+ participants more frequently considered oral intercourse as having had sex and losing virginity than heterosexual participants. However, there seems to be a distinct difference between frequency of affirmation for having sex and virginity loss during oral intercourse. For example, over 87% of LGB+ participants report Jessica (87.36%) and Sarah (87.54%) had sex; and around 48% of heterosexual participants reported Jessica (48.90%) and Sarah (49.84%) had sex. Yet there are noticeably fewer participants (LGB+ and HET, respectively) who indicate Jessica (50.46%, 22.28%) and Sarah (55.94%, 24.06%) lost their virginity during oral intercourse. This finding is comparable to those in previous sexual behaviors (e.g., vaginal penetration with a sex toy and anal intercourse) and across hypothetical couples (e.g., heterosexual, gay, or lesbian).

Logistic Regression. A binary logistic regression was performed on each outcome for all three couples (e.g., heterosexual, gay, and lesbian) to assess the effects of survey participants' biological sex and sexual orientation on the likelihood that they will affirm oral intercourse counts as having sex and losing virginity for any of the hypothetical actors. When controlling for participant sexual orientation, five statistically significant interactions were produced for actors Jessica and Sarah; as well as one statistically significant interaction for Rick and Steve. These interactions are notated above (see Table 20).

Female participants were 3.04 times more likely than males to have said Rick lost his virginity after only he had an orgasm while both actors were performing oral sex on each other when controlling for participant sexual orientation (95% CI = 1.01, 9.14; $p = .048$). When using the same sexual scenario but controlling for participant biological sex, those who identify as LGB+ were 2.62 times more likely than non-LGB+ participants to indicate Rick lost his virginity (95% CI = 1.37, 5.04; $p = .004$).

When controlling for participant biological sex, if both Jessica and Sarah have an orgasm during oral intercourse members of the LGB+ community are 9.02 times more likely than non-LGB+ members to indicate they had sex (95% CI = 4.37, 18.62; $p < .001$). However, LGB+ members are only 4.52 times more likely than non-LGB+ members to indicate Jessica and Sarah lost their virginity after both have an orgasm during oral intercourse (95% CI = 2.54, 8.04; $p < .001$). The remaining statistically significant interactions are notated in Table 21.

Table 21

Crosstabulation of Percentage of Affirmative Responses for an Orgasm During “Oral Intercourse” by Participants’ Sexual Orientation

Behavior by couple	Had Sex						Lost Virginity					
	Dan			Mary			Dan			Mary		
	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All
<i>Heterosexual couple</i>												
Dan performs oral sex on Mary												
Mary had an orgasm	41.00**	73.10**	56.40**+	41.90**	74.30**	57.50**+	10.30**	30.30**	19.90**+	11.10**	36.70**	23.50**+
Mary does not have an orgasm	39.00**	71.60**	54.60**+	39.80**	73.40**	55.90**+	10.20**	27.50**	18.50**+	10.20**	33.00**	21.10**+
Mary performs oral sex on Dan												
Dan had an orgasm	41.90**	73.60**	57.30**+	39.70**	70.00**	54.40**+	12.00**	33.60**	22.50**+	10.30**	29.10**	19.40**+
Dan does not have an orgasm	41.50**	71.00**	55.60**+	38.50**	71.00**	54.00**+	10.20**	30.80**	20.00**+	10.20**	28.70**	19.00**+
They perform oral sex on each other												
Dan had an orgasm	42.20**	75.90**	58.50**+	41.70**	75.20**	58.00**+	12.20**	33.00**	22.30**+	12.10**	33.00**	22.20**+
Mary had an orgasm	42.40**	74.30**	57.70**+	41.50**	75.00**	57.50**+	12.00**	33.00**	22.10**+	11.90**	33.00**	22.00**+
Both have an orgasm	41.50**	76.10**	58.10**+	40.70**	76.10**	57.70**+	12.00**	33.90**	22.60**+	11.90**	33.90**	22.50**+
Neither have an orgasm	40.70**	73.60**	56.60**+	41.00**	74.30**	57.10**+	11.10**	32.70**	21.60**+	11.00**	32.70**	21.50**+
<i>Gay couple</i>												
	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All
Rick performs oral sex on Steve												
Steve had an orgasm	40.70**	75.50**	57.50**+	42.70**	74.50**	58.10**+	12.70*	30.00*	21.10 ⁺	16.10*	33.60*	24.60 ⁺
Steve does not have an orgasm	40.90**	74.50**	57.30**+	41.90**	75.20**	58.00**+	12.90*	29.10*	20.80 ⁺	14.50*	31.80*	22.90 ⁺
They perform oral sex on each other												
Rick had an orgasm	43.60**	75.00**	58.70**+	43.10**	75.00**	58.50**+	15.40*	31.50*	23.10 ⁺	14.40*	30.80*	22.20 ⁺
Both have an orgasm	43.20**	76.10**	59.00**+	43.20**	76.10**	59.00**+	16.20*	33.90*	24.80 ⁺	16.20*	33.90*	24.80 ⁺
Neither have an orgasm	42.40**	75.50**	58.30**+	42.40**	75.50**	58.30**+	13.60*	31.80*	22.40 ⁺	14.40*	31.80*	22.80 ⁺
<i>Lesbian couple</i>												
	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All
Jessica performs oral sex on Sarah												
Sarah had an orgasm	47.50**	84.50**	65.40**+	50.00**	85.50**	67.10**+	19.50**	42.70**	30.70**+	25.40**	55.50**	39.90**+
Sarah does not have an orgasm	46.20**	84.40**	64.60**+	49.20**	85.20**	66.40**+	18.80**	41.30**	29.60**+	22.00**	52.80**	36.70**+
They perform oral sex on each other												
Jessica had an orgasm	50.80**	89.10**	69.30**+	50.80**	88.10**	68.70**+	24.60**	55.50**	39.50**+	24.60**	53.60**	38.60**+
Both have an orgasm	50.00**	89.80**	69.00**+	50.00**	89.80**	69.00**+	24.60**	58.30**	40.70**+	24.60**	58.30**	40.70**+
Neither have an orgasm	50.00**	89.00**	68.90**+	49.20**	89.10**	68.40**+	23.90**	54.50**	38.80**+	23.70**	54.50**	38.60**+

Note. $N = 228$ (118 heterosexual, 109 LGB+). HET = heterosexual participants; LGB+ = participants identified as lesbian, gay, bisexual, etc.

⁺ A binary logistic regression produced a statistically significant interaction when controlling for participant biological sex.

* $p < .05$. ** $p < .001$

Manual Stimulation

All Participants. Manual stimulation was the sexual behavior least considered as sex and virginity loss by participants. Measuring manual stimulation was comprised of three various sexual scenarios: vaginal penetration by fingers, manual stimulation of the penis, and a combination of mutual stimulation involving either of the previous scenarios.

The most interesting finding in manual stimulation is the affirmative frequency distribution between couples. For example, more participants indicated Sarah (58.43%) had sex after being penetrated by Jessica's fingers than Mary (40.88%) after being penetrated by Dan's fingers. Similarly, more participants indicated Steve (40.14%) had sex after Rick manually stimulated his penis than Dan (36.65%) after being manually stimulated by Mary.

