#### ABSTRACT

Title of Thesis:	SEX, CRIME, AND SELF-CONTROL: COMPARING OUTCOMES OF LOW SELF- CONTROL FOR HETEROSEXUAL AND GAY/BISEXUAL MEN
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**Objective:** The purpose of the current thesis is to further explore Gottfredson and Hirschi's General Theory of Crime by examining adult outcomes of low self-control in a heterosexual and gay/bisexual sample. It argues that self-control in these populations is differentially related to outcomes of violent crime and analogous behaviors, which contradicts the general nature of the theory. **Methods:** The current study uses self-reported measures in the Adolescent Longitudinal Study of Adolescent to Adult Health (Add Health) for self-control (Wave 3) to examine outcomes of violent crime and risky sexual behavior (Wave 4). Risky sexual behaviors in this study are conceptualized as number of different sexual partners, sex without prophylactics, or sex with more than one person around the same time. Men are the primary focus of this thesis due to the presence of culturally and socially specific factors in the heterosexual and gay male community that could differentially affect the outcomes of interest. **Hypothesis:** I hypothesize that both the relationship between low self-control and violent crime and low self-control and

risky sexual behavior will differ based on the sexual orientation of the respondent. To frame this hypothesis, I argue that the gay male subculture is more openly accepting of risky sexual behaviors, and therefore that this analogous behavior will be less related to self-control in gay populations. I also argue that heterosexual masculinity facilitates violent behavior/crime within heterosexual men, meaning that self-control plays a larger role in controlling urges in this group. **Results:** Differences in the association between self-control and risky sexual behaviors were found between heterosexual and gay/bisexual men indicating support for the hypothesis. Differences in the relationship between self-control and violent criminal activity in the two groups were not found in the tested samples. These findings provide evidence that Gottfredson & Hirschi's theory may not be generalizable for analogous behaviors in all populations, but that it still may hold for violent crime.

Keywords: Self-Control, Crime, Sexual Behavior, Add Health, Gay

# SEX, CRIME, AND SELF-CONTROL: COMPARING OUTCOMES OF LOW SELF-CONTROL FOR HETEROSEXUAL AND GAY/BISEXUAL MEN

by

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Thesis submitted to the Faculty of the Graduate School of the University of Maryland, College Park, in partial fulfillment of the requirements for the degree of Master of Arts 2022

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## Dedication

I dedicate this thesis to my family and my wonderful dog, Stella. Their love and support are what keep me going.

#### Acknowledgements

I would firstly like to thank my chair, Dr. Laura Dugan, for her unending patience, support, and mentorship throughout my graduate journey. She went above and beyond in what is expected as a chair, and I am eternally grateful to know such an amazing scholar and person. Furthermore, I would like to acknowledge my committee, Dr. Greg Midgette and Dr. Lauren Porter, for their insights, time, and energy. I can truly say that I am proud of this thesis thanks to the attention given by these three individuals.

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#### **Chapter 1: Introduction**

Gottfredson & Hirschi's (1990) general theory of crime (also known as selfcontrol theory) still captivates researchers three decades after its inception. Since 2017, their seminal work has been cited almost 5,000 times. Tests of self-control theory can still be found across an array of journals in criminology where the theory is applied to newly captured populations and emergent crime types (Baek, 2018; Holt & Steinmetz, 2020; Kabiri et al., 2021; Pyrooz et al., 2021; Vazsonyi et al., 2021). As others have pointed out, the theory has not undergone noticeable change since its release despite the thousands of publications on the topic (Burt, 2020; Piquero & Rocque, 2020). This thesis explores possible assumptions that result from applying the theory to a sexual minority group without proper consideration of social context.

Gottfredson and Hirschi's (1990) self-control theory explains all crime as an outcome of low self-control and criminal opportunity. They state that low self-control manifests itself in deviant behaviors other than crime, some illicit and others not. Deviant behaviors other than crime are labeled as "analogous acts". The most commonly considered analogous acts are drinking, gambling, drug abuse, motor vehicle accidents, and risky sexual behaviors (Gottfredson & Hirschi, 1990; Paternoster & Brame, 1998). Gottfredson and Hirschi's general theory has garnered much empirical support (DeLisi & Piquero, 2011; Engel, 2012; Pratt & Cullen, 2000; Vazsonyi et al., 2017). Further, the theory has been shown to be valuable when examining delinquency and crime on diverse populations, supporting their original claim that self-control's effect is invariant across populations of different backgrounds (Arneklev et al., 1999; Koeppel, 2015; Vazsonyi & Crosswhite, 2004; Wolfe, 2015). Although the theory has been applied to general populations across the world, sexual orientation is rarely considered.

