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Does Permissiveness Mediate the Relationship between Sexual Identity Exploration and Sexual Behavior?

by

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Abstract

Sexual identity exploration has been shown to increase adolescents' and emerging adults' sexual behaviors. Holding highly permissive attitudes about sex is another factor that increases sexual behavior. This study surveyed (N= 301) 18-29 year olds' sexual attitudes to investigate whether permissiveness mediates the relationship between sexual identity exploration and sex acts. Anal and vaginal sex acts were measured with the 30-Day Timeline Followback. Results indicated a negative relationship between sexual identity exploration and sex acts. Results also indicated positive relationships between sexual identity exploration and permissiveness; as well as, permissiveness and sex acts. Findings support that permissiveness accounts for some of the relationship between sexual identity exploration and sex acts but did not significantly show a mediation effect. Therefore, there are other factors that influence the sexual behaviors of those who experiment outside of same-gender sexual relationships.

Introduction

Emerging Adulthood

Arnett (2000) describes Emerging Adulthood (18-25 years old) as a distinct period of life independent of adolescence, but not yet adulthood. This period of the life cycle is a time of much change and identity exploration. Cultural norms and expectations affect individuals in this age group by making it possible to postpone the responsibilities of adulthood, especially for those in industrialized societies. For example, the age of first marriage has risen in the United States from 22 in 1970, to 25.1 in 2000, to 26.1 in 2010 for women, and 24, 26.8, and 28.2 for men (U.S. Bureau of the Census, 1997; www.census.gov). Similarly, the age of women's first child birth has also risen from 21 in 1970 (Mathews & Hamilton, 2002), to 25.6 in 2010 (www.cia.gov).

Two main reasons for the increase of first child birth ages are the implementation of birth control and society's more recent lenient attitudes towards premarital sex (Arnett, 2005). Cohabiting with a romantic partner has also become widely accepted, no longer making marriage the mandatory step prior to living with a partner. These factors have an impact on identity exploration, specifically sexuality development. Although identity exploration begins in adolescence, explorations in love, work, and worldviews continue to expand into emerging adulthood (Arnett, 2000). In adolescence, teenagers usually begin to date different partners for fairly short periods of time. In emerging adulthood, exploring love and sex tends to be more intimate and long-term, oftentimes including sex and living together (Arnett, 2000).

Since sexually exploratory attitudes and behaviors begin in adolescence, much research is done on this population, and less is known about sexual and identity exploration as they transition into emerging adulthood (Whitbourne & Tesch, 1985; Valde, 1996; Arnett, 2000).

Many studies neglect to identify emerging adulthood as its own subgroup, grouping them with adolescents or adults (Carver, Joyner, & Udry, 2003; Collins, Welsh & Furman, 2009; Meier & Allen, 2009), making it difficult to distinguish attitudes and behaviors between these different developmental periods.

An important factor that distinguishes adolescence from emerging adulthood is independence. Adolescents make many decisions as a result of pressure and influences from their friends and families, while those influences do not play such a prominent role for emerging adults' decision making (Crouter & Booth, 2006), since the presence of a parent or authority figure is not as prominent in emerging adulthood as it often is in adolescence (Arnett, 2000). Sexual identity and sexual behaviors in emerging adulthood is instead influenced by romantic relationships that often include disclosing personal thoughts and feelings, as well as engaging in some sexual behaviors (Collins & van Dulmen, 2006). Emerging adults are constantly shaping their identities, which makes studying the decisions they make once they are no longer as heavily influenced by their families and friends critical to better understanding this population as a whole. Moving out of one's parents' house is an example of a major step in many emerging adults' independency that can facilitate the transition into more exploratory sexual behaviors. This current study hopes to build on existing literature on this population's sexual decision making, and the factors that influence those decisions.

Sexual Identity Exploration

Sexual identity is determined by a few factors that help to form one's emotional or sexual attraction to other people, also referred to as sexual orientation. Those include sexual needs or desires, sexual values or evaluations about what is appropriate, sexual activities and behaviors,

sexual expression, preferred characteristics of sexual partners, and identification with a sexual orientation (Worthington et al, 2008). Sexual identity development in emerging adulthood has yet to be understood because previous research consistently combined emerging adults with either adolescents or adults (Schwartz, Côté, & Arnett, 2005). Many emerging adults experiment with their sexual orientation, as the identification with an orientation often follows exploration with sexual behaviors (Mustanski et al., 2014), although some argue that the identification with an orientation precedes sexual behaviors (Grossman, Foss, & D'Augelli, 2014; D'Augelli, Grossman, & Starks, 2006; D'Augelli, 1994).

Marcia (1966) explained that late adolescence is the time to explore in different domains of life, including work, religion, and gender roles as the way to develop and understand one's identity. He defined commitment as a period of adopting an identity where people fall within one of four identity statuses: foreclosure (commitment to a sexual identity without prior sexual behavior exploration), moratorium (withholding commitment to a sexual identity during the process of sexual behavior exploration), achievement (commitment to a sexual identity following sexual behavior exploration), and diffusion (a lack of both commitment to a sexual identity and sexual behavior exploration). Marcia's Identity Status Paradigm can also be applied to *sexual* identity exploration (Worthington et al, 2008). The relationship between sexually exploratory behaviors and commitment to a sexual identity is an important one that helps one adopt a sexual orientation, as that identification may follow sexual exploration (Mustanski et al., 2014), or an identification precedes sexual exploratory behaviors (Grossman, Foss, & D'Augelli, 2014).

Individuals may or may not engage in different exploratory behaviors, which ultimately affect how they identify themselves. For the present study, the levels of sexual exploration among

emerging adults, and their commitment to a sexual identity and their integration of that orientation will be measured.

Binary classifications to describe sexual identities have expanded from solely heterosexual and homosexual identifications to a multitude of other classifications, including gay, lesbian, bisexual, queer, asexual, other, none, and many other variations (Beaulieu-Prevost & Fortin, 2015). This allows for more sexual fluidity that may exist outside of a traditional classification system. Thompson and Morgan (2008) have identified, for example, a subgroup as “mostly straight” women, who are in fact distinct from other orientations because they have more same-sex relations than exclusively straight women but less same-sex relations than bisexual and lesbian women. This has ignited further research on this subgroup, as well as other subgroups that exist between heterosexual and bisexual, and between bisexual and homosexual, like “mostly straight” men, and “mostly gay” men and women (Rieger et al., 2013; Vrangalova & Savin-Williams, 2012; Savin-Williams & Vrangalova, 2013; Vrangalova & Savin-Williams, 2014). This greater fluidity of sexual orientation classifications allows for more exploratory behaviors since people are not as obligated to stick to one classification over others as they once were.