Results by Biological Sex. A crosstabulation by participant biological sex (male, female) deemed a chi-square test of independence would not be appropriate for outcomes involving the "giver's" virginity loss in the following scenarios—(1) Dan's virginity loss after penetrating Mary with his fingers, (2) Mary's virginity loss after manually stimulating Dan's penis, and (3) Rick's virginity loss after manually stimulating Steve's penis). Sample size was not an issue for lesbian couple (Jessica and Sarah).

Of the outcomes analyzed, a chi-square test of independence revealed no statistically significant relationships between participant biological sex and manual stimulation outcomes for any of the hypothetical actors. Generally, male participants more frequently indicated manual stimulation counted as sex than female participants for the hypothetical couples. While females indicated the couples lost their virginity at a

higher rate than male participants. This finding was true across all three hypothetical couples. Full crosstabulations by participants' biological sex are available in Table 22.

Table 22

Crosstabulation of Percentage of Affirmative Responses for an Orgasm During “Manual Stimulation” by Participants’ Sex

Behavior by couple	Had Sex						Lost Virginity					
	Dan			Mary			Dan			Mary		
	Male	Female	All	Male	Female	All	Male	Female	All	Male	Female	All
<i>Heterosexual couple</i>												
Dan penetrates Mary with his fingers												
Mary had an orgasm	38.50	31.90	33.00	48.70	40.40	41.90	5.10	11.20	10.10	15.40	21.20	20.20
Mary does not have an orgasm	38.50	30.60	32.00	46.20	39.20	40.40	5.10	11.80	10.70	15.40	20.30	19.50
Mary manually stimulates Dan’s penis												
Dan had an orgasm	46.20	32.80	35.10	34.20	27.00	28.20	10.30	14.90	14.10	5.10	11.10	10.10
Dan does not have an orgasm	41.00	30.60	32.40	33.30	28.00	28.90	10.30	13.40	12.80	5.10	11.20	10.10
They perform mutual manual stimulation												
Dan had an orgasm	50.00	35.80	38.20	47.40	38.50	40.00	10.80	16.00	15.20	15.80	18.80	18.30
Mary had an orgasm	46.20	36.00	37.80	48.70	39.60	41.20	10.30	15.60	14.70	15.40	21.40	20.40
Both have an orgasm	48.70	36.40	38.50	47.40	39.80	41.10	10.30	16.00	15.00	15.40	21.90	20.80
Neither have an orgasm	46.20	36.20	37.90	46.20	39.60	40.70	10.30	14.90	14.10	15.40	20.70	19.80
<i>Gay couple</i>												
	Male	Rick Female	All	Male	Steve Female	All	Male	Rick Female	All	Male	Steve Female	All
Rick manually stimulates Steve’s penis												
Steve had an orgasm	43.60	33.90	35.60	51.30	38.50	40.70	7.70	12.80	11.90	15.40	20.30	19.50
Steve does not have an orgasm	41.00	33.00	34.40	46.20	37.70	39.20	5.10	11.40	10.30	10.30	16.20	15.20
They perform mutual manual stimulation												
One has an orgasm	51.30	38.50	40.70	52.60	38.50	40.90	10.30	17.60	16.30	10.30	17.00	15.90
Both have an orgasm	51.30	38.20	40.40	51.30	38.80	41.00	12.80	19.00	18.00	12.80	19.30	18.10
Neither have an orgasm	46.20	37.20	38.80	46.20	37.40	38.90	10.30	15.40	14.50	10.30	15.40	14.50
<i>Lesbian couple</i>												
	Male	Jessica Female	All	Male	Sarah Female	All	Male	Jessica Female	All	Male	Sarah Female	All
Jessica penetrates Sarah with her fingers												
Sarah had an orgasm	51.30	50.00	50.20	64.10	56.40	57.70	15.40	25.10	23.50	30.80	41.70	39.80
Sarah does not have an orgasm	48.70	50.50	50.20	59.00	55.90	56.40	15.40	22.80	21.50	28.20	40.40	38.30
They perform mutual manual stimulation												
One has an orgasm	-	-	-	-	-	-	-	-	-	-	-	-
Both have an orgasm	64.10	59.30	60.10	64.10	59.90	60.60	33.30	42.00	40.50	30.80	41.70	39.80
Neither have an orgasm	60.50	58.70	59.00	60.50	58.70	59.00	28.90	41.40	39.30	28.90	41.40	39.30

Note. $N = 228$ (39 males, 189 females).

+ A binary logistic regression produced a statistically significant interaction when controlling for participant sexual orientation.

* $p < .05$. ** $p < .001$

Results by Sexual Orientation. A crosstabulation by participants sexual orientation (HET = heterosexual, LGB+ = identified as lesbian, gay, bisexual, etc.) indicated a chi-square test of independence was appropriate in exploring the differences for each actors' outcomes in manual stimulation.

A chi-square test of independence revealed all outcomes to be statistically significant when analyzing the relationship between participants sexual orientation (HET or LGB+) and affirmative responses for manual stimulation. Overall, participants who are members of the LGB+ community more frequently indicated all couples (heterosexual, gay, and lesbian) had sex and lost their virginity during manual stimulation than heterosexual participants. This finding is consistent with all previous sexual behaviors (e.g., penile-vaginal intercourse, vaginal penetration with a sex toy, anal intercourse, and oral intercourse). Significant interactions are indicated below in Table 23.

Logistic regression. A binary logistic regression was performed on each outcome for all three couples (e.g., heterosexual, gay, and lesbian) to assess the effects of survey participants' biological sex and sexual orientation on the likelihood that they will affirm manual stimulation counted as having sex and losing virginity for any of the hypothetical actors. There were no statistically significant interactions when controlling for participant sexual orientation. However, all interactions were significant on outcomes when controlling for participant biological sex.

The largest variation in data comes from the two following sexual scenarios, "Mary manually stimulates Dan's penis. Dan has an orgasm" and "Mary manually stimulates Dan's penis. Dan does not have an orgasm." The outcome for both scenarios is the same, "Do you think Mary lost her virginity?" When controlling for participant

biological sex, LGB+ participants are 14.30 times more likely than non-LGB+ participants to indicate Mary lost her virginity if Dan does have an orgasm [95% CI = 3.26, 62.87]; $p < .001$. However, if Dan does not have an orgasm while she manually stimulates his penis those odds drop slightly (OR = 14.17, 95% CI [3.23, 62.22]; $p < .001$). All other interactions are notated in Table 23.

