Title of Thesis: A Comparison of Sexual Attraction, Orientation, and Activity in Predicting Drinking Behaviors among Lesbian and Bisexual Females in the United States

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Lesbian and bisexual women’s attraction, orientation, and activity were examined in an effort to understand how sexualities are developed. Also, attraction, orientation, and activity were measured in relation to the binge drinking behaviors. Hypothesis (1), the three variables attraction, orientation, and activity are similar, but reveal distinctions. Hypothesis (2), compared to heterosexual women, lesbian and bisexual women will have more unhealthy drinking behaviors, especially bisexual women due to sexual minority stress. The National Survey of Family Growth (NSFG 2006-2010) public female and ACASI female data files were used. Results indicated that attraction, orientation, and activity are all separate factors that contribute to the development of a woman’s sexuality. It was found that lesbian and bisexual women, especially bisexual women are more likely to engage in binge drinking behaviors compared to heterosexual women. In addition, attraction and activity appear to be slightly greater predictors of binge drinking behaviors.
“A COMPARISON OF SEXUAL ATTRACTION, ORIENTATION, AND ACTIVITY IN PREDICTING DRINKING BEHAVIORS AMONG LESBIAN AND BISEXUAL FEMALES IN THE UNITED STATES.”

By

Ashlee Rose Lawler

Thesis submitted to the Faculty of the Graduate School of the University of Maryland, Baltimore County, in partial fulfillment of the requirements for the degree of Master of Applied Sociology
# Table of Contents

Table of Contents ........................................................................................................... ii
List of Tables .................................................................................................................... iii
List of Figures .................................................................................................................... iv
Introduction .................................................................................................................... 1
    Conceptualizing Sexual Health and Sexuality ......................................................... 1
    Sexuality and General Health .................................................................................... 3
Sexuality and Social Construction ............................................................................... 6
    Attraction .................................................................................................................... 8
    Sexual Orientation .................................................................................................... 9
    Sexual Scripts/Sexual Identity .................................................................................. 10
Hypothesis 1 .................................................................................................................. 11
Stress Process and Sexual Minority Stress ................................................................. 12
Sexual Minority Stress and Alcohol/Substance Use ................................................... 15
    Sexual Minority Stress ............................................................................................ 15
    Sexual Status Stressors ............................................................................................ 16
    Sexual Minority Stigma ........................................................................................... 17
    Internalized Heterosexism ....................................................................................... 17
    Hazardous Drinking ............................................................................................... 18
    Age Related Drinking ............................................................................................... 19
Hypothesis 2 .................................................................................................................. 20
Gaps in Past Literature ................................................................................................. 20
Methods ......................................................................................................................... 21
    Data .......................................................................................................................... 21
    Measures ................................................................................................................... 23
    Analysis ..................................................................................................................... 29
    Descriptive Statistics ............................................................................................... 29
    Multivariate Analyses .............................................................................................. 30
Results ......................................................................................................................... 30
    Descriptive Results ................................................................................................. 30
    Bivariate Results ..................................................................................................... 31
    Multivariate Results ................................................................................................. 32
Discussion ...................................................................................................................... 34
    A Case for Multidimensional Measures of Sexuality ............................................. 34
    Sexual Minority Women at Risk ............................................................................. 35
    Limitations and Future Research .......................................................................... 36
Conclusion ..................................................................................................................... 38
Tables and Figures ......................................................................................................... 40
Appendices ..................................................................................................................... 50
References ..................................................................................................................... 54
List of Tables

Table 1. Descriptive Statistics of All Variables..................................................40
Table 2. Cross-Tabulation Female Attraction and Orientation.........................41
Table 3. Cross-Tabulation Give or Receive Oral Sex and Attraction...............43
Table 4. Cross-Tabulation Give or Receive Oral Sex and Orientation..............45
Table 5. Multivariate Linear Regression (Attraction) Predicting Respondents Binge
Drinking Behaviors..............................................................................................47
Table 6. Multivariate Linear Regression (Orientation) Predicting Respondents Binge
Drinking Behaviors..............................................................................................48
Table 7. Multivariate Linear Regression (Oral Sex) Predicting Respondents Binge
Drinking Behaviors..............................................................................................49
List of Figures

Figure 1. Attraction and Orientation.................................................................42
Figure 2. Give or Receive Oral Sex and Attraction..............................................44
Figure 3. Give or Receive Oral Sex and Orientation..............................................46
INTRODUCTION

This paper explores the multidimensional aspects of sexuality through an examination of attraction, sexual orientation, and same-sex oral sex activity in relation to binge drinking behaviors among lesbian and bisexual women in the United States. Using the theoretical frameworks of social constructionism and the stress process model while analyzing data from the NSFG (2006-2010), this study aims to understand a complex meaning of sexuality and binge drinking behaviors within sexual minority groups. First, definitions of sex, sexual health, sexuality, and what being a lesbian or bisexual woman means are given to provide a foundation for this research.

Conceptualizing Sexual Health and Sexuality

For the purpose of this research study, the following definitions of sex, sexual health, and sexuality are provided to aid in discussing sexual orientation and sexuality. The following definitions are all those of the Pan American Health Organization/World Health Organization (PAHO 2000).

Sex is defined as, “the biological characteristics that define humans as female or male” (PAHO 2000). These biological traits are often used to distinguish if an individual is male or female. However, some individuals have combinations of both types of biological characteristics.

Sexual Health is viewed as, “a state of physical, emotional, mental, and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity.” This concept includes a healthy and positive view of an individual’s
sexuality and sexual relationships. Such relationships provide a safe and pleasurable sexual encounter that is not forceful or violent. In order to achieve a healthy view of sexual health, individuals must exert respect for every individual’s sexual rights. The PAHO (2000) claims that sexual health cannot be properly explored and defined without making a greater consideration for sexuality; which thus involves behaviors and outcomes associated with sexual health. In relation to sexual health, the concept of sexual rights has been given much consideration.

In terms of sexual rights, the PAHO (2000) claims that the sexual rights of a person play a key role in the development of a good sexual health for them. The concept of sexual rights has evolved over the past decades and has become a focus in several domains ranging from public health, sex education, academics, and among organizations that support equality and non-discrimination for sexual minorities including gays, lesbians, bisexuals, transgenders, and many more (Lottes 2013). Furthermore, Lottes (2013:375-376) notes social movements that encourage human rights and sexual rights in particular for women, gays, lesbians, transgender people, disabled people, sex workers, immigrants, and prisoners have sought to establish social justice and peace in several countries.

Sexuality is conceptualized as, “a central aspect of being human throughout life and encompasses sex, gender identities and roles, sexual orientation, eroticism, pleasure, intimacy and reproduction. Sexuality is experienced and expressed in thoughts, fantasies, desires, beliefs, attitudes, values, behaviors, practices, roles, and relationships” (PAHO 2000). An individual’s sexuality may include every aspect of this definition, but some may not encounter all of these aspects. The development of
sexuality includes an array of biological, cultural, psychological, social, political, and spiritual influences, along with several other factors (PAHO 2000). Jackson (1996) says that sexuality is a holistic approach that encompasses emotional, physical, cognitive, and social dimensions as well. Other researchers have noted that sexual identity encompasses a development which typically includes a range of feelings, experiences, and events where individuals process, understand, and accept non-heterosexual (or sexual minority) identity (Diamond and Savin-Williams 2000).

**Sexuality and General Health**

According to the Williams Institute (2011) an estimated 3.5% of adults in the United States identify as lesbian, gay, or bisexual with an estimated 0.3% of adults as transgender. Among the lesbian, gay, bisexual and transgender community, bisexuals make up 1.8% while lesbian and gay adults comprise 1.7% of the community (Williams Institute 2011). Also, it is estimated that 19 million Americans indicate some sort of participation in same-sex sexual behavior, while about 25.6 million (11%) admit to some sort of same-sex attraction within their lifetime (Williams Institute 2011).

Past research also shows that differences in negative health behaviors vary by sexual orientation (Boehmer, Miao, Linkletter, and Clark 2012). In this study I focus on the sexuality of lesbian and bisexual women and health related behaviors, such as drinking and sexual activity. Specifically, I will examine how sexuality and sexual orientation are socially constructed while being influenced by social dynamics like attraction and same-sex sexual activity. In addition, I examine how sexuality
constructions and same-sex oral sex activity influences drinking behaviors among
lesbian and bisexual women through a theoretical perspective of stress. According to
the Office of Women’s Health (OWH 2009) the definition of a lesbian constitutes, “a
woman who has sex with another woman, even if it is only sometimes. A lesbian is
currently only having sex with a woman, even if she has had sex with men in the
past.” The OWH (2009) also defines a bisexual woman by, “any person who is
attracted to or sexually active with both men and women.”