Furthermore, it is important to distinguish between sexual orientation identification and sexual behaviors because sexual behaviors do not translate into a certain sexual orientation. For example, there is a large population of men who have sex with men (MSM), men who have sex with men and women (MSMW), women who have sex with women (WSW), and women who have sex with men and women (WSMW) who self-identify as heterosexual (Everett, 2013; Myers et al., 1995). Starks et al., (2009) support that attraction and intimacy are independent of each other because the majority of participants in this study self-identified as heterosexual but

many engaged in same-gender intimacy. Additionally, Glover, Galliher, and Lamere (2009) found that female adolescents exhibit more variability and fluidity in their sexual identity and sexual exploration because they engage in more same sex and opposite sex relationships and intercourse compared to males. In a 10-year longitudinal study, Diamond (2008) found that 2/3 of women changed their sexual orientation identity at least once from the beginning of the study, and the most commonly adopted identity classification at the end of the study was “unlabeled.” This greater plasticity of women’s sexuality has been attributed to society’s greater acceptance of sexual fluidity in females but not males (Peplau, 2003). Interestingly, many of these women do not self-identify as lesbian or bisexual although they engage in same sex intercourse (Rupp & Taylor, 2010).

Glover, Galliher, and Lamere (2009) also found that the age at which adolescents identify as a sexual minority is decreasing, which is thought to be a positive finding because it helps their identity formation. Muise, et al., (2010) support that sexual exploration can have positive outcomes. They found that female emerging adult college students who are higher in exploration and commitment, as defined by Marcia (1966), have greater sexual well-being, defined by sexual esteem, sexual awareness, sexual satisfaction, body weight esteem, body appearance esteem, and body esteem attribution. These researchers believe these are important implications because they translate into a person’s self-value, evaluation of one’s appearance and attractiveness, which is very important in the developmental process, especially in the development of young women. Research on men’s exploration in relation to sexual well-being does not appear to be as prevalent.

However, a meta-analysis (Katz-Wise & Hyde, 2012) that compiled results from studies between 1992 and 2009 supports that a non-heterosexual orientation exposes individuals to

greater discrimination, physical assault, verbal harassment, and school victimization. For example, one study (Garofalo et al., 1998) found that being gay, lesbian, or bisexual (GLB) can be a risk factor for a variety of health risks, as well as, violence-related incidents, suicidal ideation and attempts, multiple substance use, and greater sexual risk behaviors. Both male and female GLB high school students were significantly more likely to have engaged in intercourse before age 13, had more sexual partners in the past 3 months, had more sexual partners in their lifetime, and experienced sexual coercion compared to non-GLB high school students. Similarly for adult males, Lindley, Walsemann, and Carter (2012) found that those who reported being gay or bisexual had higher odds of having a mood or anxiety disorder compared to those who reported being straight. Research has also shown that women who were attracted to both sexes had more depressive symptoms, perceived stress, and were at greater risk of substance use than women who reported opposite-sex attractions (Parsons, Kelly, & Wells, 2006). Men who reported being mostly straight had higher stress symptoms, due to prejudice, rejection, hiding one's sexual orientation, and internalized homophobia than those who reported strictly same-sex or opposite-sex relations. These different mood and mental disorders, as well as substance use and ramifications of social stigma have been associated with more risky sexual behaviors amongst men and women sexual minority youth when compared to heterosexuals (Meyer, 2013).

Both adolescents and emerging adults of sexual minorities have a very difficult time integrating their sexuality into their life (Rosario, Schrimshaw, & Hunter, 2011). Because so many of them experience gay-related stressors, such as ridicule (Rosario, Schrimshaw, & Hunter, 2011; Hershberger & D'Augelli, 1995; Huebner et al., 2004; Mills et al., 2004; Ueno, 2005;), as well as backlash from unsupportive friends and family, it has been supported that they are at a greater risk of having poor mental health than those who do not experience such stressors

(Rosario, Schrimshaw, & Hunter, 2011; Lewis, Derlega, Clarke, Kuang, 2006; Rosario et al., 2005; Ueno, 2005), and therefore making integration difficult to achieve. The examples given for sexual identity integration are incorporating one's sexual identity into one's sense of self, engaging in LGB-related social activities, and feeling comfortable with people knowing about one's LGB identity. Greater integration is associated with greater psychological adjustment: lower distress and greater self-esteem (Rosario, Schrimshaw, & Hunter, 2011).

These somewhat contradictory findings on the impact of engaging in same-sex sexual behaviors suggest that more research needs to be done on emerging adults who experiment with their sexual identities. One relationship that has yet to be understood is the effect that permissive attitudes may play in the behaviors of those who experiment with their sexuality.

Permissiveness

Permissive sexual attitudes are important in sexual decision making because they determine how people think about sex and what behaviors they may practice. Permissive attitudes about sex are defined as condoning casual sex and sex with multiple partners, whether one engages in these activities or not. Some studies have shown that adolescents with more permissive and/ or positive attitudes about sex are more likely to initiate sex (Cuffe, Hallfors, & Waller, 2007). Furthermore, positive attitudes about pregnancy have been associated with greater risks, such as unprotected sexual intercourse for adolescents 15-18 years old.

Gender has been associated with the way in which adolescents and emerging adults view sex. Overall, males, independent of sexual identity, have more positive and permissive attitudes about sex (Cuffe, Hallfors, & Waller, 2007; Townsend & Wasserman, 2011); in that they think about sex more often, have frequent sexual fantasies and desires, masturbate more often, and are

more accepting of premarital and extramarital sex compared to females. However, both males and females become more positive and less judgmental about sex over the course of their matriculation in college and sex becomes normalized (Lefkowitz, 2005; Halpern & Kaestle, 2014). Historically, this trend has remained consistent (Laner, Laner, & Palmer, 1978). Laner, Laner, and Palmer (1978) found that college women scored less than men on sexual permissiveness scales (measuring attitudes on premarital sex and cohabitation) in their first year of college but scored closer to their male counterparts during their junior and senior years of college. This closing gap could be because as the number of sexual partners one engages with goes up, the more permissive their attitudes become (Townsend & Wasserman, 2011). One protective factor of not becoming more permissive is that individuals who are committed to their ethnic identity during college have more conservative attitudes than those who are not ethnically committed (Espinosa-Hernandez & Lefkowitz, 2009).