Table 23

Crosstabulation of Percentage of Affirmative Responses for an Orgasm During “Manual Stimulation” by Participants’ Sexuality

Behavior by couple	Had Sex						Lost Virginity					
	Dan			Mary			Dan			Mary		
	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All	HET	LGB+	All
<i>Heterosexual couple</i>												
Dan penetrates Mary with his fingers												
Mary had an orgasm	15.40**	51.80**	33.00**	23.70**	61.50**	41.90**	2.60**	18.20**	10.10**	8.50**	32.70**	20.20**
Mary does not have an orgasm	15.50**	49.50**	32.00**	23.50**	58.20**	40.40**	2.60**	19.30**	10.70**	8.60**	30.90**	19.50**
Mary manually stimulates Dan’s penis												
Dan had an orgasm	17.80**	53.60**	35.10**+	12.00**	45.50**	28.20**+	3.40**	25.50**	14.10**+	1.70**	19.10**	10.10**+
Dan does not have an orgasm	15.40**	50.90**	32.40**+	12.90**	45.90**	28.90**+	2.60**	23.90**	12.80**+	1.70**	19.10**	10.10**+
They perform mutual manual stimulation												
Dan had an orgasm	19.80**	57.80**	38.20**+	21.60**	59.60**	40.00**+	4.30**	26.60**	15.20**+	7.80**	29.60**	18.30**+
Mary had an orgasm	19.80**	56.90**	37.80**+	23.10**	60.60**	41.20**+	4.30**	25.70**	14.70**+	9.40**	32.10**	20.40**+
Both have an orgasm	21.40**	56.90**	38.50**+	23.30**	60.20**	41.10**+	4.30**	26.60**	15.00**+	9.40**	33.00**	20.80**+
Neither have an orgasm	19.50**	57.80**	37.90**+	22.20**	60.60**	40.70**+	3.40**	25.70**	14.10**+	8.50**	32.10**	19.80**+
<i>Gay couple</i>												
Rick manually stimulates Steve’s penis												
Steve had an orgasm	19.00**	53.20**	35.60**+	23.90**	58.70**	40.70**+	4.30**	20.20**	11.90**+	8.50**	31.20**	19.50**+
Steve does not have an orgasm	19.00**	50.90**	34.40**+	22.80**	56.50**	39.20**+	2.60**	18.50**	10.30**+	6.00**	25.00**	15.20**+
They perform mutual manual stimulation												
One has an orgasm	23.30**	59.10**	40.70**+	23.50**	59.10**	40.90**+	7.70**	25.50**	16.30**+	6.80**	25.50**	15.90**+
Both have an orgasm	23.30**	58.70**	40.40**+	23.90**	59.10**	41.00**+	8.50**	28.20**	18.00**+	7.70**	29.40**	18.10**+
Neither have an orgasm	21.20**	57.80**	38.80**+	21.40**	57.80**	38.90**+	4.20**	25.70**	14.50**+	4.20**	25.70**	14.50**+
<i>Lesbian couple</i>												
Jessica penetrates Sarah with her fingers												
Sarah had an orgasm	29.90**	71.80**	50.20**+	37.60**	79.10**	57.70**+	11.10**	36.70**	23.50**+	23.30**	57.30**	39.80**+
Sarah does not have an orgasm	31.60**	70.00**	50.20**+	37.30**	77.10**	56.40**+	11.00**	32.70**	21.50**+	23.10**	54.50**	38.30**+
They perform mutual manual stimulation												
One has an orgasm	-	-	-	-	-	-	-	-	-	-	-	-
Both have an orgasm	38.10**	83.60**	60.10**+	38.80**	83.60**	60.60**+	23.10**	59.10**	40.50**+	23.10**	57.80**	39.80**+
Neither have an orgasm	38.10**	81.70**	59.00**+	38.10**	81.70**	59.00**+	24.30**	55.00**	39.30**+	24.30**	55.00**	39.30**+

Note. N = 228 (118 heterosexual, 109 LGB+). HET = heterosexual participants; LGB+ = participants identified as lesbian, gay, bisexual, etc.

+ A binary logistic regression produced a statistically significant interaction when controlling for participant biological sex.

* $p < .05$. ** $p < .001$

Discussion

The purpose of this study was to explore “what counts” as *having sex* and what qualifies as *virginity loss*. This study examined the difference by participants’ biological sex (e.g., male or female) and participants’ sexual orientation (e.g., heterosexual or lesbian, gay, bisexual, etc.). Participants who identified as female or members of the LGB+ community more frequently indicated the sexual behaviors were considered sex and counted as virginity loss than heterosexual and/or male participants. However, results remained consistent with previous research that failed to find statistically significant relationships between gender and affirmation of behaviors counting as sex and virginity loss (Byers et al., 2009; Randall & Byers, 2003) rejecting H4 (i.e., *There will be a difference in affirmative responses for what counts as “having sex” and “losing virginity” between male and female participants for each sexual behavior*). In line with findings in Horowitz and Bedford (2017) and H5 (i.e., *There will be a difference in affirmative responses for what counts as “having sex” and “losing virginity” between heterosexual and LGB+ participants for each sexual behavior*), there were significant differences between LGB+ and heterosexual participants in what constitutes *having sex* and *virginity loss*.

Overall, results were consistent with the previous research exploring these topics (Hans & Kimberly, 2011; Pitts & Rahman 2001; Richters & Song, 1999; Sanders & Reinisch, 1999) and confirm H1 that “There will be a higher rate of affirmative responses for sexual behaviors that involve penile penetration of the vagina or anus than behaviors that do not involve penile penetration.” An overwhelming majority of participants report penile-vaginal intercourse (PVI) counts as having sex (> 98%) and qualifies as losing

your virginity (> 90%). Penile-vaginal intercourse is the only sexual behavior where we consistently see over 90% of the participants indicate the sexual behavior qualifies as virginity loss.

Most participants indicated anal intercourse is sex, though there was a slight difference in participants' beliefs of anal intercourse counting as sex for the heterosexual actors (90.83-93.70%) and gay actors (95.37-97.50%). Participants indicate anal intercourse between gay men is close to counting as virginity loss at 89.87% for Rick and 88.67% for Steve. However, for the heterosexual actors (Dan and Mary) affirmative responses for their virginity loss are lower (74.47%; 64.23%).

This downward trend in affirmative responses continues through the remaining sexual behaviors (e.g., oral sex and manual stimulation) until participants were presented with a sexual behavior asked only for lesbian couple, Jessica and Sarah. Up to this point, under 70% of participants considered oral intercourse and manual stimulation (i.e., manual stimulation of the penis or penetration of the vagina with fingers) to be sex or qualify as virginity loss for any hypothetical couples. Only 67.44-67.92% considered oral intercourse as sex and 35.86-38.90% as virginity loss for Jessica and Sarah; and even fewer participants considered manual stimulation as sex (54.87-58.53%) and virginity loss (31.20-39.30%). This downward trend from PVI to manual contact is consistent with the sexual behavior hierarchy established by Horowitz and Spicer (2013).

When participants were presented with the behavior “vaginal penetration with a sex toy” the affirmative responses turn upward. Over 80% of participants indicate Sarah had sex (82.75%) and 70.75% report she lost her virginity confirming H3 (*There will be a*

higher rate of affirmation for the lesbian couple “having sex” and “losing their virginity” during “penetration with a sex toy” than any other sexual behaviors).

However, there is a slight difference for Jessica. Only 72.25% indicate Jessica had sex and 41.30% indicate she lost her virginity. Results suggest there is a difference in what participants classify as having sex versus losing your virginity when vaginal penetration comes from a sex toy rather than a penis. This finding should be explored further to examine if the differences are due to Margaret Jackson’s (1984) theory of the coital imperative or the sexual orientation of the hypothetical actors.

The final hypothesis (H2) predicting “*There will be a higher rate of affirmative responses in having sex and losing virginity for the male-female and male-male sexual scenarios compared to the female-female sexual scenarios*” was rejected. In sexual behaviors where all three couples were present (i.e., oral intercourse and manual stimulation) the lesbian couple received more affirmative response toward *having sex* and *virginity loss* than both the heterosexual and gay couple.