According to the OWH (2009), lesbian and bisexual women have worse
health than straight women. For example, lesbian and bisexual women have higher
rates of obesity, smoking, and stress, which are all risk factors for heart disease.
Compared to heterosexual women, lesbian women are more likely to smoke and
bisexual women are most likely to smoke, which all increase the chance of
developing lung cancer for women who have sex with women (OWH 2009). Lesbians
and bisexual women report higher rates of depression and anxiety compared to other
women. In particular, bisexual women report the highest rates of a mood or anxiety
disorder compared to lesbian and heterosexual women (OWH 2009). The OWH
(2009) explains that recent data indicates substance use (mostly alcohol use) among
lesbian women has gone down over the past two decades, but heavy drinking and
drug use are still higher among lesbians (particularly young women) than
heterosexual women. In addition, lesbian and bisexual women are more likely to
drink alcohol and smoke marijuana in moderation compared to other women. The
OWH (2009) indicates bisexual women are the most likely to inject drugs, which puts
them at an increased risk of contracting sexually transmitted infections (STIs).
Bisexual women might have a greater chance of contracting STIs than lesbians because bisexuals are assumed to have sex with both men and women (OWH 2009).

Other research findings have yielded support for the information provided by the OWH with regards to lesbian and bisexual women’s health related behaviors. Tang, Greenwood, Cowling, Lloyd, Roeseler, and Bal (2004) note that gay men, lesbians, and bisexual women are more likely to smoke in comparison to their heterosexual counterparts. More specifically, lesbians and bisexual women indicate higher levels of alcohol use and are more likely to report alcohol related social consequences, alcohol dependence, and seek alcohol program treatment at some point in their lives as opposed to heterosexual women (Drabble and Midanik 2005). Lesbians, gays, and bisexuals indicate higher frequencies of emergency room use with lower rates of receiving proper medical care compared to heterosexuals (Heck, Sell, and Sheinfeld 2006).

Burgard, Cochran, and Mayes (2005) indicate that alcohol usage for women is higher among sexual minority women ages 26 to 35 years old. Another study found that drinking, heavy alcohol consumption and drinking related problems among lesbians and gay men decline less as they age in comparison to the declines observed with heterosexual women and men (Hughes 2005). In a study looking at the California Health Interview Survey (CHIS) it was found that lesbian and bisexual women who were younger than 50 were significantly more likely to have engaged in alcohol consumption in the past month compared to heterosexual women in the same age range, (Boehmer et al. 2012). Also, past research does indicate that lesbian women do show higher rates of binge drinking at any age (Boehmer et al. 2012).
Sexuality and Social Construction

In order to thoroughly conceptualize how sexuality is theoretically developed, factors such as attraction, sexual orientation, desire, sexual scripts, and sexual identity will be considered in the next few sections. The theoretical foundation for this research study is rooted in classical theory. For the first theoretical framework, I draw on the *Social Construction of Reality* by Berger and Luckmann (1966) in order to take an extensive look at how sexual orientation and sexuality develop. According to Berger and Luckmann (1966), humans are impacted by society mostly in the area of sexuality and nutrition. Although, sexuality and nutrition have biological influences, these forces are viewed as largely socially influenced within the human animal. Berger and Luckmann (1966:181) argue that humans are driven by a biological force to find sexual release and nourishment; however, a humans’ biological force does not tell them where they should seek sexual release and what they should eat. It is theorized that any human left to her/himself, might attach themselves sexually to just about anything or anyone.

Furthermore, sexuality and nutrition are influenced from more social unique paths rather than only biological components which may only provide tendencies for human sexual expression. Berger and Luckmann (1966) explain that through a socialization process from childhood to adulthood, a person is socially taught how to or not to actively engage in sexual activity with someone whom society may view as appropriate or inappropriate. That is, a person may only choose to sexually interact with others in a relationship that society views as appropriate or as normal. Berger
and Luckmann (1966:182) argue that such intrinsically biological functions like an orgasm or how food is digested are socially created, and therefore, are social constructs. Along with this, society plays a role in teaching a human how to act and express themselves in this socially constructed reality (Berger and Luckmann 1966:182).

To further the theoretical argument, DeLamater and Hyde (1998) developed a constructionist paradigm based off of Berger and Luckmann’s (1966) philosophy of reality being socially constructed. Specifically, they discussed how human sexuality is constructed and then relate this phenomenon to attraction and sexual orientation. DeLamater and Hyde (1998) note five key points from the book, *The Social Construction of Reality*, by Berger and Luckmann (1966). First, a human’s world experience is ordered. Second, the language that humans use provides the explanations for how the world makes sense. Third, the reality of everyday life is shared. Fourth, theses shared realities are institutionalized. Lastly, knowledge might be institutionalized in society or subgroups. Furthermore, DeLamater and Hyde (1998) also draw on Foucault’s (1978) conceptualization that sexuality is not a biological quality or natural inner force that stays constant across time and space, but rather a cultural construct. The meaning of sexuality is rooted in language about sex. The language of sex is hidden within each societal institution that involves different types of thought processes which demonstrate how individuals should behave and engage in their sexual expressions (DeLamater and Hyde 1998).

In comparison to viewing sexuality solely from a social constructionist approach, other researchers have incorporated social constructionism while taking a
different approach to the development of an individual’s sexuality and sexual orientation. Tolman and Diamond (2001) argue that the dualism of biological and social factors on sexuality is problematic in terms of understanding sexuality. Thus, neither purely biological nor purely sociocultural perspectives consider the complex development of sexual desires, but rather it is a combination of factors (Tolman and Diamond 2001). In the case of women’s sexuality, past research indicates that sexual desire and love is fluid for women and varies throughout the lifespan (Diamond 2008).

Attraction

Under the support of social constructionist theorists, our mating preferences are the result of our socialization processes, where humans learn the meanings of the universe and our subcultures with regard to our mate selection (DeLamater and Hyde 1998). It is said that sociocultural standards of what desirability is will reflect cultural values. However, social constructionists also posit that, even though preferring an attractive mate might be universal, there seem to be no universal standards for attractiveness (Fausto-Sterling 1986).

Using the NSFG (2002 and 2006-2008), Compton, Farris and Chang (2013) analyzed the same data as the present study and used a social constructionist framework to examine how different levels of sexual identification, desire, and behavior all relate to each other in order to form the category of bisexuality. Compton et al. (2013) argue that an individual’s sexuality may vary or change on a continuum throughout life. Thus, an individual may participate in sexual behavior with both
males and females, but not consider themselves to be a bisexual; however, an individual may consider themselves to be bisexual and yet never engaged same-sex sex or opposite-sex sex (Compton et al. 2013).

**Sexual Orientation**

DeLamater and Hyde (1998) explain that social constructionism allows for varying views of how homosexuals and heterosexuals should behave in different cultures. It has been found that there is great variation within a single culture in sexual behavior and lifestyles. DeLamater and Hyde (1998) point to a passage provided by Blackwood (1993:331) which claims that, “Patterns of homosexual behavior reflect the value systems and social structure of the different societies in which they are found. The ideology regarding male and female roles, kinship and marriage regulations, and the sexual division of labor are all important in the construction of homosexual behavior.” Other scholars such as, Austin, Conron, Patel, and Freedner (2007) and Laumann, Gagnon, Michael, and Michaels (1994) have noted that the definition of sexual orientation includes the three dimensions: sexual identity, sexual behavior, and sexual attraction. In regards to sexual orientation, other scholars have noted that childhood behaviors/experiences are important in reference to sexual orientation because it speaks the development of same-sex attractions (Diamond 1998).

Consistent with the work provided by Berger and Luckmann (1966) and the references made by DeLamater and Hyde (1998), Laws and Schwartz (1977) pivotal work, *The Social Construction of Female Sexuality*, pinpoints the perspectives

**Sexual Scripts**

Laws and Schwartz (1977) focus on the concept of “sexual scripts,” which are the behaviors, rules, and expectations associated with a female’s sexuality through the sanctioning of their social group. Laws and Schwartz (1977) state that a female’s sexual identity is made up of her personal experiences, the sexual scripts of her social group, her social position, and her cultural outlook of the world. Culture plays a key role in the construction of sexuality because it is through culture that desires, meanings, and behaviors about sexuality are taught and experienced (Jackson 1996; Laws and Schwartz 1977).