There is reason to believe that the general theory of crime may not apply to gay and bisexual (GB) men<sup>-1</sup> in the same way that it does to heterosexual men due to different norms of behavior in these groups. This thesis argues that heterosexual masculinity endorses acts of violence and is exclusionary of GB men, meaning that the drive to violent behavior should be stronger in heterosexual men overall. Because each person has an equal legal disincentive against violence, self-control should predict whether someone acts on these behaviors. This should therefore mean that self-control is more related to the expression of these behaviors in heterosexual men because this population is socialized towards violence at higher rates. This thesis also argues that GB men are more accepting of risky sexual behavior irrespective of levels of self-control due to learned norms of sexual behavior. This should mean that the relationship between self-control and risky sexual behavior is lower in GB men when compared to heterosexual men because self-control is only necessary in preventing socially/legally undesirable behavior.

Risky sexual activities/behaviors in the context of self-control theory are usually defined as a comparatively high number of sexual partners, multiple sex partners within a specified timeframe, sex while under the influence of drugs/alcohol, sex with strangers, or sex without prophylactics (Hope & Chapple, 2004; Jones & Quisenberry, 2004; Magnusson et al., 2019; Paternoster & Brame, 1998). The studies relying on these definitions have found that self-reported measures of low self-control

<sup>&</sup>lt;sup>1</sup> "GB" is used in this thesis to encompass gay and bisexual identifying people

can predict engaging in risky sexual behaviors in nationally representative general samples, college students, and adolescent males. This suggests that the relationship between low self-control and outcomes of risky sexual behaviors is robust. Despite this, no study has considered whether this relationship is robust in a sample of gay and bisexual (GB) men.

Still, the relationship between low self-control and deviance (violent and nonviolent crime, drug usage) has been noted in GB samples (Koeppel, 2015; Rukus et al., 2017; Zavala, 2017), which is in accordance with Gottfredson and Hirschi's (1990) general theory. Only two studies have included measures of violent behavior (assault and intimate partner violence respectively) in their comparisons (Koeppel, 2015; Zavala, 2017). Both studies found that the effect of low self-control on the studied violent outcome significantly differed between their heterosexual and nonheterosexual samples, with heterosexuals having a stronger relationship. Although there is more research from a public health perspective on the prevalence of risky sexual and violent behaviors in LGBT populations, self-control is not considered (Loosier & Dittus, 2010; Salvatore & Daftary-Kapur, 2020; Smalley et al., 2016). If we follow the original logic of Gottfredson and Hirschi (1990), we expect a person's sexual orientation to be independent of the relationship between levels of self-control and outcomes of delinquency/crime or risky sexual behaviors. However, the context in which sexual behavior occurs in GB men and the context of violence in heterosexual men is oftentimes different from heterosexual men due to cultural differences and gendered dynamics.

Previous work has highlighted differences in delinquency, both violent and non-violent, between heterosexual and homosexual boys with heterosexual boys showing an increased risk for delinquency and substance use problems (Beaver et al., 2016; Ellis et al., 1990; Udry et al., 2002). Furthermore, the gap in delinquency is largest between the two groups when considering only violent crime (Beaver et al., 2016). These differences in violence are generally explained through different levels of endorsement of opposite sex-typed behaviors, with homosexual men endorsing feminine behavior/attitudes at higher rates than their heterosexual counterparts (Lippa, 2008; Sandfort, 2005) Violence and aggression are often described as prototypical masculine behavior and endorsed at much higher rates in heterosexual men (Bozkurt et al., 2015).

Masculinity is generally described as self-reliance, ambitiousness, competition, and aggression (Bozkurt et al., 2015). Violence enacted by men is generally seen to reinforce feelings of masculinity and perceptions by others that a person is a "real man" through the subordination of another (Franklin, 2017). The social image of a criminal is also one that is highly masculine. The violent criminal identity and masculinity are highly interrelated; they both are expressed through aggression and a drive for achievement (Mcfarlane, 2013). This form of masculinity is heteronormative and excludes gay men due to perceptions that they are feminine, relegating masculinity expressed by gay men into a "marginalized masculinity" (Mcfarlane, 2013, p. 324). These alternative forms of masculinity therefore do not share the same values as the hegemonic form of masculinity dominated by heterosexual men. This point is even demonstrated in samples of males as young as 10, where those who demonstrated the most aggressive and domineering behavior in school were the most likely to partake in heterosexual relationships (Pellegrini & Bartini, 2001). Beyond separate expectations of behavior around violence and masculinity for heterosexual men, GB men experience different norms around sexual behavior.