Limitations

Overall, there was not a large amount of demographic diversity of participants other than their sexual orientation. The study is limited in that most participants were White females and over half come from the southeast region of the United States. Traditionally, this is a more conservative-leaning demographic; and unfortunately, our participant demographics were similar to those participants in previous research. We must do a better job of oversampling minority populations so our findings will be more reflective of the population.

Future Research

Future research should examine the relationship between cultural contextual factors and participants' view of what counts as having sex or losing one's virginity. Additional research should also aim to be more inclusive by including hypothetical actors outside the heteronormative gender binary (e.g., transgender, non-binary, and genderfluid actors), adding supplemental sexual behaviors (e.g., fetishes and kinks), and introducing actors of various races.

While the descriptions in this research did not specify the actor's race, previous research has indicated hiring discrimination is possible if an applicant has a more Black-sounding name versus a White-sounding name (Bertrand & Mullainathan, 2004). It would be interesting to investigate whether racial bias would influence interpretation of sexual behavior scenarios.

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CHAPTER V: SUMMARY OF DISSERTATION

The purpose of this dissertation was to create a valid and reliable method of inquiring about sexual experiences. This new method will aid in advancing the field's conceptualization of sex by determining "what counts" as having sex and qualifies as losing your virginity. Specifically, this research aimed to explore individuals outside the heteronormative landscape by introducing same-sex actors and oversampling members of the lesbian, gay, and bisexual (LGB+) community.

Two studies were conducted in this dissertation, the first study outlined the creation process of the *Sexual Behavior Scenario-Extended Questionnaire (SBSEQ)* and the subsequent pilot test examining the effectiveness of the SBSEQ. The SBSEQ was then reassessed and utilized as the measurement tool for the second study. The second study explored participants' beliefs of what counts as having sex and what qualifies as losing your virginity.

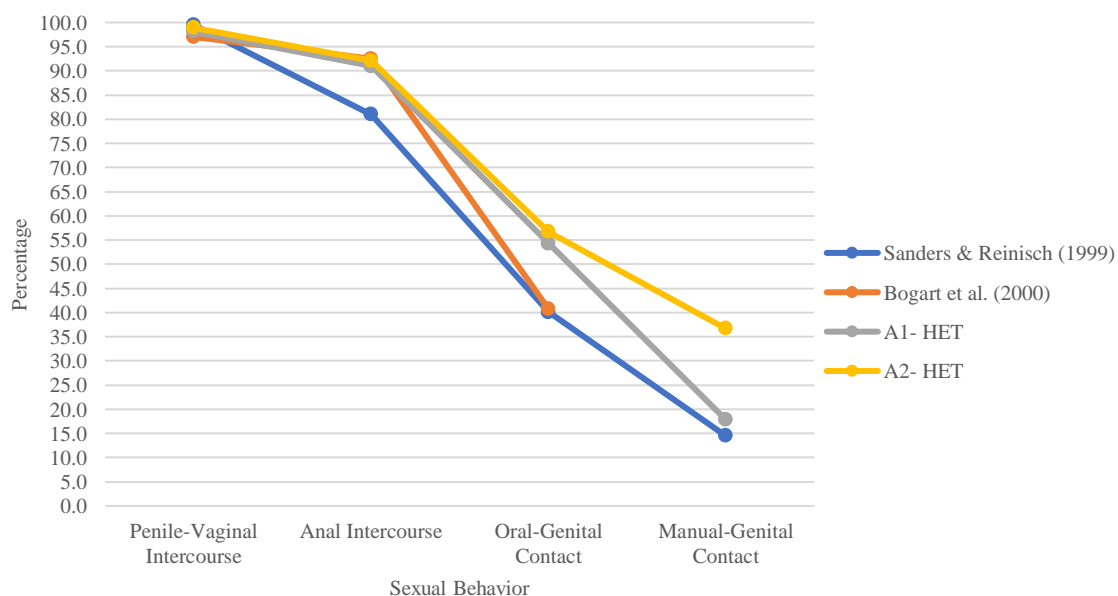
While the sample size, in Article 1 was too low to produce much statistically significant quantitative data, it was apparent by the percentage difference in affirmative responses that if we were able to increase the sample size, we would be able to run additional analysis. Article 1 did produce substantial qualitative data that allowed us to adjust the SBSEQ in a way that would not only assist in exploring sex and virginity further in Article 2 but would also aid in future studies beyond this dissertation.

Overall, data collected in Article 1 and Article 2 are consistent with each other and findings in previous research (shown in Figure 4). Within this dissertation and literature, heteronormative trends remain in the data. Penile-vaginal intercourse (PVI), anal intercourse, and vaginal penetration with a sex toy were the highest affirmed "had

sex” behaviors for the heterosexual, gay, and lesbian couple, respectively. All three of these sexual behaviors have an aspect of penetration. Whereas behaviors such as oral intercourse for all actors and manual stimulation for male actors do not.

Figure 4

Comparison of Heterosexual Results Across “Had Sex” Studies



Over 90% of participants affirmed PVI for heterosexual actors and anal intercourse for gay actors counted as sex while only 72-82% reported vaginal penetration with a sex toy counts as having sex for Jessica and Sarah. Ironically, vaginal penetration with a sex toy was a late addition to the SBSEQ so the lesbian couple would have a more

comparable sexual behavior to the heterosexual and gay couple when it came to penetration than manual stimulation.

Prior Assumptions

During the survey design process, we purposefully did not specify the type of sex toy to allow participants to make their own assumptions on what toy Jessica and Sarah were using. Based on Margaret Jackson's (1984) theory of the coital imperative, we believed participants would assume the sex toy was a strap-on/dildo and more closely associated the sex toy to a penis (i.e., Jessica and Sarah's version of penile-vaginal penetration). Results suggest we were right in our assumption. Participants affirmed Jessica and Sarah had sex at a much higher rate when penetration came from an inanimate object (e.g., a sex toy) than each other's fingers.

A second assumption we made during survey design was believing participants would have a more difficult time addressing the gay and lesbian sexual scenarios. With that in mind, the SBSEQ was specifically structured to present hypothetical couples in an order that would give participants time to familiarize themselves with the questionnaire. Due to the heteronormative nature of society, participants were presented with the heterosexual couple first followed by the gay couple and lesbian couple. Again, responses from the qualitative section suggest this assumption was correct. Multiple participants indicated they struggled with answering scenarios involving the same-sex couples—

“I felt solid about my answers until I got the scenario with two women. Based on my answers, apparently if a woman only has relations with other women she will always be a virgin. That doesn't make sense at all...”

“I think the murkiest area for me when it comes to virginity is with lesbians. But it makes sense since I'm a male who's identified as straight most of his life.”

“I would typically define sex as genital penetration or oral sex but when it came to the questions about two women I was a little confused as to how I defined it. That is, I guess I’m not as familiar with how sex is typically defined between two women.”

Future Research

Future research should exercise caution when allowing participants to infer specifics about sexual scenarios. Topics such as sexual intercourse and virginity are ambiguous in nature so providing participants with defined scenarios will hopefully provide more clarity to the participant. Though not providing clarity about what kind of sex toy was used between Jessica and Sarah one of the straight male participants did make an interesting observation—

“... The men lost their virginity having anal sex but according to my answers neither Sarah or Jessica lost their virginity at all. ODD. But My thoughts were using a dildo/toy via hand to penetrate = sex but not virginity. However had the question read Sarah used a strap on dildo/toy to penetrate Jessica I would have marked that virginity was lost. So apparently I have engrained ableist hetero notions that lost virginity involves hip thrusting??...”