**Sexual Identity**

A female’s sexuality which is socially constructed consists of a series of life phases (Law and Schwartz 1977). Sexual identity is thought to be the self-awareness a female may have about herself that contributes to her sense of “femaleness” (Laws and Schwartz 1977). In support, Laws and Schwartz (1977) argue that a female’s sexuality is a culmination of factors including, erotic activity partner preference, self-image, physical self-knowledge, preferences for erotic settings and techniques, and choice of roles in erotic activity, which in many circumstances can be chosen by a female.
Hypothesis

In support of the above literature, I argue that lesbian and bisexual women’s sexuality and sexual orientation involve a combination of biological and social influences. It is conceivable that all of the previously mentioned categorical factors play a role in the development of a lesbian and bisexual’s sexual development and at some point in a woman’s life seem as merging factors. However, I think each factor such as attraction, orientation, and sexual activity is able to be differentiated as its own category. For instance, it is possible for a woman to experience same-sex attractions at some point in her life and yet, not take on the sexual orientation and self-identify as a lesbian or bisexual woman. Also, in the case of a woman who identifies as a lesbian who only is sexually attracted to females and is sexually active with other females, it is possible that even some women engage in sexual activity with men or at least find men attractive. The same argument could be said for women who identify as bisexuals because bisexual women may state that they are attracted to both men and women, as well as engage in sexual activity with both sexes and yet, some bisexual women could actually participate in more same-sex attractions and sexual activity with other women.

Furthermore, due to the fluidness of sexuality and sexual orientation that women are likely to experience throughout the life course, I argue that sexuality can be heavily influenced by biological and social factors. Thus, a woman’s sexuality could be viewed as a social construct that takes into account an array of emotional, psychological, cultural, political, spiritual, and physical characteristics in the process
of the development of sexual orientation. Based on the previous literature provided by Tolman and Diamond (2001), Laumann et al. (1994), DeLamater and Hyde (1998), and Compton et al. (2013) regarding sexual orientation, attraction, sexual scripts, and sexual identity I have developed the first hypothesis for this research study in order to confirm past research findings within this dataset. (H1): I expect that the three variables, attraction, orientation, and sexual activity are similar, but reveal distinctions.

**Stress Process and Sexual Minority Stress**

The second theoretical framework used in this research study is the utilization of the *stress process model*. I propose that the stress process, which considers different types of stressors and coping mechanisms experienced by humans, could be related to lesbian and bisexual women’s experiences of social stress due to being socially categorized in a sexual minority group. Such involvement within a marginalized sexual minority group could lead to experiences of the stress process, which could create more sexual minority stress for lesbian and bisexual women. To begin, I provide some research regarding the history of the development of the stress process model by examining the meaning of emotions, coping, appraisals, stressors, and stress along with considerations of how social and cultural factors influence the boundaries in which individuals live.

Lazarus and Folkman (1988) have conducted extensive research on the relationship between emotion, coping, and appraisals in regards to the stress process model. *Emotion* is defined as, “complex organized psychological reactions consistent
of cognitive appraisals, action impulses, and patterned somatic reactions” (Lazarus and Folkman 1988:310). Coping is viewed as, “the cognitive and behavioral efforts used to manage certain external or internal forces which are appraised exceeding the resources of the individual” (Lazarus and Folkman 1988:310). Within appraisals, there are two types such as, primary and secondary. Primary appraisal involves individuals questioning what they have at stake in a situation and the response to that particular question contributes to the emotional and intense qualities (Lazarus and Folkman 1988). For instance, Lazarus and Folkman (1988:310) note that if an individual’s self-esteem is at stake there is a chance for shame or anger, but if a person’s physical outcome is at risk there is a greater chance for worry or fear. Secondary appraisal is associated with the concern of the person. For example, Lazarus and Folkman (1988:310) state that a person may question, “What can I do or what are my options and how will the environment respond to my actions?” The answer individuals discover influences the ways in which they cope to better manage the situation (Lazarus and Folkman 1988).

In the, The Stress Process, Pearlin, Lieberman, Menaghan, and Mullan (1981) posit that the process of stress can be viewed as the culmination of three significant dimensions: the sources of stress; the mediators of stress; and the manifestation of stress. The source of stress can be found within the societal boundaries that provide structures and cultures (Pearlin et al. 1981). Pearlin et al. (1981:338) posits that as an individual moves closer to a life event, stress can be brought about by two types of circumstances: through the occurrence of discrete experiences and the presence of consistent problems or concerns.
From a more sociological standpoint in, *Social Stress*, Wheaton (1983) states that one of the most evident patterns in research over the last decade has been the increased push towards studying the association between the effects of stress and coping resources. Wheaton (1999:281) defines a *stressor* as, “a condition of threat, demand, or structural constraint that by its very occurrence or existence calls into question the operating integrity of an organism.” Thus, stressors can happen in various ways while involved with a type of environmental force or pressure (Wheaton 1999). The struggle or inability to achieve goals, discrimination, fewer social exchange rewards, role captivity all constitute types of social stressors (Wheaton 1999). Wheaton (1999:282) explains that in terms of research purposes, *stress* is conceptualized as anything that involves “a life changing event, a discrete, observable, and “objectively” reportable event that necessitates some degree of social and/or psychological adjustment on an individual with an emphasis on the type of event.”

As cited by Slavin, Rainer, McCreary, and Gowda (1991) models of the stress process have been given ample amount attention in the past few decades among psychologists and counselors in the effort to gain a better understanding of how humans live with stress, cope with problems, and how to treat stress related problems. The stress process model and coping perspectives are largely associated with social and environmental forces affecting humans (Slavin et al. 1991).

From a psychological standpoint, Slavin et al. (1991) note that perhaps the most influential theorists of stress are Lazarus and Folkman (1984) who have researched the relationship between how an individual is influenced by societal and
cultural factors. Lazarus and Folkman (1984:228) have stated that emotional reactions are “expressed and managed hinges on the meanings and significance the culture gives to human transactions with the environment.” A key point that Slavin et al. (1991) note is that cultures vary greatly in their beliefs about fate and the need to accept what fate entails, and in turn such beliefs impact appraisals within coping options. Specifically, individuals within a minority group may hold strong beliefs about racism and oppression within the majority society and also, about the type of responsiveness they experience related to their needs from social systems such as hospitals, social service agencies, police, and court systems (Slavin et al. 1991).

**Sexual Minority Stress and Alcohol/Substance Use**

*Sexual Minority Stress*

Meyer (2013) defines *minority stress* as excess stress that individuals within a stigmatized social category experience due to social constraints being placed on a minority group. The concept of the minority stress model has developed through numerous sociological and social psychological theories and past literature (Meyer 2013). Many sociologists and psychologists have discussed in past literature and theory how negative social conditions like prejudice and stigma impact the lives of individuals and groups in society (Allport 1954; Crocker, Major, and Steele 1998; Goffman 1963; Jones et al. 1984; Link and Phelan 2001).

Regarding sexual minority stress and mental health outcomes, past research indicates that compared to heterosexual individuals, lesbians and gay men experience more mental health problems that entail substance use disorders, affective disorders,
and suicide (Cochran 2001; Gilman et al. 2001; Herrell et al. 1999; Sandfort, de Graaf, Bijl, and Schnabel 2001). Various scholars attribute this mental health finding among lesbian and gay men to the amount of stigma, prejudice, and discrimination experienced because these factors often produce a stressful social environment which can in turn lead to mental health problems for individuals who are a part of a stigmatized minority group (Friedman 1999). Past researchers have found support for the hypothesis about the relationship between poor mental health and stigma can be largely explained by the minority stress (Brooks 1981; Meyer 1995).

*Sexual Status Stressors*

Green (2008) found that *sexual status stressors* impact personal resources such as self-esteem, types of social support, and the sense of control a person has over her/his sexual life. Sexual status stressors mixed with a lack of available personal resources might lead to negative emotional states resulting in depression, anxiety, alienation, or resignation coupled with problems pertaining to participating in safe sex discussions, sexual behavior negotiations, and safe sex practices (Green 2008). Green (2008) notes that the stress process model is an efficient theoretical measure to evaluate how sexual status affects health. Furthermore, Green (2008) states that the impact of sexual status stressors are not limited to mental health outcomes like depression and anxiety, but that alcohol, drug use, and social withdrawal may be used to help alleviate or cope with negative emotions caused by sexual status stressors or possibly to avoid these types of stressors all together.
Sexual Minority Stigma

According to Hequembourg and Dearing (2013) gays, lesbians, and bisexuals continue to experience social stigma related to their sexual identity. Sexual minority stigma has been defined as, “the articulation of negative attitudes and feelings about homosexuality that are interwoven into the cultural, legal, and social landscape; this generalized negativity can become internalized into one’s own sense of self, resulting in internalized heterosexism. Thus, internalized heterosexism is a culmination of negative attitudes and affects towards homosexuality in other people and one’s own self” (Amadio 2006:1154). It has been noted in past research that even though gays, lesbians, and bisexuals all endure similar experiences of sexual minority stigma, bisexual individuals indicate more feelings of exclusion and negativity from within the gay, lesbian, and bisexual community (Burleson 2005; Hequembourg and Brallier 2009; and Rust 1992). With this said, bisexual individuals may experience more stigmas as opposed to lesbian and gay individuals due to having less social support and validation for their sexual identity (Hequembourg and Dearing 2013).