Members of the gay community have often engaged in sexual activities as a way to meet others and participate in gay social spaces (Grov et al., 2014). Places such as bathhouses and public restrooms have historically served as safe spaces for these men to explore their sexuality without risking hostility from others (Grov et al., 2014; Laud, 1970). Due to heterosexual gender dynamics not present in homosexual dyads, sexual activities between men and women are further complicated by societal stigma and beliefs. Women are taught that there is an inherent power dynamic where males possess insatiable sexual drive, and women must act as gatekeepers or have their morality and purity questioned (Hollway, 1984). Whereas heterosexual sex can involve negative feelings for women to overcome (Trinh, 2016), gay sexual activity can serve as an affirmation of community connection for the marginalized.

These differences in cultural expectations and beliefs are also related to the sociological concept of the construction of deviance. While this area of sociology receives less attention now than it did in the middle of the 20<sup>th</sup> century, it was the first to highlight the unique context of the interactions of participants in the gay subculture. This thesis takes inspiration from these seminal pieces describing the earlier sexual subculture of the gay community, generally centered around the usage of public bathrooms and bathhouses (Dank, 1971; Laud, 1970; Weinberg & Williams,

1975). The framing of this thesis borrows from this literature while also attempting to avoid the stigma perpetuated in the construction of deviance literature. This is better explained by Woods (2014) in his homosexual deviancy theory, where previous literature in this area has had the effect of "othering" the gay population, likely due to researchers not sharing the same identity as the subjects they write about. Still, the ideas generated by these researchers describing the subculture of gay sexuality help to frame and inform the motivations of this thesis.

This thesis addresses how low self-control relates to violent crime and one analogous outcome, risky sexual behaviors, in heterosexual and GB men. I hypothesize that low self-control will be a better predictor of violent crime for heterosexual men than for GB men due to an increased presence of violent attitudes/behaviors inherent in heterosexual masculinity. This association with violence and masculinity is not as strong in GB men, making self-control less relevant and necessary in preventing violence. Regarding risky sexual behavior, I hypothesize that low self-control will be a worse predictor for GB men than heterosexual men due to the presence of a culture that is much more accepting of these activities. Because of this, GB men do not need to exercise self-control to resist sexual activities because the broader culture does not chastise them for partaking in them. To test this research question, I use the National Longitudinal Study of Adolescent to Adult Health. The analysis makes use of the longitudinal format of this dataset to examine if self-control measured in the third wave can predict these outcomes at a later wave.

#### **Chapter 2: Gottfredson and Hirschi's Self-Control**

Gottfredson and Hirschi's (1990) *A General Theory of Crime* brought the concept of self-control into the center of criminological debate arguing that low self-control is related to deviant behaviors, illegal (criminal) or not. Their theory posits an interaction effect between low self-control and criminal opportunity. They argue that people with low self-control do not have the ability to delay gratification and are generally "impulsive, insensitive, physical, risk-taking, short-sighted, and nonverbal" (Gottfredson & Hirschi, 1990, p. 90). These traits therefore express themselves through criminal activity and other legal but illicit behaviors, which the authors coined "analogous acts" (p. 90). This thesis focuses on violent crime and the analogous act of risky sexual behavior.

Gottfredson and Hirschi (1990) argue that self-control is a stable trait beyond the age of nine that is molded through parental disciplinary action of the child in response to antisocial behavior. They state that the relative value of self-control remains consistent with age (stability), the relationship between self-control and deviant acts can be applied equally across all populations (invariance), and that selfcontrol is a unidimensional construct (1990). Although there is inconsistent support for the claim that absolute levels of self-control are stable, there is support for the claim that relative levels of self-control remain consistent over time (Hay & Forrest, 2006; Jo & Bouffard, 2014; Vazsonyi & Ksinan Jiskrova, 2018). The invariance postulate has also garnered considerable support showing that the theory can be applied equally across different racial groups, cultures, and genders (Vazsonyi et al., 2001; Vazsonyi & Crosswhite, 2004; Wolfe, 2015). Research investigating the dimensionality of the construct is the least clear, with some arguing for a unidimensional construct and more recently others arguing for its multidimensionality (Conner et al., 2009; Piquero & Rosay, 1998; Ward et al., 2015).