As previously mentioned, parents have a bigger influence on their children's attitudes and behaviors when they are adolescents compared to when they are emerging adults (Crouter & Booth, 2006). Miller, McCoy, and Olson (1986) conducted a study that found that parenting styles influence adolescents' permissiveness attitudes. This study asked 14-19 year olds their opinions on premarital sex and whether they had sex. The most permissive respondents (both those who approve of premarital sex and those who engage in sex) had parents who they scored 'not strict at all.' Those with 'very strict parents' were the second most permissive. Those who scored their parents as 'moderately strict' were the least permissive group. More recent literature, however, credits delayed initiation of sex, and greater condom and contraceptive use on parental monitoring, defined by knowledge of child's friends, companions, whereabouts, and activities, as well as enforced dating rules (Dittus et al., 2015).

Peers also influence one another's sexually permissive attitudes. Santelli et al., (2004) has shown that youth who engage in sexual activities often report believing that the majority of their peers are also engaging in sexual activities. These kinds of descriptive norms are common beliefs people have about their peers' attitudes and behaviors which oftentimes influence their own attitudes and behaviors. When quantitatively measured, a majority of youth report thinking that many more of their peers are engaging in different sexual activities than what is actually correct. These overestimated perceptions affect rates of sexually permissive attitudes because these adolescents and emerging adults believe "everyone is doing it." This can have major implications for those who believe they are part of the minority; they may begin to engage in different sexual behaviors in order to fit in (Santelli et al., 2004).

Permissiveness changes depending on what someone is exposed to. Results of one study (Braun-Courville & Rojas, 2009) showed that participants 12-21 years old who were exposed to sexually explicit websites were more likely to have more permissive attitudes towards sex and engage in sexual behaviors than those who were less exposed to sexually explicit websites. Those sexual behaviors included more sexual partners, higher rates of substance use during sexual encounters, and engaging in anal sex. Another study (Carroll, 2008) explored the effects of pornography use and acceptance on emerging adult men and women. Results showed that greater use and acceptance of pornography correlated with more sexually permissive attitudes and more substance use compared to those who reported never or seldom use of pornography. Similarly, individuals who watched television shows with positive sex outcomes held more positive attitudes about premarital sex than those who watched television shows with negative sex outcomes (Eyal & Kunkel, 2008). Attitudes coming from watching others may be

particularly important in this age group as sexual exploration is increasing and peer norms are influential.

Many factors influence young people's attitudes towards sex: parents, media, societal norms, religion (Le Gall, Mullet, & Shafighi, 2002), and culture, which in turn influence their sexual behaviors. The more permissive one's sexual attitudes are the more likely one is to initiate sex at an early age, engage in unprotected sex, and have many sexual partners. These behaviors can have important physical and mental health implications, and more research needs to be done to find ways to help the youth make safer sexual health decisions. What is not known is whether permissiveness accounts for some of the relationship between sexual identity exploration and sexual behavior. Understanding this relationship may better explain emerging adults' attitudes on sexual behaviors.

Sexual behavior

Sexual behavior is vaguely defined as any acts relating to sex that cause stimulation, (www.psychologydictionary.org) including but not limited to, kissing, masturbation, oral sex, vaginal sex, and anal sex. According to a 2002 survey, 93% of Americans engage in premarital sex before age 30 (Finer, 2007; Halpern & Kaestle, 2014), with a mean age at first intercourse of 16.8 for males and 17.2 for females (NSFG, 2015). Additionally, emerging adults tend to engage in casual sex and have multiple sex partners (Halpern & Kaestle, 2014). Societal acceptance and depictions in media of sex with little commitment can influence adolescents' attitudes about sex and emerging adults' sexual behaviors. In the 2010s, 55% of Americans believed premarital sex is "not wrong at all," and have more sex partners than in the 1970s (Twenge, Sherman, & Wells, 2015). These attitudes also influence higher numbers of sexual partners, less protective sex, and

accompanying substances with sexual activities (Halpern & Kaestle, 2014). Research supports that males have more sex, masturbate, have more sex partners, and initiate sex at earlier ages than do females (Peplau, 2003). Parents' marital status has been identified as a risk factor for early initiation of sex. Newcomer and Udry (1987) found that girls who live in a steady single-mother household are more likely to engage in early sex, while girls who live with both natural parents wait longer to initiate sex. Boys are more likely to initiate sex when their household becomes a single-mother home.

Halpern et al. (2006) investigated the predictors of emerging adults' sexual behaviors. Among over 11,000 18-27 year old participants, 89% of females and 91% of males had sex before marriage, 3% of females and less than 2% of males postponed sex until marriage, and about 8% of both females and males were virgins, regardless of same-gender or opposite-gender attractions. Race was associated with sexual activity, in that those who identified as Black were least likely to be virgins or "postponers." Religiosity was also associated because both postponers and virgins were more religious. Perceived parental disapproval had the strongest effect on whether participants identified as virgins and postponers as well. Factoring in sexuality, females with same-gender attractions were much more likely to engage in sex before marriage. Males with same-gender attractions also engaged in premarital sex but there were more virgin males with same-gender attractions than females with same-gender attractions. Both males and females with no attractions were the most likely to be virgins. Those who had sex before marriage were older, thinner, more attractive, physically advanced for their age, had less educated parents, and lived with only one biological parent compared to virgins, which were all considered sexual risk factors.