Internalized Heterosexism

It has been suggested that this body of knowledge may help explain, to some extent, the growing amount of research indicating higher rates of alcohol related problems and other negative outcomes among bisexual individuals compared to lesbians, gays, and heterosexuals (McCabe, Hughes, Bostwick, and Boyd 2005; McCabe, Hughes, and Boyd 2004; McCabe, Hughes, Bostwick, West, and Boyd 2009; Tucker, Ellickson, and Klein 2008; and Wilsnack et al. 2008). Furthermore,
Hequembourg and Dearing (2013) found that internalized heterosexism and shame-proneness are positively related to problematic alcohol and drug use among sexual minorities. Internalized heterosexism, shame-proneness, and guilt-proneness are all thought to be possible factors that contribute to the development of unhealthy behaviorisms such as, severe alcohol consumption and drug misuse or abuse among sexual minority individuals (Hequembourg and Dearing 2013). Alcohol use has been noted as a common action within the lesbian community and some have conceptualized this act as internalization, self-injurious behavior that is in turn an effort to cope with any type of chronic stress related to a sexual minority status (Williamson 2000).

**Hazardous Drinking**

Wilsnack et al. (2008) found elevated rates of hazardous drinking indicators among lesbian and bisexual women as opposed to heterosexually identified women. Wilsnack et al. (2008) note several potential explanations for sexual minority risks and hazardous drinking rates. First, environmental explanations state that historically gay and lesbian individuals place socializing in bars as primary sources for social outlets, which can in turn lead to more drinking opportunities with more permissive norms within lesbian communities (Fifield et al. 1977; McKirman and Peterson 1989). Second, social roles could be an explanation due to the importance placed on the fact that lesbians have notably had fewer social roles and responsibilities (i.e. marriage and parenthood) that could be a protection against hazardous drinking for heterosexual women (Chilcoat and Breslau 1996; Hughes et al. 2000). Last, minority
stress explanations concentrate on how the cultural and environmental stressors like harassment and discrimination, which are linked to being a member in a stigmatized and marginalized group impact gay, lesbian, and bisexual individuals (Lewis et al. 2006; Meyer 2003).

Wilsnack et al. (2008) found some evidence that women who only identified as lesbian had lower rates of hazardous drinking than compared to women who identified as bisexuals. The relationship between bisexuality and higher rates of hazardous drinking should be explored more in future research (Wilsnack et al. 2008). Other past research suggests that lesbian women are more likely to drink alcohol compared to heterosexual women; and lesbians also seem to consume alcohol more frequently and in greater quantities (i.e. more drinks per day) in comparison to heterosexual women (Burgard et al. 2005).

**Age-Related Drinking**

Austin and Irwin (2010) note that a large study of Southern lesbians, indicated that not only were high levels of alcohol use found within the lesbian community, but that frequent alcohol use was more common among younger lesbians as opposed to older lesbians. This finding supports age-related trends in alcohol consumption among lesbians that are reportedly different for heterosexual individuals. Austin and Irwin (2010:297) found that depression and stress are associated with problematic alcohol consumption and that this finding differs by age. Furthermore, the examination of age-related trends in relation to minority stress and problematic alcohol use appear to be not as clear, however, this is especially true for lesbian
women who are 50 years old and older (Austin and Irwin 2010). Overall, Austin and Irwin (2010) conclude that depression and stress, which are known correlates of alcohol use among the general population, can be viewed as the main predictors of problematic alcohol usage among Southern lesbian women.

**Hypothesis**

There are many factors that influence a person’s desire to drink alcohol and whether the alcohol consumption is healthy and done in moderation or it is excessive or binged drinking. Stressors could increase the possibility of frequent or heavy drinking. This is especially a concern when evaluating lifestyles and drinking behaviors among sexual minority groups that may experience more stressors and stigma from their family, friends, coworkers, and society in general. Based on the above literature regarding sexual orientation, sexual minority stress, sexual minority stressors, sexual minority stigma, internalized heterosexism, hazardous drinking, and age-related drinking I have formed the following second research hypothesis. (H2): In comparison to heterosexual women, lesbian and bisexual women will have more unhealthy drinking behaviors, especially bisexual women due to sexual minority stressors. The conceptual model at the end before the analysis tables illustrates how the theoretical framework of the stress process model could be related to lesbian and bisexual women’s unhealthy drinking behaviors.

**Gaps in Past Literature**
Despite the breadth of research reviewed here, gaps remain in past literature regarding lesbian and bisexual women. First, a great deal of the literature mainly focuses on the development of heterosexual women’s sexuality, sexual orientation, and sexual activity (Laumann et al. 1994; Tolman and Diamond 2001; Diamond 2008; and DeLamater and Hyde 1998). Also, sexual orientation for both heterosexual and homosexual women has been conceptualized through examining factors such as, attraction, desire and identity (Austin et al. 2007). However, more studies should evaluate how lesbian and bisexual women view the construction of their sexuality and sexual orientation not only through measures of attraction, desire, and identity, but also sexual activity. Specifically, further research should examine how sexual activity not only influences lesbian and bisexual women’s sexuality and sexual orientation, but also how same-sex oral sex impacts their drinking behaviors and possibly general health outcomes. Second, given that lesbian and bisexual women are marginalized into a stigmatized sexual minority group, more research needs to examine how the stress process model impacts drinking behaviors for individuals with various sexual orientations, attractions, and sexual behaviors (Pearlin 1981; Wheaton 1983 and 1999; Meyer 2013; Green 2008; and Hequembourg and Dearing 2013).

METHODS

Data and Measures

Data

Data in this research study come from the 2006-2010 National Survey of Family Growth (NSFG) provided by the Centers for Disease Control (CDC). The
NSFG interviewing survey was cross-sectional and conducted from June 2006 to June 2010 by the University of Michigan’s Institute for Social Research (ISR), while under contract by the National Center for Health Statistics (NCHS). The NSFG (2006-2010) survey includes interviews for a nationally representative sample of 22,682 men and women ages 15-44 years old in the United States. The first section of public data files were released in May 2010, which included a total of 13,495 interviews. The second section of public data files were released in October 2011, which contained all 22,682 interviews, which included 10,403 men and 12,279 women, with one record per respondent and respondent as the unit of analysis.

The variables selected for this study were collected from the NSFG (2006-2010) female public data file and the female Audio Computer-Assisted Self-Interview (ACASI) data file. The ACASI interview file contains questions and answers that the respondent may have viewed most sensitive in the survey. The computer-assisted method allowed the respondents to report their more sensitive information with privacy. Originally, the NSFG (2006-2010) was constructed to indicate the national fertility survey rates of the United States with a focus on factors that aim to explain group patterns and differences in birth rates, such as contraception, infertility, sexual activity, and marriage. The website for the NSFG (2006-2010) used in this research study is http://www.cdc.gov/nchs/nsfg.htm.

The main topics in the NSFG concentrate on issues regarding family life, marriage, divorce, pregnancy, infertility, contraception use, and men and women’s health outcomes. More specifically, the data in this research study examine the following variables: binge drinking behaviors, same-sex female attraction, same-sex
female orientation, same-sex female oral sex, STD treatment, general health, race of respondent, marital status, religion, highest year of education, and age of respondent (NSFG 2006-2010). Because individuals in some categories are few in number, the decision to allow the total number of individuals in the working sample to vary in order to maximize the number of responses used for these sensitive variables was chosen. Therefore, the total number of respondents for the working sample in this research study is (N=12,012 to 12,132, depending on the independent variable used in each regression). Descriptive and bivariate analyses include more cases (i.e., did not utilize listwise deletion for all variables) also to maximize sample size. Limitations of this approach will be discussed.