This observation unintentionally suggests research to explore sexual behaviors more mechanically. For example, being on top versus on bottom, “receiving” versus “giving,” and various sexual positions (e.g., missionary, doggie style, standing, etc.). Additionally, future studies could consider the physical location of sexual behavior (e.g., in public vs. private, bedroom, kitchen, etc.) and the relationship between those engaging in the behavior (e.g., sex workers, one-night stands, recently dating, married, etc.).

Furthermore, the volume of data collected in this dissertation will allow us to focus future research on the religious implications as well as the role of the hypothetical actor (e.g., giving or receiving) and how they may impact participants’ decision making.

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APPENDICES

Appendix A: Institutional Review Board Approval Letter

IRB

INSTITUTIONAL REVIEW BOARD

Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd
Murfreesboro, TN 37129



IRBN001 - EXPEDITED PROTOCOL APPROVAL NOTICE

Thursday, March 04, 2021

Principal Investigator **Samantha Stolze** (Student)
Faculty Advisor Angela Bowman
Co-Investigators Kelsie Roberts and Joey Gray
Investigator Email(s) srs5j@mtmail.mtsu.edu; angie.bowman@mtsu.edu
Department Health and Human Performance

Protocol Title ***I just had sex or did I?: What counts as "having sex."***
Protocol ID **20-2114**

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXPEDITED** mechanism under 45 CFR 46.110 and 21 CFR 56.110 within the category (7) *Research on individual or group characteristics or behavior*. A summary of the IRB action and other particulars in regard to this protocol application is tabulated below:

IRB Action	APPROVED for ONE YEAR		
Date of Expiration	2/28/2022	Date of Approval	2/13/20
Sample Size	1,000 (ONE THOUSAND)		
Participant Pool	Target Population: Primary Classification: General Adults (age group 18 to 50) Specific Classification: Adults who self-identify as LGBT+		
Exceptions	Online consent followed by online data collection via Qualtrics is permitted		
Restrictions	1. Mandatory active informed consent. 2. No identifiable data/artifacts, such as, audio/video data, photographs, handwriting samples, and etc., are approved. If such data were inadvertently recorded, then the IRB must be notified and the data must be destroyed. 3. Mandatory Final report (refer last page).		
Approved Templates	MTSU templates: Online informed consent form and Email recruitment Non-MTSU Templates: Recruitment flyer and word of mouth script		
Comments	NONE		

Post-approval Actions

The investigator(s) indicated in this notification should read and abide by all of the post-approval conditions related to this approval (*refer Quick Links below*). Any unanticipated harms to participants, adverse events or compliance breach must be reported to the Office of Compliance

by calling 615-494-8918 within 48 hours of the incident. All amendments to this protocol, including adding/removing researchers, must be approved by the IRB before they can be implemented.

Continuing Review (Follow the Schedule Below)

This protocol can be continued for up to THREE years by requesting a continuing review before **2/28/2022**. Refer to the following schedule to plan your annual progress report; **REMINDERS WILL NOT BE SENT**. Failure to obtain an approval for continuation will result in cancellation of this protocol.

Reporting Period	Requisition Deadline	IRB Comments
First year report	1/31/2021	CR ID IRBCR2021-084 Request Date: 03/01/2021 Status: Approved for an additional year CR Date: 03/04/2021 NOTES: Amendments were made (refer below)
Second year report	1/31/2022	NOT COMPLETED
Final report	1/31/2023	NOT COMPLETED

Post-approval Protocol Amendments:

Only two procedural amendment requests will be entertained per year. In addition, the researchers can request amendments during continuing review. This amendment restriction does not apply to minor changes such as language usage and addition/removal of research personnel. .

Date	Amendment(s)	IRB Comments
03/04/2021	1. The participant sample size increased from 1,000 to FIVE THOUSAND (5,000). 2. An additional demographics question set is added. 3. The PI Kelsie Roberts and Joey Gray are reassigned as Co-investigators. 4. The new PI is Samantha Stolze and the new FA is Angela Bowman.	IRBCR2021-084

Other Post-approval Actions:

Date	IRB Action(s)	IRB Comments
NONE	NONE.	NONE

Mandatory Data Storage Requirement: All research-related records (signed consent forms, investigator training and etc.) must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol application. The data must be stored for at least three (3) years after the study is closed. Additional Tennessee State data retention requirement may apply (refer "Quick Links" for MTSU policy 129 below). Subsequently, the data may be destroyed in a manner that maintains confidentiality and anonymity of the research subjects.

The MTSU IRB reserves the right to modify/update the approval criteria or change/cancel the terms listed in this letter without prior notice. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University

Quick Links:

- Post-approval Responsibilities: <http://www.mtsu.edu/irb/FAQ/PostApprovalResponsibilities.php>
- Expedited Procedures: <https://mtsu.edu/irb/ExpeditedProcedures.php>
- MTSU Policy 129: Records retention & Disposal: <https://www.mtsu.edu/policies/general/129.php>

Appendix B: Electronic Informed Consent

Primary Investigator: Samantha Stolze

PI Department & College: Human and Health Performance, College of Behavioral and Health Sciences, Middle Tennessee State University

Faculty Advisor: Dr. Angie Bowman

Protocol Title: I Just Had Sex Or Did I?: What Counts As "Having Sex."

Protocol ID: 20-2114

Approval Date: 2/13/20 **Expiration Date:** 2/28/22

Here are your rights as a participant:

(1) Your participation in this research is voluntary.

(2) You may skip any item that you don't want to answer, and you may stop the experiment at any time.

Note: If you leave an item blank by either not clicking or entering a response, you may be warned that you missed one, just in case it was an accident. But you can continue the study without entering a response if you didn't want to answer any questions. Some items (such as consent) may require a response to accurately present the survey.

Information and Disclosure Section

Purpose: This research project is designed to help us evaluate and explore which sexual acts LGBT+ subjects consider as "having sex." Specifically, this study seeks to gain a better understanding of the intimate sexual acts LGB+ adults and heterosexual adults consider to be "sex and/or having sex" and "virginity loss" along with the factors that might influence their beliefs.

Description: There are several parts to this project. They are (1) A brief demographic section at the beginning of the survey, (2) The remainder of the survey will ask you as the participant to indicate whether two hypothetical actors, (Dan and Mary, followed by Jessica and Sarah and concluding with Rick and Steve), would consider various sexual acts to be "sex" and whether you believe that the actors have lost their virginity, and (3) These scenarios and actors were specifically chosen to help ascertain whether factors such as participant gender and or sexuality, actor's gender and or sexuality, actor's relationship status, type of behavior and whether orgasm occurred would influence the labelling of the behaviors.

Duration: The whole activity should take about 10-15 minutes. The participants will not be compensated. The subjects must take at least 10 minutes to complete the study.

Risks & Discomforts: There is no risk involved in participating in this study as the survey is anonymous. No personal identifiers will be collected during the survey or consent process.