Many studies have investigated factors that influence risky sexual behaviors, including age of initiation of sex and substance use. Having more sexual partners and engaging in unprotected sexual intercourse is more common amongst adolescents who initiate sex at earlier ages than those who wait longer (Kaplan et al., 2013; Cuffe, Hallfors, & Waller 2007; Smith, 1997). Alcohol has a major impact on the sexual decisions of many adolescents and emerging adults. Those who consume alcohol are at greater risk of engaging in sexual activity (Wells, et al., 2010), especially in unprotected sex, as well as having multiple sex partners, therefore putting themselves at an increased risk of contracting a sexually transmitted infection (Cooper, 2002; Bralock & Koniak-Griffin, 2007; Hutton et al, 2008). Regardless of the influence of alcohol, it has been found that in terms of race and ethnicity, African-Americans as well as Latino-Americans have more sexual partners than other racial and ethnic minority groups, with Latinos having the highest frequency of engaging in sex without a condom (Espinosa-Hernandez & Lefkowitz, 2009). Factors that have been shown to assist women in demonstrating sexually *protective* behaviors include perceived control in a sexual relationship, the ability to speak to their partner about condom use, and greater self-efficacy (Bralock & Koniak-Griffin, 2007).

Casual sexual behaviors of today's adolescents and emerging adults are often influenced by the "hookup culture." Hooking up can have many different definitions, but the general consensus is, it is any type of uncommitted, casual sexual encounter outside of a romantic relationship (Bogle, 2008). Among college students, 80% of students report engaging in at least one hookup during their time in college (Garcia, Reiber, Massey, & Merriwether, 2012; Heldman & Wade, 2010; Halpern & Kaestle, 2014). These encounters are so common amongst emerging adults that no gender differences were found in casual hookup sex behaviors (Garcia et al., 2012). Some even believe the physical aspect of relationships has replaced traditional

courting and dating (Bogle, 2008). Males are shown to engage in more casual sexual hookups, are less interested in an emotional connection with their casual sex partners, and are more likely to have sex with acquaintances and strangers as compared to females who are more likely to look for romantic relationships with their sex partners (Garcia & Reiber, 2008). More hookups are associated with greater alcohol and marijuana use, lower self-esteem, higher levels of depression, and those who come from single-family households, putting people at greater risk of inconsistent condom use (Fielder et al, 2013). Females who engage in these types of sexual hookups experience greater and longer lasting emotional distress following the encounter(s) (Simpson, 1987). Grello et al (2006) found that the more casual sex partners males had, the fewer depressive symptoms they exhibited, whereas the more casual sex partners women had, the more depressive symptoms they exhibited specifically following penetrative hookups (Fielder & Carey, 2010; Townsend & Wasserman, 2011). Although there can be both positive and negative outcomes of engaging in hookups, casual sex behaviors remain very common among both men and women emerging adults.

Most of the research done on sexual behaviors focuses on sex without using a condom, sex with multiple partners, and sex under the influence of drugs or alcohol. Although understanding the factors involved with risky sex is important, that research does not speak to all sexual behaviors. Understanding general patterns of all emerging adults' sexual behaviors can shed more light on how that may be affecting other aspects of life during this developmental period, such as increasing age of marriage.

Present Study

Studies often examine the association between sexual attitudes and risky sexual behaviors, like unprotected sex for example, but few have examined the relationship between

sexual identity and sexually permissive attitudes on non-risky sexual behaviors. Research has supported the notion that those who explore with their sexuality outside of heterosexual attractions have more sex. Holding permissive attitudes is another factor that influences sexual behaviors. Those who explore with their sexuality may hold more permissive attitudes and therefore engage in more sex. The current research study aims to quantitatively show a mediation effect, where sexually permissive attitudes explain the relationship between sexual identity exploration and sexual behaviors.

The specific hypotheses of this study are: (1) Those who score high in sexual identity exploration will report more sex acts; (2) Those who score high in sexual identity exploration will have greater sexually permissive attitudes; (3) Those who have high sexually permissive attitudes will report more sex acts, and (4) Permissiveness attitudes mediate the relationship between sexual identity exploration and sex acts.

This study is important because it focuses on emerging adults in a way that has not been done before. The relationship between sexual identity exploration and sexual permissiveness on sexual behavior is still unknown. This study aims to find that connection to be better able to assist emerging adults for physical and mental health implications, as we know there are many consequences reported from exploring more in sexuality and having more sexually permissive attitudes.

Methods

Participants

The current study is part of a larger study (Project DASH) (Wells, et al., 2015; Wells, et al., 2016) that looked at the relationship between drinking alcohol and risky sexual behaviors among emerging adults. Participants were aged 18-29 from New York City (NYC). Of the 301

participants, 106 were women. Of both men and women, 87 self-identified as gay, lesbian, or queer, 40 identified as bisexual, and 174 identified as straight.

Recruitment

Potential participants were approached at alcohol-serving and non-alcohol-serving venues that are frequently visited by young adults. They were given an anonymous survey to screen for eligible individuals. Eligibility requirements included 18-29 year olds who resided in the NYC metropolitan area, recent alcohol consumption (at least 3 days of alcohol consumption in the last 90 days and at least 1 day of alcohol consumption in the last 30 days) and recent vaginal and/or anal sex (at least 1 encounter in the last 30 days). Eight thousand five NYC residents completed screening surveys, 3,206 were eligible, and of those, 168 enrolled in the study. Enrolled participants were given the opportunity to refer up to 3 people each. If the referrals were eligible and enrolled into the study, the person who referred the participant was compensated \$20 per participant who was eligible and showed for baseline for up to 3 participants. One hundred thirty-three participants were enrolled by referral bringing the total sample to 301 consenting participants. Recruitment for this study occurred during 2010-2013.

Procedure

Upon participants' first appointment, they signed informed consent for the study. Then, they completed a Timeline Follow Back (TLFB) calendar interview to document their recent alcohol consumption as well as their sexual behavior in the last 30 days. For the purposes of this study, anal and vaginal sex acts were the only acts of sexual behavior measured from the TLFB.

Measures

Demographics. Participants were asked to report their age, income, level of education (less than a four-year degree, four-year degree, or more than a four-year degree), gender, sexual identity,

race/ethnicity (White, Black, Latino, Multiracial, and other), and relationship status (single or partnered) via Qualtrics ®, an online data collecting company.