Measures

The dependent variable used in this study was selected from the NSFG (ACASI) female file. Two variables were merged and recoded in order to create a new variable. The first variable was, “DRINK12,” which asked the question, (During the last 12 months, that is, since [interview month, interview year-1], how often have you had beer, wine, hard liquor, or other alcoholic beverages?) The answer selections were, 1=Never; 2=Once or Twice during the year; 3=Several times during the year; 4=About once a month; 5=About once a week; 6=About once a day; 7=Not ascertained; 8=Refused; and 9=Don’t know. The second variable, which was contingent upon the first variable was called, “BINGE12,” which asked the question, (During the last 12 months, how often did you have 5 or more drinks within a couple of hours?) The answer selections were, 0=Inapplicable; 1=Never; 2=Once or twice
during the year; 3=Several times during the year; 4=About once a month; 5=About once a week; 6=About once a day; 7=Not ascertained; 8=Refused; 9=Don’t know. First, categories 7-9 were recoded as missing in both variables. Second, categories in both variables were collapsed and both variables were merged together. The new variable is called, “bingeDV,” which represents binge drinking behaviors. The new variable selections are, 1=Never; 2=Once or twice during the year; 3=Several times during the year; 4=About once a month; 5=About once a week; 6=About once a day. The new dependent variable is essentially the same variable as, “BINGE12” because the same question is asked about binge drinking. In the process of creating “bingeDV” the “never drinkers” in “DRINK12” were added to the “never binge drinkers” in “BINGE12” in order to get a more accurate depiction of how female respondents actually had binge drinking behaviors within the past year. The rest of the responses were dispersed throughout the new dependent variable. The new dependent variable, “bingeDV” appeared to be skewed in the distribution of the answers to the categorical responses offered for the question. Thus, the response categories for this variable were not normally distributed.

The *independent* variables were also selected from the NSFG (ACASI) female file. The *first independent variable* was “ATTRACT,” which asked the question, (People are different in their sexual attraction to other people. Which best describes your feelings? Are you…) The answer selections were, 1=Only attracted to males; 2=Mostly attracted to males; 3=Equally attracted to males and females; 4=Mostly attracted to females; 5=Only attracted to females; 6=Not sure; 7=Not ascertained; 8=Refused; and 9=Don’t know. First, categories 6-9 were recoded as
missing in this variable. Second, this variable was recoded into three different dummy variables in order to examine each type of sexual attraction separately and then, it was recoded into a fourth variable that encompassed all the different categories of sexual attraction. The first dummy variable is called, “StraightAttract,” which represents female straight attraction where 0=Not straight attraction and 1=Straight attraction. The second dummy variable is called, “BisexualAttract,” which represents female bisexual attraction where 0=Not bisexual attraction and 1=Bisexual attraction. The third dummy variable is called, “LesbianAttract,” which represents female lesbian attraction where 0=Not lesbian attraction and 1=Lesbian attraction. The fourth recoded variable is called, “NEWATTRACT,” which represents three separate categories of sexual attraction for females. The new answer selections are, 1=Straight attraction; 2=Bisexual attraction; and 3=Lesbian attraction.

The second independent variable was “ORIENT,” which asked the question, (Do you think of yourself as…?) The answer selections were, 1=Heterosexual or straight; 2=Homosexual, gay, or lesbian; 3=Bisexual; 4=Y1/Y2:Something else/Y3:[was deleted as a response option]; 7=Not ascertained; 8=Refused; and 9=Don’t know. First, categories 4 and 7-9 were recoded as missing in this variable. Second, this variable was recoded into three different dummy variables in order to examine each type of sexual orientation separately and then, it was recoded into a fourth variable that encompassed all the different categories of sexual orientation. The first dummy variable is called, “StraightOrient,” which represents female straight orientation where 0=Not straight orientation and 1=Straight orientation. The second dummy variable is called, “BisexualOrient,” which represents female bisexual
orientation where 0=Not bisexual orientation and 1=Bisexual orientation. The third dummy variable is called, “LesbianOrient,” which represents female lesbian orientation where 0=Not lesbian orientation and 1=Lesbian orientation. The fourth recoded variable is called, “NEWORIENT,” which represents three separate categories of sexual orientation for females. The new answer selections are, 1=Straight orientation; 2=Bisexual orientation; and 3=Lesbian orientation.

The third independent variable used in this study was formed after two variables were merged and recoded into a new variable. The first variable was, “GIVORALF,” which asked the question, (The next questions ask about sexual experiences you may have had with another female. Have you ever performed oral sex on another female?) The answer selections were, 1=Yes; 5=No; 7=Not ascertained; 8=Refused; and 9=Don’t know. The second variable was called, “GETORALF,” which asked the question, (Has another female ever performed oral sex on you?) The answer selections were, 1=Yes; 5=No; 7=Not ascertained; 8=Refused; 9=Don’t know. First, categories 7-9 were recoded as missing in both variables. Second, categories in both variables were collapsed and both variables were merged together. The new variable is called, “GRoral,” which represents female same-sex oral sex (give or receive). The new variable selections are, 0=No and 1=Yes.

The control variables were also selected from the NSFG (2006-2010) public data file and female (ACASI) file. The first control variable from the female ACASI file was, “STDTRT12,” which asked the question, (In the past 12 months, have you been treated or received medication from a doctor or other medical care provider for a
sexually transmitted disease like gonorrhea, herpes, or syphilis?). The answer selections were, 1=Yes; 5=No; 7=Not ascertained; 8=Refused; and 9=Don’t know. First, categories 7-9 were recoded as missing in this variable. Second, this variable was recoded into a simple dummy variable for statistical analysis. The new variable is called, “STDT,” which how many female respondents had received STD treatment in the past 12 months. The new variable selections are, 0=No STD treatment and 1=STD treatment.

The second control variable from the NSFG (2006-2010) public data file was, “GENHEALT,” which asked the question, (In general, how is your health? Would you say it is…). The answer selections were, 1=Excellent; 2=Very Good; 3=Good; 4=Fair; 5=Poor; 7=Not ascertained; and 8=Refused. First, the categories 7 and 8 were recoded as missing in this variable. Second, this variable was reverse recoded so that the highest numeric value equaled the highest categorical value for general health. The new variable is called, “GeneralHealth,” which indicates how female respondents self-rated their own general health. The new variable selections are, 1=Poor; 2=Fair; 3=Good; 4=Very Good; and 5=Excellent.

The third control variable from the NSFG (2006-2010) public data file was, “fmarit,” which asked the question, (R’s formal marital status?) The answer selections were, 1=Married; 2=Widowed; 3=Divorced; 4=Separated; and 5=Never Married. This variable was recoded into dummy variable. The new variable is called, “Married,” which indicates how many female respondents are legally married versus not legally married. The new variable selections are, 0=Not married and 1=Married.
The fourth control variable from the NSFG (2006-2010) public data file was, “RSCRRACE,” which asked the question, (R’s race as reported in screener?) The answer selections were, 1-3=Other race groups; 4=Black or African American; 5=White; and 6=Hispanic. Because the number of respondents who were minority sexuality and minority race/ethnicity was so low, the race/ethnicity variable was dichotomized and recoded into dummy variable. The new variable is called, “White,” which indicates how many female respondents are white versus another race. The new variable selections are, 0=Not white and 1=White.

The fifth control variable from the NSFG (2006-2010) public data file was, “RELCURR,” which asked the question, (Religion R is now?) The answer selections were, 1=No religion; 2=Catholic; 3=Baptist/Southern Baptist; 4=Methodist, Lutheran, Presbyterian, Episcopal; 5=Fundamentalist Protestant; 6=Other Protestant denomination; 7=Protestant—no specific denomination; 8=Other religion; 9=Refused; and 10=Don’t know. This variable was recoded into dummy variable and values 9 and 10 were recoded as missing values. The new variable is called, “Religious,” which indicates how many female respondents claim to be religious as opposed to those who are not religious. The new variable selections are, 0=Not religious and 1=Religious.

The sixth control variable from the NSFG (2006-2010) public data file was, “HIGRADE,” which asked the question, (What grade or year of school (are you in?/were you in before vacation began?)/What is the highest grade or year of regular school you have ever attended?) The answer selections were, 9=9th grade or less; 10=10th grade; 11=11th grade; 12=12th grade; 13=1 year of college or less; 14=2 years
of college; 15=3 years of college; 16=4 years of college/grad school; 17=5 years of college/grad school; 18=6 years of college/grad school; 19=7 or more years of college and/or grad school; and 99=Don’t know. This variable kept the same name, but the values for the categories were recoded and the value 99 was recoded as a missing value. The new variable, “HIGRADE” which measured each respondent’s highest level of education has the new answer selections, 1=9th grade or less; 2=10th grade; 3=11th grade; 4=12th grade; 5=1 year of college or less; 6=2 years of college; 7=3 years of college; 8=4 years of college/grad school; 9=5 years of college/grad school; 10=6 years of college/grad school; 11=7 or more years of college and/or grad school.