Benefits: There are no direct benefits to you as the participants, although you may benefit from reflecting on your answers to the survey questions. Furthermore, science and society will benefit by having a greater understanding of how LGB+ define sex vs. heterosexual persons.

Identifiable Information: You will NOT be asked to provide identifiable personal information.

Compensation: There is no compensation for participating in this study.

Confidentiality: All efforts, within reason, will be made to keep your personal information private but total privacy cannot be promised. Your information may be shared with MTSU or the government, such as the Middle Tennessee State University Institutional Review Board, Federal Government Office for Human Research Protections, if you or someone else is in danger or if we are required to do so by law.

Contact Information: If you should have any questions about this research study or possibly injury, please feel free to contact **Dr. Angie Bowman by telephone (615-898-5241) or by email Angie.Bowman@mtsu.edu**. You can also contact the **MTSU Office of compliance via telephone (615-494-8918) or by email (compliance@mtsu.edu)**. This contact information will be presented again at the end of the experiment.

You are not required to do anything further if you decide not to enroll in this study. Just quit your browser. Please complete the response section below if you wish to learn more or you wish to part take in this study.

Participant Response Section		
	Yes	No
I have read this informed consent document pertaining to the above identified research.	<input type="radio"/>	<input type="radio"/>
The research procedures to be conducted are clear to me.	<input type="radio"/>	<input type="radio"/>
I confirm I am 18 years or older.	<input type="radio"/>	<input type="radio"/>
I'm aware of the potential risks of this study.	<input type="radio"/>	<input type="radio"/>

By clicking below, I affirm that I freely and voluntarily choose to participate in this study. I understand I can withdraw from this study at any time without facing any consequences.

- NO, I do not consent.
- YES, I consent.

Appendix C: Pilot Study Survey Items

Demographics Questions:

1. What was your biological sex at birth?
 - a. Male
 - b. Female
2. How do you currently describe your gender identity?
 - a. Man
 - b. Woman
 - c. Non-binary
 - d. My gender isn't listed, please specify: _____
 - e. I prefer not to answer
3. What is your age in years?
 - a. 18 – 60+
4. Are you a virgin?
 - a. Yes
 - b. No
 - c. Unsure
5. Which of the following best describes your ethnicity?
 - a. Hispanic or Latino
 - b. Not Hispanic or Latino
6. Which of the following best describes your race?
 - a. White
 - b. Black or African American
 - c. American Indian or Alaska Native
 - d. Asian
 - e. Native Hawaiian or Pacific Islander
 - f. Other, please specify: _____

7. Please place the slider (from liberal to conservative) to the best of your abilities for the following two options.
 - a. Your Childhood household
 - b. You presently
8. What is your current level of education?
 - a. Less than a high school diploma
 - b. High school diploma
 - c. Some college
 - d. College graduate (associates, bachelors, etc.)
 - e. Post graduate degree
 - f. Other, please specify: _____
9. Which of the following best describes you?
 - a. Heterosexual (Straight)
 - b. Gay or Lesbian
 - c. Bisexual
 - d. Fluid
 - e. Pansexual
 - f. Queer
 - g. Demisexual
 - h. Questioning
 - i. Asexual
 - j. Other, please specify: _____
10. In the past, who have you had sex with?
 - a. Men only
 - b. Women only
 - c. Both men and women
 - d. I have not had sex
11. In the past, approximately how many sexual partners have you had?
 - a. 0 – 100+

Sexual scenarios for the heterosexual couple:

The scenarios below depict two cis-gendered, heterosexual (straight) individuals, Dan and Mary. They meet at a bar and go back to Dan's apartment and engage in intimate activities for the first time in both of their lives. Please read the following scenarios and answer the questions honestly and to the best of your ability.

1. Dan and Mary engage in vaginal intercourse. Only *Dan* has an orgasm.
 - a. Do you think Dan had sex?
 - b. Do you think Mary had sex?
 - c. Do you think Dan lost his virginity?
 - d. Do you think Mary lost her virginity?

2. Dan and Mary engage in vaginal intercourse. Only *Mary* has an orgasm.
 - a. Do you think Dan had sex?
 - b. Do you think Mary had sex?
 - c. Do you think Dan lost his virginity?
 - d. Do you think Mary lost her virginity?

3. Dan and Mary engage in vaginal intercourse. Both Dan and Mary have an orgasm.
 - a. Do you think Dan had sex?
 - b. Do you think Mary had sex?
 - c. Do you think Dan lost his virginity?
 - d. Do you think Mary lost her virginity?

4. Dan and Mary engage in vaginal intercourse. Neither have an orgasm.
 - a. Do you think Dan had sex?
 - b. Do you think Mary had sex?
 - c. Do you think Dan lost his virginity?
 - d. Do you think Mary lost her virginity?

5. Dan performs oral sex on Mary, and she has an orgasm.
 - a. Do you think Dan had sex?
 - b. Do you think Mary had sex?
 - c. Do you think Dan lost his virginity?
 - d. Do you think Mary lost her virginity?

6. Dan performs oral sex on Mary, and she does NOT have an orgasm.
 - a. Do you think Dan had sex?
 - b. Do you think Mary had sex?
 - c. Do you think Dan lost his virginity?
 - d. Do you think Mary lost her virginity?

7. Mary performs oral sex on Dan, and he has an orgasm.
 - a. Do you think Dan had sex?
 - b. Do you think Mary had sex?
 - c. Do you think Dan lost his virginity?
 - d. Do you think Mary lost her virginity?

8. Mary performs oral sex on Dan, and he does NOT orgasm.
 - a. Do you think Dan had sex?
 - b. Do you think Mary had sex?
 - c. Do you think Dan lost his virginity?
 - d. Do you think Mary lost her virginity?

9. Dan and Mary performed oral sex on each other. Only *Dan* has an orgasm.
 - a. Do you think Dan had sex?
 - b. Do you think Mary had sex?
 - c. Do you think Dan lost his virginity?
 - d. Do you think Mary lost her virginity?

10. Dan and Mary performed oral sex on each other. Only *Mary* has an orgasm.

- a. Do you think Dan had sex?
- b. Do you think Mary had sex?
- c. Do you think Dan lost his virginity?
- d. Do you think Mary lost her virginity?

11. Dan and Mary perform oral sex on each other. They both have an orgasm.

- a. Do you think Dan had sex?
- b. Do you think Mary had sex?
- c. Do you think Dan lost his virginity?
- d. Do you think Mary lost her virginity?

12. Dan and Mary perform oral sex on each other. Neither have an orgasm.

- a. Do you think Dan had sex?
- b. Do you think Mary had sex?
- c. Do you think Dan lost his virginity?
- d. Do you think Mary lost her virginity?

13. Dan and Mary engage in anal intercourse. Only *Dan* has an orgasm.

- a. Do you think Dan had sex?
- b. Do you think Mary had sex?
- c. Do you think Dan lost his virginity?
- d. Do you think Mary lost her virginity?

14. Dan and Mary want to know that you are paying attention. Please check Yes for all four answers this question.

- a. Do you think Dan had sex?
- b. Do you think Mary had sex?
- c. Do you think Dan lost his virginity?
- d. Do you think Mary lost her virginity?