Sexual Identity Exploration. Participants completed the 22-item Measure of Sexual Identity Exploration and Commitment (MoSIEC), which measured the extent to which participants explored with their sexuality (Worthington et al., 2008). The four subscales of this measure were Exploration, Commitment, Synthesis/ Integration, and Sexual Orientation Identity Moratorium/ Uncertainty. An example of a statement used to measure exploration is, "I am actively experimenting with sexual activities that are new to me." Commitment statements included, "I have a firm sense of what my sexual needs are." Synthesis and integration were measured by statements such as, "My sexual values are consistent with all of the other aspects of my sexuality." Lastly, the statement, "My sexual orientation is clear to me," related to sexual orientation identity moratorium/ uncertainty. All items were rated on a 6-point likert scale (1= very uncharacteristic of me to 6= very characteristic of me), with some items being reversed-scored. Responses were then summed with a range of 22-132 for the full scale with higher scores indicating higher endorsement of the full scale and exploration, commitment, synthesis, and sexual orientation identity uncertainty subscales. Cronbach alpha ($\alpha = .85$).

Permissiveness. Participants also completed the 10-item Permissiveness Subscale of the Brief Sexual Attitudes Scale (Hendrick, Hendrick, & Reich, 2006), which measured participants' attitudes on sexually permissive behaviors. The statements on this scale asked how much participants agree with various statements regarding permissiveness, such as casual sex and having multiple sex partners. Examples of items on this scale are, "I do not need to be committed to a person to have sex with him/her" and "Casual sex is acceptable." This measure was rated on a 5-point likert scale (1= strongly disagree with the statement to 5= strongly agree

with the statement). Responses were summed with a range of 10-50 with higher scores indicating higher permissiveness. Cronbach alpha ($\alpha = .87$).

Sexual Behaviors. Participants were asked to report number of sex partners, number of vaginal and anal sex acts with a condom, and number of vaginal and anal sex acts without a condom. This was collected using the 30-Day Timeline Follow Back (TLFB) where participants were given a calendar for the past 30 days and record the specific acts done on specific days of the month (Weinhardt et al, 1998). Day level measures of sexual behaviors were then aggregated to the past 30 days. For the purpose of this study, total number of sex acts, anal and vaginal, will be used regardless of condom use, as the interest of this thesis is on sexual behavior in general rather than on sexual risk behavior.

Data Analysis

First, descriptive statistics were performed for demographics comparing gender and sexual orientation identities: gay/bisexual males, straight males, and all females. Both gay/bisexual females and straight females were grouped together because of their relatively small sample size. Females served as the reference group in categorical comparisons. Associations between categorical variables were evaluated using χ^2 tests of independence. One-way ANOVAS were performed for continuous variables and all scale scores: age, permissiveness, sexual identity exploration, exploration subscale, commitment subscale, integration/ synthesis subscale, sexual identity orientation moratorium subscale, and total number of sex acts to compare means and standard deviations by gender and sexual identity. All significant ANOVAS were followed by Bonferroni Post-Hoc tests.

Second, Spearman's non-parametric bivariate correlation tests were performed for correlations between sex acts and sexual identity exploration, and sex acts and permissiveness

for each group because sex acts were highly skewed to the right. A Pearson's correlation was performed for sexual identity exploration and permissiveness because the data were normally distributed.

Next, a series of four regressions for each group were conducted to establish mediation (Baron & Kenny, 1986). The analysis was conducted separately for gay/bisexual males, straight males, and all females. Generalized linear models with a Poisson distribution was then used to examine a mediation relationship using rate ratio, while controlling for potentially confounding factors including race and age. The first regression was sexual identity exploration on sexual acts. The second was sexual identity exploration on the mediator, permissiveness. The third was permissiveness on sexual acts. The fourth regression was both sexual identity exploration and permissiveness on sexual acts. In the fourth relationship, the presence of the permissiveness mediator in the model should affect the indirect relationship between sexual identity exploration and sexual acts. Finally, Sobel's tests were conducted to determine the significance of the indirect effect of sexual identity exploration on sexual acts via permissiveness. This was done by inputting the unstandardized regression coefficients and standard errors into the Sobel Test Calculator to determine significance (<http://quantpsy.org/sobel/sobel.htm>).

Results

Participant demographics are presented in Table 1. The majority of participants were male (n=195, 65%); female (n=106, 35%), with 2 missing values. Comparing by gender and sexual identity orientation found significant differences for race ($\chi^2 = 12.14, p = 0.06$) with almost half of the sample being white (n = 148, 48.8%) and for level of education ($\chi^2 = 21.79, p = 0.001$) with a large majority of participants having a 4-year degree or more (n = 134, 44.2%).

The mean age of participants was 23.6 with gay/bisexual males (GBM) being older ($M = 24.07$, $SD = 2.879$, $F = 2.984$, $p = 0.052$) than straight males and females.

Participant scores of all scales and subscales are found in Table 2. GBM scored the highest in sexual identity exploration and commitment total ($M = 88.29$, $SD = 13.27$, $F = 11.691$, $p < 0.001$), as well as for the subscales of exploration ($M = 36.05$, $SD = 8.03$, $F = 20.298$, $p < 0.001$), commitment ($M = 28.97$, $SD = 5.45$), and integration/ synthesis ($M = 18.21$, $SD = 4.01$). Women scored the highest in sexual orientation identity moratorium ($M = 8.46$, $SD = 2.23$). Straight men scored highest in permissiveness ($M = 36.21$, $SD = 7.17$) followed by GBM ($M = 34.98$, $SD = 7.39$, $F = 12.604$, $p < 0.001$). Straight men also scored the highest in total number of sex acts in the past 30 days ($M = 11.18$, $SD = 15.33$, $F = 4.441$, $p = 0.013$) compared to GBM and women overall.

Tables 3-5 show Spearman and Pearson correlation coefficients for the variables for all three groups: GBM, straight males, and females. The Pearson correlation demonstrates that sexual identity exploration was positively related to permissiveness for all three groups, although only significant for GBM ($r = .245$, $p = .015$) and females ($r = .309$, $p = .001$). Spearman's correlation, although not significant, showed a positive correlation between sexual identity exploration and sex acts for GBM ($r = .166$, $p = .103$) and females ($r = .065$, $p = .512$), as well as inverse correlations between permissiveness and sex acts for straight males ($r = -0.084$, $p = .412$) and females ($r = -0.033$, $p = .737$).