The seventh control variable from the NSFG (2006-2010) public data file was, “AGE_A,” which asked the question, (I’d like to know your age and date of birth. How old are you?) This variable was not recoded. This variable had no missing values and the age values range from 15 years old to 44-45 years old. All of the variables in their recoded version or original form were used to generate statistical analyses in this research study.

Analysis

Descriptive Statistics

Descriptive statistics were performed in SPSS for all variables to provide means, standard deviations, minimums and maximums in (Table 1). Bivariate analyses were performed through SPSS output to generate statistics and provide cross-tabulations with column percentages of the independent variables in (Tables 2,
With the aim of thoroughly examining the relationship among the independent variables, three separate cross-tabulation tables were generated.

Multivariate Analyses

Using SPSS output multivariate linear regression analyses were conducted, yielding coefficients, standard errors, standardized betas, and statistical significances for all the variables in (Tables 5, 6, and 7). Because of high multicollinearity between the independent variables (sexual attraction, sexual orientation, and same-sex oral sex), separate regression analyses were performed for each.

RESULTS

Descriptive Results

Table 1 provides the descriptive statistics for binge drinking behaviors indicated a mean of 1.80, which is about binge drinking once or twice per year. In addition, 83% of the sample reports straight attraction, 16% bisexual attraction, and 10% lesbian attraction. In terms of orientation, 93% of the sample identifies as straight orientation, 5% as bisexual orientation, and 2% as lesbian orientation. Females who gave or received oral sex to/from a female compose 11% of the sample. Finally, 5% of the sample has been treated for a STD, the mean health score is 3.80, 57% of the sample is white, 32% are married, 81% are religious, the average level of education is 13.3 years (or some college), and the mean age of the sample is 28.6 years old.
Bivariate Results

Table 2 reveals general overlap in orientation and attraction, with the most variation present in the lesbian category. Overall, 88.1% of straight oriented females also report straight attraction, yet nearly 12% of straight oriented females report bisexual or lesbian attraction. Among bisexualy oriented women, 96.7% report bisexual attraction, with 3% reporting straight attraction and only a fraction reporting lesbian attraction. Finally, among those women who report lesbian orientation, only 55% report lesbian attraction. About 41% of lesbian oriented women actually report bisexual attraction and almost 4% of lesbians report straight attraction. These results are also demonstrated in Figure 1.

Table 3 indicates some overlap for attraction and females giving or receiving same-sex oral sex, with more variation in the bisexual and lesbian categories. Overall, 96.3% of straight attracted females report not giving or receiving same-sex oral sex, while about 4% of straight attracted females report giving or receiving same-sex oral sex. Among bisexual attracted women, 54.9% indicate that they have not given or received same-sex oral sex, yet 45.1% of bisexually attracted women have given or received same-sex oral sex. Lastly, among lesbian attracted females, only 18.5% of these women report not giving or receiving same-sex oral sex, but 81.5% report that they have given or received same-sex oral sex. In addition, these results can be viewed in Figure 2.

Table 4 indicates some overlap for orientation and females giving or receiving same-sex oral sex, with more variation in the bisexual and lesbian categories. Overall, 93.1% of straight oriented females report not giving or receiving same-sex oral sex,
while about 7% of straight oriented females report giving or receiving same-sex oral sex. Among bisexual oriented women, only 31.2% indicate that they have not given or received same-sex oral sex, yet about 69% of bisexualy oriented women have given or received same-sex oral sex. Lastly, among lesbian oriented females, only 12.2% of these women report not giving or receiving same-sex oral sex, but about 88% report that they have given or received same-sex oral sex. These findings are also demonstrated in Figure 3.

**Multivariate Results**

Due to the consistency across models, I highlight the effects of each independent variable in each subsequent table, then summarize the effects of the control variables across all three tables, and compare patterns across all three regression results.

Results from Table 5 indicate that, collectively, sexual attraction, STD treatment, general health, race of respondent (white), marital status (married), religion (religious), highest year of education, and age of respondent explain about 6% of the variation in female respondents’ binge drinking behaviors. Female bisexual and lesbian attraction are statistically significantly more likely to engage in binge drinking behaviors compared to females reporting straight attraction.

Results from Table 6 reveal that, collectively, sexual orientation, STD treatment, general health, race of respondent (white), marital status (married), religion (religious), highest year of education, and age of respondent explain about 5% of the variation in female respondents’ binge drinking behaviors. Female bisexual and
lesbian orientation are statistically significantly more likely to engage in binge drinking behaviors compared to females with straight orientation.

Results from Table 7 show that, collectively, females who give or receive same-sex oral sex, STD treatment, general health, race of respondent (white), marital status (married), religion (religious), highest year of education, and age of respondent explain about 6% of the variation in female respondents’ binge drinking behaviors. Females who give or receive same-sex oral sex are statistically significantly more likely to engage in binge drinking behaviors compared to females who do not give or receive oral sex.

Comparing across the tables, Tables 5 and 7 indicate the highest R Square of 6%, suggesting that attraction and activity are slightly stronger predictors of binge drinking than orientation, net of all controls. Although orientation and attraction were not the strongest predictors of binge drinking in Tables 5 and 6 according to standardized beta coefficients, in Table 7 sexual activity yields the highest standardized beta (B=0.126; p<0.001), indicating that sexual activity is the strongest predictor of drinking behaviors in Table 7.

Because control variable effects have very little variability across Tables 5, 6, and 7, I discuss these effects as a group. In general, age is statistically significantly associated with less binge drinking. In sum, higher education is statistically significantly associated with more binge drinking. Results indicate that being more religious, married, of non-white race, and in better general health are all statistically significantly related to less binge drinking. STD treatment is statistically significantly associated with more binge drinking behaviors.
DISCUSSION

A Case for Multidimensional Measures of Sexuality

Within this research study, support was found for both hypotheses. Research hypothesis (H1) stated, I expect that the three variables, attraction, orientation, and sexual activity are similar, but reveal distinctions. The results of this study yield confidence in knowing that while all of these three variables are similar, each variable measure can be used to separately to define sexuality. While all three of these variables are used in their own categorical ways to construct a woman’s sexuality, they all are still intertwined in relation to the development of lesbian and bisexual women’s sexuality and sexual orientation, which is consistent with past literature from Laumann et al. (1994), Diamond and Savin-Williams (2000), Diamond (1998), DeLamater and Hyde (1998), and Austin, Conron, Patel, and Freedner (2007). Furthermore, the results found about bisexual women’s sexuality are similar to those of Compton, Farris, and Chang (2013). Compton et al. (2013) note that about 8% of females have behaved as bisexuals at least once in their lifetime and that the three factors of attraction, identification, and behavior combined are greater predictors of bisexuality. Also, it has been found that women more so than men are more likely to take on a bisexual identity due to more fluidity with their sexuality (Compton et al. 2013).

In support of the first hypothesis and the results of this study, there is room to make a case for multidimensional sexuality. This study provides evidence that lesbian and bisexual women’s sexuality can not only be socially constructed and fluid over
their life span, but also consists of several sexual related factors. Thus, sexuality could be viewed as multidimensional over a life span. All variables examined in this study such as, sexual attraction, sexual orientation, and same-sex oral sex activity help to comprise lesbian and bisexual women’s sexuality. These comprising factors of sexuality can be related back to the theoretical framework of social constructionism (Berger and Luckmann 1966; DeLamater and Hyde 1998; and Laws and Schwartz 1977). Alongside understanding how these theoretical frameworks apply to the construction of sexuality and its multidimensionality, the findings in this study could be informative for healthcare professionals. The findings in this study regarding sexuality could provide helpful knowledge for mental health providers and therapists because such results could be useful in understanding the types of relationships lesbian and bisexual women engage in.

**Sexual Minority Women at Risk**

For the second hypothesis, mixed support was found in this study. Research hypothesis (H2) stated, compared to heterosexual women, lesbian and bisexual women will have more unhealthy drinking behaviors, especially bisexual women due to sexual minority stressors. The results of this research study do indicate that lesbian and especially bisexual women are more likely to binge drink in comparison to heterosexual women. This finding does support lesbian and bisexual women having more unhealthy drinking behaviors compared to heterosexual women, especially bisexual women. These results are consistent with past research findings provided by (Burgard et al. 2005; Wilsnack et al. 2008; and Austin and Irwin 2010). However, the
linkage of the stress process model due to being a part of a sexual minority group who experiences social stress and social stigma is still somewhat inconclusive. This research study statistically analyzed lesbian and bisexual women’s drinking behaviors, but did not fully encompass the effects of the stress process model on these sexual minority women during the analysis because no variables measuring stress and coping behaviors were included in the dataset.