15. Dan and Mary engage in anal intercourse. Only *Mary* has an orgasm.
- Do you think Dan had sex?
 - Do you think Mary had sex?
 - Do you think Dan lost his virginity?
 - Do you think Mary lost her virginity?
16. Dan and Mary engage in anal intercourse. Both Dan and Mary have an orgasm
- Do you think Dan had sex?
 - Do you think Mary had sex?
 - Do you think Dan lost his virginity?
 - Do you think Mary lost her virginity?
17. Mary manually stimulates Dan's penis. Dan has an orgasm.
- Do you think Dan had sex?
 - Do you think Mary had sex?
 - Do you think Dan lost his virginity?
 - Do you think Mary lost her virginity?
18. Mary manually stimulates Dan's penis. Dan does not have an orgasm.
- Do you think Dan had sex?
 - Do you think Mary had sex?
 - Do you think Dan lost his virginity?
 - Do you think Mary lost her virginity?
19. Dan penetrates Mary with his fingers. Mary has an orgasm.
- Do you think Dan had sex?
 - Do you think Mary had sex?
 - Do you think Dan lost his virginity?
 - Do you think Mary lost her virginity?

20. Dan penetrates Mary with his fingers. Mary does not have an orgasm.
- Do you think Dan had sex?
 - Do you think Mary had sex?
 - Do you think Dan lost his virginity?
 - Do you think Mary lost her virginity?
21. Dan penetrates Mary with his fingers while Mary manually stimulates his penis.
only Mary has an orgasm.
- Do you think Dan had sex?
 - Do you think Mary had sex?
 - Do you think Dan lost his virginity?
 - Do you think Mary lost her virginity?
22. Dan penetrates Mary with his fingers while Mary manually stimulates his penis.
Only Dan has an orgasm.
- Do you think Dan had sex?
 - Do you think Mary had sex?
 - Do you think Dan lost his virginity?
 - Do you think Mary lost her virginity?
23. Dan penetrates Mary with his fingers while Mary manually stimulates his penis.
Both have an orgasm.
- Do you think Dan had sex?
 - Do you think Mary had sex?
 - Do you think Dan lost his virginity?
 - Do you think Mary lost her virginity?

24. Dan penetrates Mary with his fingers while Mary manually stimulates his penis.

Neither have an orgasm.

- a. Do you think Dan had sex?
- b. Do you think Mary had sex?
- c. Do you think Dan lost his virginity?
- d. Do you think Mary lost her virginity?

Sexual scenarios for the gay couple:

The scenarios below depict two cis-gendered, gay men, Rick and Steve. They meet at a bar and go back to Rick's apartment. For each scenario, the actions described are the only and first sexual actions both men have performed. Please read the following scenarios and answer the questions honestly and to the best of your ability.

25. Rick performs oral sex on Steve. Steve has an orgasm.

- a. Do you think Rick had sex?
- b. Do you think Steve had sex?
- c. Do you think Rick lost his virginity?
- d. Do you think Steve lost his virginity?

26. Rick performs oral sex on Steve and Steve does NOT orgasm.

- a. Do you think Rick had sex?
- b. Do you think Steve had sex?
- c. Do you think Rick lost his virginity?
- d. Do you think Steve lost his virginity?

27. Rick and Steve perform oral sex on each other. Only *Rick* has an orgasm.

- a. Do you think Rick had sex?
- b. Do you think Steve had sex?
- c. Do you think Rick lost his virginity?
- d. Do you think Steve lost his virginity?

28. Rick and Steve perform oral sex on each other. They both have an orgasm.
- Do you think Rick had sex?
 - Do you think Steve had sex?
 - Do you think Rick lost his virginity?
 - Do you think Steve lost his virginity?
29. Rick and Steve want to know if you are still reading. Check no for each of the answers to this question.
- Do you think Rick had sex?
 - Do you think Steve had sex?
 - Do you think Rick lost his virginity?
 - Do you think Steve lost his virginity?
30. Rick and Steve perform oral sex on each other. Neither have an orgasm.
- Do you think Rick had sex?
 - Do you think Steve had sex?
 - Do you think Rick lost his virginity?
 - Do you think Steve lost his virginity?
31. Rick and Steve engage in anal intercourse. Only *Rick* has an orgasm.
- Do you think Rick had sex?
 - Do you think Steve had sex?
 - Do you think Rick lost his virginity?
 - Do you think Steve lost his virginity?
32. Rick and Steve engage in Anal intercourse. Both Rick and Steve have an orgasm.
- Do you think Rick had sex?
 - Do you think Steve had sex?
 - Do you think Rick lost his virginity?
 - Do you think Steve lost his virginity?

33. Rick and Steve engage in anal intercourse. Neither have an orgasm.
- Do you think Rick had sex?
 - Do you think Steve had sex?
 - Do you think Rick lost his virginity?
 - Do you think Steve lost his virginity?
34. Rick manually stimulates Steve's penis. Steve has an orgasm.
- Do you think Rick had sex?
 - Do you think Steve had sex?
 - Do you think Rick lost his virginity?
 - Do you think Steve lost his virginity?
35. Rick manually stimulates Steve's penis. Steve does NOT have an orgasm.
- Do you think Rick had sex?
 - Do you think Steve had sex?
 - Do you think Rick lost his virginity?
 - Do you think Steve lost his virginity?
36. Steve and Rick manually stimulate each other's penis. Only one has an orgasm.
- Do you think Rick had sex?
 - Do you think Steve had sex?
 - Do you think Rick lost his virginity?
 - Do you think Steve lost his virginity?
37. Steve and Rick manually stimulate each other's penis. They both have an orgasm.
- Do you think Rick had sex?
 - Do you think Steve had sex?
 - Do you think Rick lost his virginity?
 - Do you think Steve lost his virginity?

38. Steve and Rick manually stimulate each other's penis. Neither one has an orgasm.
- Do you think Rick had sex?
 - Do you think Steve had sex?
 - Do you think Rick lost his virginity?
 - Do you think Steve lost his virginity?

Sexual behaviors for the lesbian couple:

The scenarios below depict two cis-gendered, lesbian women, Jessica and Sarah. They meet at a bar and go back to Sarah's apartment. For each scenario, the actions described are the only and first sexual actions both women have performed. Please read the following scenarios and answer the questions honestly and to the best of your ability.

39. Jessica performs oral sex on Sarah. Sarah has an orgasm.
- Do you think Jessica had sex?
 - Do you think Sarah had sex?
 - Do you think Jessica lost her virginity?
 - Do you think Sarah lost her virginity?
40. Jessica performs oral sex on Sarah, and she does NOT have an orgasm.
- Do you think Jessica had sex?
 - Do you think Sarah had sex?
 - Do you think Jessica lost her virginity?
 - Do you think Sarah lost her virginity?
41. Jessica and Sarah perform oral sex on each other. Only Jessica has an orgasm.
- Do you think Jessica had sex?
 - Do you think Sarah had sex?
 - Do you think Jessica lost her virginity?
 - Do you think Sarah lost her virginity?