Regressions analyses for the direct and indirect effects of sexual identity exploration on sex acts for GBM, straight males, and females can be found in Figures 1-3. Sobel's tests were also conducted to test for the presence and significance of mediation for each participant group. For GBM, Poisson regression analyses indicated that when controlling for age and race, the

direct effect of sexual identity exploration on adjusted rate of sex acts was statistically significant ($\beta = 0.017$, $SE = .0033$, $p < .001$). There was a 1.7% increase in the rate of sexual acts for every one unit increase in sexual identity exploration. Those high in sexual identity exploration were also high in the adjusted rate of sex acts performed ($\beta = .004$, $SE = .0014$, $p = .003$) Those high in permissiveness were also high in the adjusted rate of sex acts performed ($\beta = 0.018$, $SE = .0058$, $p = 0.002$). When permissiveness was added to the model between sexual identity exploration and sex acts, the adjusted rate of sex acts slightly decreased and remained statistically significant ($\beta = 0.015$, $SE = .0034$, $p < .001$). However, the Sobel test statistic ($Z = 1.561$) was not significant ($p = 0.12$) for permissiveness mediating the relationship between sexual identity exploration and sex acts.

For straight males, Poisson regression analyses indicated that when controlling for age and race, the direct effect of sexual identity exploration on adjusted rate of sex acts was statistically significant ($\beta = -0.024$, $SE = .0021$, $p < .001$). There was a 2.3% decrease in the rate of sexual acts for every one unit increase in sexual identity exploration. Those high in sexual identity exploration were also high in the adjusted rate of sex acts performed ($\beta = .002$, $SE = .0012$, $p = .046$). Those high in permissiveness were low in the adjusted rate of sex acts performed ($\beta = -0.028$, $SE = .0044$, $p < .001$). When permissiveness was added to the model between sexual identity exploration and sex acts, the adjusted rate of sex acts slightly increased and remained statistically significant ($\beta = -0.022$, $SE = .0021$, $p < .001$). The Sobel test statistic ($Z = -1.57$) was once again was not significant ($p = 0.12$) for permissiveness mediating the relationship between sexual identity exploration and sex acts.

For females, Poisson regression analyses indicated that when controlling for age and race, the direct effect of sexual identity exploration on adjusted rate of sex acts was not statistically

significant ($\beta = -0.001$, $SE = .0024$, $p = 0.823$). There was a 0.1% decrease in the rate of sexual acts for every one unit increase in sexual identity exploration. Those high in sexual identity exploration were also high in the adjusted rate of sex acts performed ($\beta = .006$, $SE = .0013$, $p < .001$). Those high in permissiveness were also high in the adjusted rate of sex acts performed ($\beta = 0.014$, $SE = .004$, $p = 0.001$). When permissiveness was added to the model between sexual identity exploration and sex acts, the adjusted rate of sex acts slightly decreased and remained not statistically significant ($\beta = -0.003$, $SE = .0025$, $p = 0.997$).

Discussion

In general, these results suggest that GBM explore more with their sexuality but all males are more committed to a sexual identity than females. In other words, the sexual needs and desires of men coincide more with their sexual expression, while females are more uncertain about their sexual orientation identity, and therefore do not sexually express themselves as much as men. Both GBM and straight males also reported more sexually permissive attitudes, meaning men, regardless of sexual identity, believe that casual sex and having multiple sex partners are more acceptable than females. Although not significant, all males had more sex encounters in the past 30 days with straight males having significantly more sex, which makes sense since males explore more with their sexuality and are hold more permissive attitudes.

As previous studies have noted (Peplau, 2003), it is more acceptable for females to experiment with same-gender sex, whether just for fun or “testing the waters,” than it is for males. This could explain both males’ higher commitment to a sexual identity and females’ uncertainty when choosing to identify themselves with a sexual orientation. Females’ uncertainty can also explain that they engage in fewer sex acts because they are still figuring out who and what they like, while males have a clearer understanding of their sexual identities.

Hypothesis 1 was supported for GBM because high sexual identity exploration was associated with more anal and vaginal sex encountered in the past 30 days. For straight males and females, high sexual identity exploration was associated with *few* anal and vaginal sex encounters in the past 30 days. This is an important finding because it may be assumed that exploring with one's sexuality must be an outward display of engaging in a variety of sex acts. These results support that exploring with one's sexuality is sometimes an internal process of finding out what one likes that does not have to necessarily be reflected in one's sexual behaviors.

Hypothesis 2 was supported for all groups because high sexual identity exploration was associated with high permissive attitudes. This finding aligns with initial thoughts that those who explore with their sexuality are more sexually permissive, although now it is supported that those attitudes do not directly translate into behaviors.

Hypothesis 3 was supported for GBM and females because high permissive attitudes were associated with many anal and vaginal sex encounters in the past 30 days. This finding was in the expected direction because positive attitudes towards casual sex partners, multiple sex partners, and one-night-stands showed an increase in these sex behaviors. The negative relationship for straight males was surprising but could be explained by straight males not finding highly permissive females to have sex with.

Hypothesis 4 was not supported, indicating that sexually permissive attitudes does not account for the relationship between sexual identity exploration and total number of anal and vaginal sex acts. When accounting for permissiveness, participants had few sex acts. An explanation for this non-association could be that emerging adulthood is a developmental period of learning oneself, so although they may have these strong attitudes, they are still figuring out

how to express those feelings and beliefs sexually. These individuals may be afraid to look for romantic and sexual partners that will be accepting of their exploratory and permissive ways because they fear being rejected, so they instead keep to themselves by not looking for sex partners.

A limitation of this study is the use of the 30-day timeline follow-back (TLFB). The 30-day period of time may not be enough time to show a consistent pattern of sexual behavior. A second limitation is not having a large enough sample size of females with diverse sexual identities to compare them by sexual identity, as was done with males. Another limitation of this study is relying on self-report for all of the measures used. Self-report can be inaccurate for a number of reasons, including exaggerating responses and forgetting. Specifically on the TLFB, accurately remembering which acts were performed on which days for the past month may have been difficult for some participants. Some participants may have therefore over- or underestimated their sexual behaviors. Others may have purposely given inaccurate responses in order to avoid judgment from the researchers. A final limitation of this study was the criteria for participants to have been recent alcohol drinkers. Alcohol use is associated with greater sexual activity (Wells, et al., 2010), so this could be a reason participants reported more sex acts. Therefore, these findings cannot be applied to emerging adults who do not drink alcohol.

Furthermore, some participants reported zero sex acts in the 30-day time period. Future research should examine this relationship using a zero-inflated Poisson regression for whether participants had sex or not as well as the count data of how many sex acts in which they engaged.