The findings in this study regarding drinking behaviors could be informative for healthcare professionals and counselors in terms of treating and working with lesbian and bisexual women. Specifically, professionals who spend their time working with members of a sexual minority group who struggle with addictions, alcoholism, or other health related behaviors. Many educators, therapists, and legal workers may benefit from this type of research knowledge because it could provide them a better understanding of not only sexuality, but also how sexuality is developed, as well as the behaviors that are associated with certain sexual minorities. Overall, the results of this study could also provide information for sex education programs that aim to expand and deliver knowledge about lesbian and bisexual communities.

Limitations and Future Research

There are a few limitations related to this research study. First, the dependent variable that measured binge drinking behaviors was limited. The variable measured drinking behaviors ranging from a variety of categories like never, once a year, and once a day. These categories measure binge drinking behaviors within the past year,
but further research should examine exactly how many alcoholic drinks lesbian and bisexual women actually consume when they do engage in binge drinking behaviors at any one time and place. Furthermore, the results of this study indicated that most of the women scored somewhere between the first and second category of the binge drinking behaviors variable, which only measured never and once or twice during the year. In an effort to obtain a more in-depth look at how many lesbian and bisexual women are actually binge drinking throughout the year and to counteract the skewed distribution of responses to the question asked to measure binge drinking behaviors, it might be helpful to use a form of logistic regression with the dependent variable. Logistic regression would allow for social scientists and other researchers to measure the variable of binge drinking by offering coded response categories of either yes or no. Thus, the female respondent would either say yes they binge drink or no they do not binge drink.

Second, the variable race of respondent only accounted for white versus non-white female respondents in this study. Overall the reporting numbers for women who identified as lesbian or bisexual in the survey used for the data set in this study were very low and even lower for non-white lesbians and bisexuals. Therefore, it was difficult to further stratify these women by different races because it may have yielded even lower reporting numbers for this study.

Third, the variable marital status was a limitation in this study for a few reasons. The variable marital status only measured if a respondent was married or not married. The main issue with this variable is related to the fact that most same-sex couples cannot get become legally married in most states of the U.S. Therefore, it is
not a good depiction of marital status for lesbian and bisexual women. This variable
did not take into account civil unions or domestic partnerships for lesbian and
bisexual women either. Also, because same-sex couples are not afforded the same
legal marriage rights as heterosexual couples, same-sex cohabitation should be
measured. This variable did not examine same-sex cohabitation for lesbian and
bisexual women. There was no variable in the entire data set that measured same-sex
cohabitation. The variables that measured cohabitation proved to be very hetero-
normative because they only measured opposite-sex cohabitation. Finally, because of
limitations in these variables, the analysis did not utilize listwise deletion, which
means the number of respondents used in each analysis varies slightly, requiring
cautions in interpreting results across models.

Lastly, there were no variables within this dataset that measured mental health
outcomes (i.e. depression, anxiety, eating disorders, self-esteem, etc.). Also, there
were no variables that measured stress or coping mechanisms. Therefore, the lack of
these types of variables presented a limitation for accurately measuring the stress
process and how it relates to binge drinking behaviors among lesbian and bisexual
women.

**Conclusion**

In conclusion, this study indicates that sexual attraction, sexual orientation,
and sexual activity are all separate entities that collectively help construct lesbian and
bisexual women’s sexuality. Also, it appears that lesbian and especially bisexual
women participate in more unhealthy drinking behaviors compared to heterosexual
women. These findings underscore a number of different directions for future research. First, future studies should accurately measure how many drinks lesbian and bisexual women actually consume in one setting or within an hourly time frame in comparison to heterosexual women. Second, future studies that yield larger reporting numbers for women who identify as lesbian or bisexual should measure a variety of races in contrast to one another in order to see what effect race has on sexuality in relation binge drinking behaviors. Third, more studies concerning lesbian and bisexual women’s marital status should also account for same-sex cohabitation, civil unions, or domestic partnerships. Fourth, more studies should examine what impact age and perhaps the life course have on lesbian and bisexual women’s binge drinking behaviors. Lastly, further research should examine the impact that the stress process model specifically has on lesbian and bisexual women’s binge drinking behaviors and in turn possibly their overall relationship and health outcomes.
Table 1. Descriptive Statistics of All Variables (N=11,892), NSFG (2006-2010)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D.</th>
<th>Min</th>
<th>Max</th>
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</thead>
<tbody>
<tr>
<td>Binge Drinking</td>
<td>1.80</td>
<td>1.21</td>
<td>1.00</td>
<td>6.00</td>
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<tr>
<td>Straight Attraction</td>
<td>0.83</td>
<td>0.38</td>
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<td>Bisexual Attraction</td>
<td>0.16</td>
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<td>1.00</td>
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<td>1.00</td>
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<tr>
<td>Straight Orientation</td>
<td>0.93</td>
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<td>0.00</td>
<td>1.00</td>
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<tr>
<td>Bisexual Orientation</td>
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<td>1.00</td>
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<td>1.00</td>
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<td>0.00</td>
<td>1.00</td>
</tr>
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<td>STD Treatment</td>
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<td>General Health</td>
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<td>2.64</td>
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<td>Age of Respondent</td>
<td>28.6</td>
<td>8.45</td>
<td>15.0</td>
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### Table 2. Cross-Tabulation Female Attraction and Orientation (N=11,956), NSFG (2006-2010)

<table>
<thead>
<tr>
<th>Female Attraction</th>
<th>Straight Orientation</th>
<th>Bisexual Orientation</th>
<th>Lesbian Orientation</th>
<th>Total</th>
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<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
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<tr>
<td>Straight Attraction</td>
<td>9865</td>
<td>88.1%</td>
<td>18</td>
<td>3.1%</td>
</tr>
<tr>
<td>Bisexual Attraction</td>
<td>1312</td>
<td>11.7%</td>
<td>553</td>
<td>96.7%</td>
</tr>
<tr>
<td>Lesbian Attraction</td>
<td>16</td>
<td>0.1%</td>
<td>1</td>
<td>0.2%</td>
</tr>
<tr>
<td>Total</td>
<td>11193</td>
<td>100%</td>
<td>572</td>
<td>100%</td>
</tr>
</tbody>
</table>
Figure 1.

<table>
<thead>
<tr>
<th>Female Orientation</th>
<th>Straight Attraction</th>
<th>Bisexual Attraction</th>
<th>Lesbian Attraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight Orientation</td>
<td>88.10%</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Bisexual Orientation</td>
<td>96.70%</td>
<td>3.10%</td>
<td>0.10%</td>
</tr>
<tr>
<td>Lesbian Orientation</td>
<td></td>
<td></td>
<td>41.40%</td>
</tr>
</tbody>
</table>

Attraction and Orientation (N=11,956), NSFG (2006-2010)
Table 3. Cross-Tabulation Give or Receive Oral Sex and Attraction (N=12,047), NSFG (2006-2010)

| Give or Receive Oral Sex | Female Attraction |   |   |   |   |   |   |   |   |   |   |   |
|--------------------------|-------------------|--|--|--|--|--|--|--|--|--|--|--|--|
|                          | Straight Attraction | N | % | Bisexual Attraction | N | % | Lesbian Attraction | N | % | Total | N | % |
| No Oral Sex              |                   | 9570 | 96.3% | 1089 | 54.9% | 23 | 18.5% | 10682 | 88.7% |
| Yes Oral Sex             |                   | 371 | 3.7% | 893 | 45.1% | 101 | 81.5% | 1365 | 11.3% |
| Total                    |                   | 9941 | 100% | 1982 | 100% | 124 | 100% | 12047 | 100% |


Figure 2.