42. Jessica and Sarah perform oral sex on each other. They both have an orgasm.
- Do you think Jessica had sex?
 - Do you think Sarah had sex?
 - Do you think Jessica lost her virginity?
 - Do you think Sarah lost her virginity?
43. Jessica and Sarah perform oral sex on each other. Neither have an orgasm.
- Do you think Jessica had sex?
 - Do you think Sarah had sex?
 - Do you think Jessica lost her virginity?
 - Do you think Sarah lost her virginity?
44. Jessica penetrates Sarah with her fingers. Sarah has an orgasm.
- Do you think Jessica had sex?
 - Do you think Sarah had sex?
 - Do you think Jessica lost her virginity?
 - Do you think Sarah lost her virginity?
45. Jessica penetrates Sarah with her fingers. Sarah does NOT have an orgasm.
- Do you think Jessica had sex?
 - Do you think Sarah had sex?
 - Do you think Jessica lost her virginity?
 - Do you think Sarah lost her virginity?
46. Both women penetrate each other with their fingers. Both have an orgasm.
- Do you think Jessica had sex?
 - Do you think Sarah had sex?
 - Do you think Jessica lost her virginity?
 - Do you think Sarah lost her virginity?

47. Both women penetrate each other with her fingers. Neither have an orgasm.

- a. Do you think Jessica had sex?
- b. Do you think Sarah had sex?
- c. Do you think Jessica lost her virginity?
- d. Do you think Sarah lost her virginity?

48. Jessica and Sarah hope you are still reading. Check yes for all of these.

- a. Do you think Jessica had sex?
- b. Do you think Sarah had sex?
- c. Do you think Jessica lost her virginity?
- d. Do you think Sarah lost her virginity?

49. Both women penetrate each other with her fingers. Only one of them have an orgasm.

- a. Do you think Jessica had sex?
- b. Do you think Sarah had sex?
- c. Do you think Jessica lost her virginity?
- d. Do you think Sarah lost her virginity?

Short answer questions:

1. In your own words, how would you define sex?
2. In your own words, how would you define virginity?
3. Would you like to make any clarifications or additional comments about the questions or topic (e.g., sex, virginity, sexuality, foreplay, etc.)?

Appendix D: Question Modifications for Final Survey

Modified Demographic Questions:

1. What was your biological sex at birth?
 - a. Male
 - b. Female
 - c. Intersex

2. How do you currently describe your gender identity?
 - a. Man
 - b. Woman
 - c. Trans-man
 - d. Trans-woman
 - e. Non-binary
 - f. I prefer to self-describe: _____
 - g. I prefer not to answer

3. Which of the following best describes you?
 - a. Heterosexual (Straight)
 - b. Gay
 - c. Lesbian
 - d. Bisexual
 - e. Queer
 - f. Questioning
 - g. Asexual
 - h. I prefer to self-describe: _____

4. What is your HIGHEST level of education?
 - a. Less than a high school diploma
 - b. High school diploma
 - c. Some college
 - d. College graduate (associates, bachelors, etc.)
 - e. Master's degree/Law degree
 - f. Ph.D./M.D.
 - g. Other, please specify: _____

5. Over the course of your life, who have you had sex with?
 - a. Only men
 - b. Mostly men
 - c. Equally men and women
 - d. Mostly women
 - e. Only women
 - f. I have not had sexual contact with anyone

Additional Demographic Questions:

6. In which state did you spend a majority of your childhood?
 - a. Alabama – I do not reside in the United States

7. In which state do you currently reside?
 - a. Alabama – I do not reside in the United States

8. Please indicate what best describes your political leaning.

	Consistently liberal	Mostly liberal	Somewhat liberal	Mixed	Somewhat conservative	Mostly conservative	Consistently conservative
Your childhood home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You currently	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Which best describes your religious affiliation?

- a. Atheist/Agnostic
- b. Spiritual, no affiliation
- c. Catholic Christian
- d. Protestant Christian (e.g., Baptist, Methodist, Pentecostal, Lutheran, Presbyterian, Episcopalian/Anglican, Restorationist, nondenominational, churches of Christ, Church of God, Disciples of Christ, and others)
- e. Jewish
- f. Muslim
- g. Buddhist
- h. Hindu
- i. Other religious affiliation not listed above. Please describe: _____

10. Please indicate what best describes your religiosity.

	Not religious	Somewhat religious	Moderately religious	Very religious
Your childhood home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You currently	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. In the 12 months PRIOR to the COVID-19 pandemic, how often did you attend religious services (NOT including weddings, baptisms, and funerals)?

- a. Never
- b. Seldom
- c. A few times a year (less than once a month)
- d. Once or twice a month
- e. Once a week
- f. More than once a week

12. People are different in their sexual attraction to other people. Which best describes your feelings? Are you:

- a. Only attracted to men
- b. Mostly attracted to men
- c. Equally attracted to men and women
- d. Mostly attracted to women
- e. Only attracted to women
- f. I have never been romantically or sexually attracted to anyone
- g. Not sure

13. In the past, have you EVER participated in the following sexual behaviors?

	YES, I have participated.	NO, I have NOT participated.
Kissing	<input type="radio"/>	<input type="radio"/>
Touching breast/stimulating nipples	<input type="radio"/>	<input type="radio"/>
Manual stimulation of genitals with hands	<input type="radio"/>	<input type="radio"/>
Oral sex	<input type="radio"/>	<input type="radio"/>
Vaginal penetration with a penis	<input type="radio"/>	<input type="radio"/>
Vaginal penetration with fingers	<input type="radio"/>	<input type="radio"/>
Vaginal penetration with a sex toy	<input type="radio"/>	<input type="radio"/>
Anal penetration with a penis	<input type="radio"/>	<input type="radio"/>
Anal penetration with fingers	<input type="radio"/>	<input type="radio"/>
Anal penetration with a sex toy	<input type="radio"/>	<input type="radio"/>

Modified Sexual Scenario Descriptions:

The scenarios below depict two individuals, Dan and Mary. They meet at a bar and go back to Dan's apartment and engage in intimate activities for the FIRST TIME in both of their lives. Please read the following scenarios and answer the questions honestly and to the best of your ability.

The scenarios below depict two male individuals, Rick and Steve. They meet at a bar and go back to Rick's apartment and engage in intimate activities for the FIRST TIME in both of their lives. Please read the following scenarios and answer the questions honestly and to the best of your ability.

The scenarios below depict two female individuals, Jessica and Sarah. They meet at a bar and go back to Sarah's apartment and engage in intimate activities for the FIRST TIME in both of their lives. Please read the following scenarios and answer the questions honestly and to the best of your ability.

Additional Sexual Scenarios:

1. Jessica penetrates Sarah with a sex toy. Sarah has an orgasm.
 - a. Do you think Jessica had sex?
 - b. Do you think Sarah had sex?
 - c. Do you think Jessica lost her virginity?
 - d. Do you think Sarah lost her virginity?

2. Jessica penetrates Sarah with a sex toy. Sarah does NOT have an orgasm.
 - a. Do you think Jessica had sex?
 - b. Do you think Sarah had sex?
 - c. Do you think Jessica lost her virginity?
 - d. Do you think Sarah lost her virginity?

3. Jessica penetrates Sarah with a sex toy. Both have an orgasm.
 - a. Do you think Jessica had sex?
 - b. Do you think Sarah had sex?
 - c. Do you think Jessica lost her virginity?
 - d. Do you think Sarah lost her virginity?

4. Jessica penetrates Sarah with a sex toy. Neither have an orgasm.
 - a. Do you think Jessica had sex?
 - b. Do you think Sarah had sex?
 - c. Do you think Jessica lost her virginity?
 - d. Do you think Sarah lost her virginity?