Despite these limitations, these results spark even more questions. Future research should be done to further investigate the relationship of sexual identity exploration and sex. Implications for having higher sexual identity exploration resulting in less sex could be taken in

the context of not finding suitable and accepting romantic and sexual partners which can have a negative emotional impact on those who explore more with their sexuality. On the positive side, engaging in less sex puts one at decreased risks of the many possible unwanted outcomes of sex.

Many people may be afraid or ashamed to engage in relationships and sexual activities outside of heterosexual male-female relationships due to others' negative attitudes towards the LGBT community. Sharing the findings of this study may show that exploring with other sexual identities may not be as bad as one perceives it to be. This can help youth develop their sense of self and not be ashamed of who they believe they truly are.

The results of this study should be shared with educators and counselors who regularly work with children, adolescents, and/or emerging adults to give them insight on the sexual attitudes and behaviors of the population they work with, which can then help them serve these populations. Counselors, for example, could help young people begin to identify themselves in terms of their sexual identity. This can help them think about possible attractions outside of expected heterosexual relationships. Understanding their sexual identity early on should help people be more committed to a sexual identity with less sexual orientation uncertainty. Having a clear sense of their sexual attractions and desires can help them make smart choices about initiating sex, engaging in sex without a condom, and having multiple partners.

Table 1
Demographic characteristics of the sample and difference by gender and sexual identity

	Full Sample (n = 303)		Gay/ Bisexual Men (n = 99)		Straight Men (n = 98)		All Women (n = 106)		X²	p
	n	%	n	%	n	%	n	%		
Race									12	0.06
White	148	48.8	41	41.4	45	46.9	62	58.5		
Black	36	11.9	18	18.2	7	7.3	11	10.4		
Latino	56	18.5	17	17.2	23	24	16	15.1		
Other	61	20.1	23	23.2	21	21.9	17	16		
Income									10	0.342
Less 20K	176	58.1	52	53.6	60	61.9	64	61.5		
20-39,999K	77	25.4	26	26.8	25	25.8	26	25		
40-74,999K	41	13.5	16	16.5	11	11.3	14	13.5		
75K +	4	1.3	3	3.1	1	1	0	0		
Education Level									22	0.001
High school	46	15.2	7	7.1	25	25.5	14	13.2		
Some college	70	23.1	32	32.3	22	22.4	16	15.1		
Current College	53	17.5	19	19.2	14	14.3	20	18.9		
4-year degree or more	134	44.2	41	41.4	37	37.8	56	52.8		
Age	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	F(2,300)	p
	23.6	2.87	24.07	2.879	23.66	2.69	23.1	2.96	2.984	.052

Table 2
Group differences on sexual attitudes and behaviors scales

	Gay Men		Straight Men		All Women		F(2,300)	p
	(n = 99)		(n = 98)		(n = 106)			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Permissiveness	34.98 ^a	7.39	36.21 ^a	7.17	30.99	8.69	12.604	<.001
Sexual Identity								
Exploration	88.29	13.27	78.43 ^a	14.68	83.11 ^a	14.50	11.691	<.001
Exploration	36.05	8.03	28.01	9.23	32.18	8.99	20.298	<.001
Commitment	28.97	5.45	28.33	5.58	27.61	5.58	1.547	.215
Synthesis	18.21	4.01	17.35	4.95	17.46	4.12	1.138	.322
Moratorium	8.13	1.65	8.06	1.80	8.46	2.23	1.241	.291
Total Sex								
Encounters in past								
30 days	6.37 ^a	9.63	11.18 ^b	15.33	8.23 ^{ab}	8.33	4.441	0.013

Note: Columns within the same row that have different superscripts differed significantly in post hoc analyses at $p < 0.05$

Table 3

Correlations among sexual identity exploration, permissiveness, and total number of sex act for gay/ bisexual males

	1	2	3
1. Sexual Identity Exploration	—		
2. Permissiveness	.245*‡	—	
3. Total Number of Sex Acts	0.166	0.14	—

** $p < 0.01$, ‡ Pearsons Correlation

Table 4

Correlations among sexual identity exploration, permissiveness, and total number of sex act for straight males

	1	2	3
1. Sexual Identity Exploration	—		
2. Permissiveness	.189‡	—	
3. Total Number of Sex Acts	-0.045	-0.084	—

** $p < 0.01$, ‡ Pearsons Correlation

Table 5

Correlations among sexual identity exploration, permissiveness, and total number of sex act for females

	1	2	3
1. Sexual Identity Exploration	—		
2. Permissiveness	.309**‡	—	
3. Total Number of Sex Acts	0.065	-0.033	—

** $p < 0.01$, ‡ Pearsons Correlation

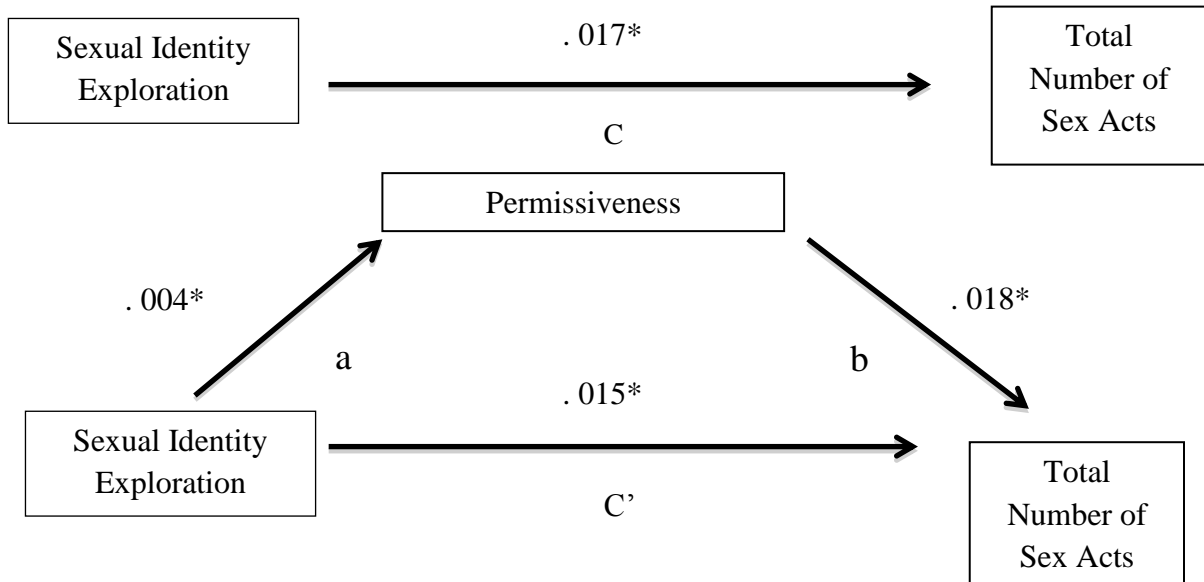


Figure 1. A three-variable mediation model for gay/bisexual males. A: The direct effect model for sexual identity exploration and total number of sex acts. B: The mediation model with permissiveness as a mediator between sexual identity exploration total number of sex acts. [Unstandardized path coefficients are shown] $*p < 0.01$.