Give or Receive Oral Sex and Attraction (N=12,047), NSFG (2006-2010)

<table>
<thead>
<tr>
<th>Female Attraction</th>
<th>No Oral Sex</th>
<th>Yes Oral Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight Attraction</td>
<td>96.30%</td>
<td>3.70%</td>
</tr>
<tr>
<td>Bisexual Attraction</td>
<td>54.90%</td>
<td>45.10%</td>
</tr>
<tr>
<td>Lesbian Attraction</td>
<td>18.50%</td>
<td>81.50%</td>
</tr>
</tbody>
</table>
Table 4. Cross-Tabulation Give or Receive Oral Sex and Orientation (N=12,042), NSFG (2006-2010)

<table>
<thead>
<tr>
<th>Give or Receive Oral Sex</th>
<th>Straight Orientation</th>
<th>Bisexual Orientation</th>
<th>Lesbian Orientation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>No Oral Sex</td>
<td>10476</td>
<td>93.1%</td>
<td>184</td>
<td>31.2%</td>
</tr>
<tr>
<td>Yes Oral Sex</td>
<td>780</td>
<td>6.9%</td>
<td>406</td>
<td>68.8%</td>
</tr>
<tr>
<td>Total</td>
<td>11256</td>
<td>100%</td>
<td>590</td>
<td>100%</td>
</tr>
</tbody>
</table>
Figure 3.

Give/Receive Oral Sex and Orientation (N=12,042), NSFG (2006-2010)

<table>
<thead>
<tr>
<th>Female Orientation</th>
<th>No Oral Sex</th>
<th>Yes Oral Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight Orientation</td>
<td>93.10%</td>
<td>6.90%</td>
</tr>
<tr>
<td>Bisexual Orientation</td>
<td>31.20%</td>
<td>68.80%</td>
</tr>
<tr>
<td>Lesbian Orientation</td>
<td>12.20%</td>
<td>87.80%</td>
</tr>
</tbody>
</table>
Table 5. Multivariate Linear Regression (Attraction) Predicting Respondents Binge Drinking Behaviors (N=12,020), NSFG (2006-2010)

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>Standardized Beta</th>
<th>Statistical Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1.821</td>
<td>0.077</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>Bisexual Attraction</td>
<td>0.384</td>
<td>0.030</td>
<td>0.118</td>
<td>***</td>
</tr>
<tr>
<td>Lesbian Attraction</td>
<td>0.236</td>
<td>0.107</td>
<td>0.020</td>
<td>*</td>
</tr>
<tr>
<td>STD Treatment</td>
<td>0.303</td>
<td>0.050</td>
<td>0.054</td>
<td>***</td>
</tr>
<tr>
<td>General Health</td>
<td>-0.032</td>
<td>0.012</td>
<td>-0.025</td>
<td>**</td>
</tr>
<tr>
<td>Race (White)</td>
<td>0.236</td>
<td>0.022</td>
<td>0.096</td>
<td>***</td>
</tr>
<tr>
<td>Marital Status (Married)</td>
<td>-0.327</td>
<td>0.025</td>
<td>-0.127</td>
<td>***</td>
</tr>
<tr>
<td>Religious</td>
<td>-0.185</td>
<td>0.028</td>
<td>-0.060</td>
<td>***</td>
</tr>
<tr>
<td>Highest Year of Education</td>
<td>0.025</td>
<td>0.004</td>
<td>0.055</td>
<td>***</td>
</tr>
<tr>
<td>Age of Respondent</td>
<td>-0.007</td>
<td>0.001</td>
<td>-0.046</td>
<td>***</td>
</tr>
</tbody>
</table>

Note: R Square=.065; *p<0.05, **p<0.01, ***p<0.001
Table 6. Multivariate Linear Regression (Orientation) Predicting Respondents Binge Drinking Behaviors (N=12,012), NSFG (2006-2010)

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>Standardized Beta</th>
<th>Statistical Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1.881</td>
<td>0.077</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>Bisexual Orientation</td>
<td>0.312</td>
<td>0.051</td>
<td>0.056</td>
<td>***</td>
</tr>
<tr>
<td>Lesbian Orientation</td>
<td>0.172</td>
<td>0.085</td>
<td>0.018</td>
<td>*</td>
</tr>
<tr>
<td>STD Treatment</td>
<td>0.328</td>
<td>0.050</td>
<td>0.058</td>
<td>***</td>
</tr>
<tr>
<td>General Health</td>
<td>-0.041</td>
<td>0.012</td>
<td>-0.032</td>
<td>***</td>
</tr>
<tr>
<td>Race (White)</td>
<td>0.256</td>
<td>0.022</td>
<td>0.105</td>
<td>***</td>
</tr>
<tr>
<td>Marital Status (Married)</td>
<td>-0.343</td>
<td>0.026</td>
<td>-0.132</td>
<td>***</td>
</tr>
<tr>
<td>Religious</td>
<td>-0.225</td>
<td>0.028</td>
<td>-0.073</td>
<td>***</td>
</tr>
<tr>
<td>Highest Year of Education</td>
<td>0.030</td>
<td>0.004</td>
<td>0.066</td>
<td>***</td>
</tr>
<tr>
<td>Age of Respondent</td>
<td>-0.007</td>
<td>0.001</td>
<td>-0.051</td>
<td>***</td>
</tr>
</tbody>
</table>

*Note: R Square=0.55; *p<0.05, **p<0.01, ***p<0.001*
Table 7. Multivariate Linear Regression (Oral Sex) Predicting Respondents Binge Drinking Behaviors (N=12,132), NSFG (2006-2010)

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>Standardized Beta</th>
<th>Statistical Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1.847</td>
<td>0.076</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>Give or Receive Oral Sex</td>
<td>0.480</td>
<td>0.034</td>
<td>0.126</td>
<td>***</td>
</tr>
<tr>
<td>STD Treatment</td>
<td>0.276</td>
<td>0.050</td>
<td>0.049</td>
<td>***</td>
</tr>
<tr>
<td>General Health</td>
<td>-0.036</td>
<td>0.012</td>
<td>-0.028</td>
<td>**</td>
</tr>
<tr>
<td>Race (White)</td>
<td>0.239</td>
<td>0.022</td>
<td>0.098</td>
<td>***</td>
</tr>
<tr>
<td>Marital Status (Married)</td>
<td>-0.315</td>
<td>0.025</td>
<td>-0.122</td>
<td>***</td>
</tr>
<tr>
<td>Religious</td>
<td>-0.201</td>
<td>0.027</td>
<td>-0.066</td>
<td>***</td>
</tr>
<tr>
<td>Highest Year of Education</td>
<td>0.029</td>
<td>0.004</td>
<td>0.064</td>
<td>***</td>
</tr>
<tr>
<td>Age of Respondent</td>
<td>-0.008</td>
<td>0.001</td>
<td>-0.058</td>
<td>***</td>
</tr>
</tbody>
</table>

Note: R Square=.067; *p<0.05, **p<0.01, ***p<0.001
Appendices

Additional recoded frequency tables and bar charts for race of female respondent and independent variables.

All data output and syntax is provided by IBM Statistics SPSS 20.

### R's race as reported in screener

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Race</td>
<td>342</td>
<td>2.8</td>
<td>2.8</td>
<td>2.8</td>
</tr>
<tr>
<td>Other Race</td>
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<td>3.8</td>
<td>3.8</td>
<td>6.6</td>
</tr>
<tr>
<td>Other Race</td>
<td>53</td>
<td>.4</td>
<td>.4</td>
<td>7.0</td>
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<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black or African American</td>
<td>2606</td>
<td>21.2</td>
<td>21.2</td>
<td>28.3</td>
</tr>
<tr>
<td>White</td>
<td>6964</td>
<td>56.7</td>
<td>56.7</td>
<td>85.0</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1846</td>
<td>15.0</td>
<td>15.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>12279</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

RECODE RSCRRACE (4=2) (5=3) (6=4) (1 thru 3=1) INTO NewRace. EXECUTE.
FREQUENCIES VARIABLES=RSCRRACE White NewRace /ORDER=ANALYSIS.

### NewRace

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Race</td>
<td>863</td>
<td>7.0</td>
<td>7.0</td>
<td>7.0</td>
</tr>
<tr>
<td>Black or African American</td>
<td>2606</td>
<td>21.2</td>
<td>21.2</td>
<td>28.3</td>
</tr>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>6964</td>
<td>56.7</td>
<td>56.7</td>
<td>85.0</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1846</td>
<td>15.0</td>
<td>15.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>12279</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
Appendices

Figure 1.

Attraction and Race (N=12,279), NSFG (2006-2010)

- Other Race: 7.00% (Straight), 4.00% (Bisexual), 8.00% (Lesbian)
- Black or African American: 21.90% (Straight), 17.10% (Bisexual), 28.20% (Lesbian)
- White: 55.10% (Straight), 58.10% (Bisexual), 20.60% (Lesbian)
- Hispanic: 16.00% (Straight), 16.00% (Bisexual), 40.00% (Lesbian)
Appendices

Figure 2.
Figure 3.

Give/Receive Oral Sex and Race (N=12,279), NSF(2006-2010)
REFERENCES


Addiction Behavior 14(5):545-553.