Despite disagreement on some of the theory's propositions, there is broad and reliable support for the theory's central claim that self-control is related to crime and an array of deviant behaviors (DeLisi & Piquero, 2011; Engel, 2012; Pratt & Cullen, 2000; Vazsonyi et al., 2017). The theory is able to explain forms of violent crime such as assault and homicide (Piquero et al., 2005; Vazsonyi et al., 2001), property crimes such as burglary (Longshore, 1998), and specific forms of offending such as intimate partner violence and fraud (Holtfreter et al., 2010; Sellers, 1999). Beyond criminal activity, self-control is able to account for many forms of deviance including gambling (Paternoster & Brame, 1998), academic fraud (Reisig & Pratt, 2011), and lying (DeBono et al., 2011).

As previously mentioned, heterosexual men report the greatest amount of violent behavior compared to other sexual orientations (Beaver et al., 2016; Ellis et al., 1990; Udry et al., 2002). The relationship between violent crime and heterosexual levels of self-control has not been studied thoroughly. Koeppel (2015) finds that low self-control is related to an increased rate of assault in a heterosexual sample while the same was not seen in the non-heterosexual sample (primarily lesbian, gay, and bi-identifying individuals). Because there is no evidence of differences in self-control between the two populations (Koeppel, 2015; Zavala, 2017), another explanation for differences in violence between heterosexuals and GB must be posed.

One plausible explanation for the heightened rate of violent crime in heterosexual men relates to the endorsement of masculine values. Heterosexual men across multiple western nations are seen to self-report higher levels of masculine behaviors, personality, and occupational choices when compared to gay and bisexual men (Lippa, 2008). Furthermore, the differences are substantial and endure from youth into adulthood suggesting that there may be a mix of biological and social factors (Bailey & Zucker, 1995; Lippa, 2005). Heterosexual men are also seen to suffer heavily from failing to live up to masculinized norms, especially rejection from women, and sometimes report fantasies of violence against women in response (Scaptura & Boyle, 2020). Masculine expression is still important to many gay men, but this form of masculinity is different from that experienced by heterosexual men and relegated to a marginalized position (Mcfarlane, 2013). For gay men, the consequences of failing to live up to these norms are not normally expressed through violence, but instead through internalized homophobia and distancing from perceived feminine gay men (Hunt et al., 2016).

Some have argued that homophobia and the exclusion of gay men is a central component of heterosexual masculinity. This exclusion is based on the incorporation of the sexual desire of women into the definition of manhood, thereby relegating same-sex attraction to "sissies" (Kimmel, 1997). Forms of violence, especially when enacted against those seen as less masculine (gay men and heterosexual women), help to solidify heterosexual masculinity as the hegemonic form of masculinity (Franklin, 2017). In this way, oppression through violence becomes the signifier of what it means to be a true man. Research has also found that those most strongly identifying

with masculine values were seen to carry the strongest homophobic attitudes (Diefendorf & Bridges, 2020). In conclusion, a defining feature of heterosexual masculinity is the use of violence. Men attracted to the same sex are excluded from this definition of masculinity because sexual attraction to women is a feature of what it means to be a "man" under this conceptualization. Because violence is central to heterosexual masculinity, we would expect that heterosexual men with low levels of self-control would be more likely to express these urges through violent crime and those with high levels of self-control would be able to suppress these urges. GB men are excluded from this masculinity and therefore we would not expect a relationship between low self-control and violence in this group.

This thesis acknowledges that the general theory of crime argues for the importance of opportunity in examining illicit behavior. Gottfredson & Hirschi (1990) originally argued that crime and analogous behavior are a result of the combination of low self-control and opportunity, but the usage and measurement of this construct has been heavily criticized (Geis, 2000; Paternoster & Brame, 1998). However, it seems unlikely that opportunity to commit violent crime would vary between heterosexual and GB men, so this will only change outcomes if levels of low self-control differ between the two groups. Generally, opportunity is not discussed in the context of analogous acts because it is assumed that people have abundant opportunity to commit these acts (Longshore, 1998). Violence is usually conceptualized in a similar way because any able-bodied person can commit violence against another person (Grasmick et al., 1993). Although, opportunity has been seen to relate to outcomes of violent behavior in youth when considering unsupervised socializing with peers (Lagrange & Silverman, 1999), but the age of respondents examined in this thesis are all 24 or older. Due to gender differences in the composition of heterosexual and GB dyads, it may be that GB men have more opportunity to have sex. Although, this may not be the case due to there being much fewer GB men than women. Despite this, the proposed thesis is primarily interested in the main effect of self-control on outcomes of violent and sexual behavior. Opportunity and self-control are independent in all but a few rare exceptions in which access to opportunity requires higher levels of self-control, such as in white-collar crime (Gottfredson & Hirschi, 1990).