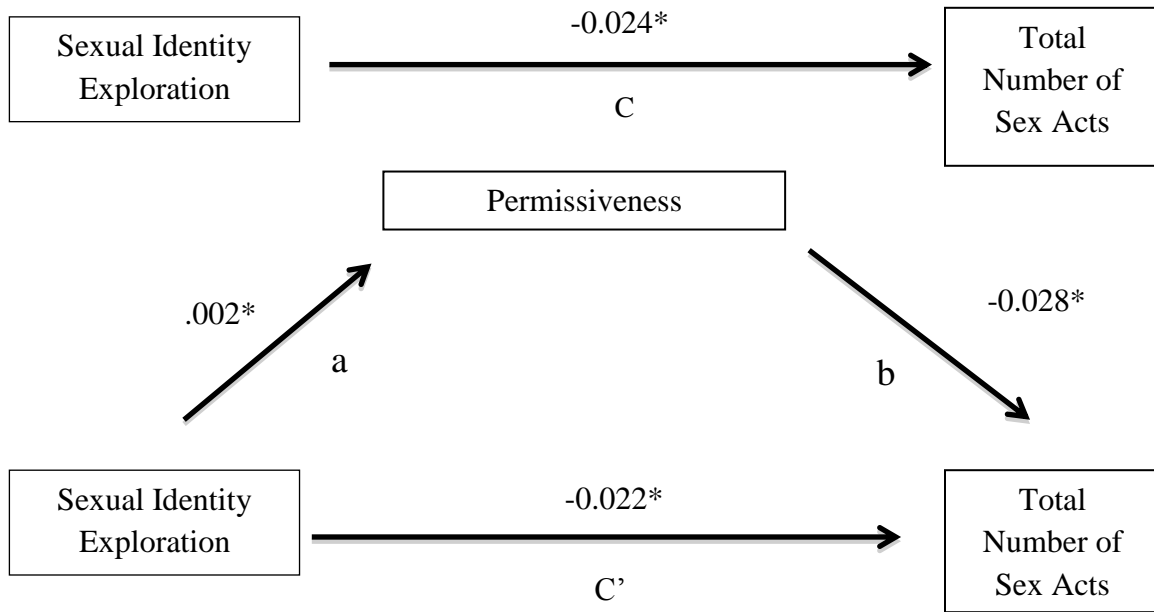


Figure 2. A three-variable mediation model for straight males. A: The direct effect model for sexual identity exploration and total number of sex acts. B: The mediation model with permissiveness as a mediator between sexual identity exploration total number of sex acts. [Unstandardized path coefficients are shown] $*p < 0.01$.

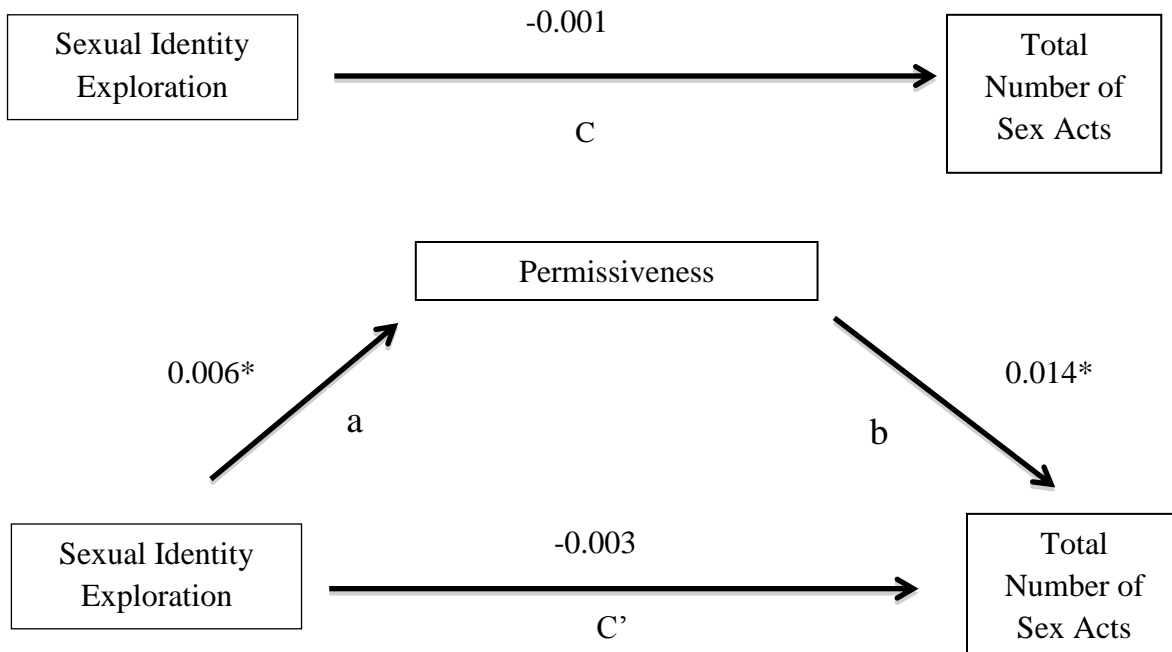


Figure 3. A three-variable mediation model for females. A: The direct effect model for sexual identity exploration and total number of sex acts. B: The mediation model with permissiveness as a mediator between sexual identity exploration total number of sex acts. [Unstandardized path coefficients are shown] * $p < 0.01$.

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