Still, opportunity for the analogous behavior of risky sexual behavior may especially affect the GB sample in the current analysis. Heterosexual partners are much more abundantly available than gay partners, with lesbian, gays, and bisexuals comprising 3.5% of the US (Gates, 2011). Because of these population differences, opportunities for sexual partners may already be lessened due to the decreased chance of meeting someone of the same sexual orientation, let alone them being interested. Furthermore, gay men have been noted to congregate in certain locations across the United States, especially in metropolitan areas (Black et al., 2000). Black et al. note that at the time of their study, 60% of partnered gay men lived in 20 major US cities. Due to this, one could argue that cities provide increased opportunities to their residents. The Add Health data does not allow for us to parse the data to this degree because we do not have precise locations, so this is a limitation that must be acknowledged. Despite possible differences in opportunity for sexual behavior, violent crime should be more robust to this issue. Violent opportunities are primarily considered in the context of target availability (Grasmick et al., 1993), which I have no reason to believe will differ between the heterosexual and GB men. Furthermore, violence is an unskilled act which means that there are no barriers to entry to these behaviors as has been noted with white-collar crime (Gottfredson & Hirschi, 1990).

Risky sexual behaviors were not well defined in Gottfredson and Hirschi's (1990) original book, where they mostly refer to "illicit sex", but researchers generally classify sexual behaviors as "risky" when it involves unprotected sex, sex with strangers, sex under the influence of substances, or a high number of sexual partners (Curry et al., 2018; Dir et al., 2014; Love, 2006; Magnusson et al., 2019). These same studies have demonstrated a robust relationship between low levels of self-control and risky sexual practices in general samples of adolescents and adults. Furthermore, outcomes of criminal behavior and number of sexual partners (among other analogous behaviors) have been shown to be related to self-control in a sample of heterosexual young men (Paternoster & Brame, 1998). Although their analysis included aggravated assault in the criminal behavior outcome, its relationship with low self-control was not parsed out in the study.

Although the relationship between self-control, crime, and analogous outcomes has been examined for general populations (Jones & Quisenberry, 2004; Paternoster & Brame, 1998), there is much less research in this area specifically on LGBT people. The few studies that have examined self-control and crime among non-heterosexuals have found that self-control (measured through the Grasmick scale) is differentially related to violent criminal outcomes in this population, but the scope of violence examined in these analyses is limited (Koeppel, 2015; Zavala, 2017). Furthermore, Rukus et al. (2017) found that drug use is related to low selfcontrol in heterosexual populations, but not in LGBT populations. This difference suggests that Gottfredson and Hirschi's general theory of crime is heteronormative and might not be generalizable to LGBT groups.

Hirschi & Gottfredson have argued for the invariance of the relationship between low self-control and deviance across all individuals (1990). In fact, this proposition has been supported across international cultures (Vazsonyi et al., 2001; M. W. M. Williams et al., 2007) and different US racial groups (Arneklev et al., 1999; Vazsonyi & Crosswhite, 2004). Most likely due to a lack of data availability in the past, studies examining self-control in sexual minority communities are sparse. This research aims to address this gap by applying the general theory of crime to violent criminal outcomes and the analogous act of risky sexual behavior in GB men. Heterosexual male masculinity encourages the expression of violence as integral to a male identity, whereas GB men are excluded from this form of masculinity due to their romantic interests in the same sex. Therefore, the thesis should find that heterosexual men are more willing to engage in violence irrespective of self-control. The theory may not apply well to GB men due to sexual behavior in the gay community arising from a different context and satisfying different needs than heterosexual men. Further, men in general face fewer psychological barriers to sex when compared to women. Thus, GB men may find that their partners are more willing to engage in sex. The next section elaborates further on the ways that GB spaces uniquely promote and normalize sexual behaviors.

### **Chapter 3: Cultural Differences in Gay Spaces**

A distinct gay subculture emerged in the United States in the early 1960s, defined by increased visibility, political activism, and the creation of gay social spaces (political clubs, bars, and neighborhoods among others) (Herdt, 1992). Along with the creation of public spaces, existing spaces sometimes became repurposed for discreet sexual exploration among members of the community and curious heterosexual-identifying men (Laud, 1970). The chosen locations were generally lowtraffic public bathrooms, saunas, bathhouses, gyms, or parks (Akers, 1985). These locations served as informal places of gathering for gay and curious men to meet members of the community and explore their sexuality discreetly without public ire. While heterosexuals are able to explore their sexuality and meet potential partners in public institutions, such as high school, sexual minorities have historically been unable to do so due to discrimination and bullying (Pearson, 2018; Williams et al., 2003). During the first decade of the 2000s, the use of these physical spaces by gay men heavily declined due to the advent of the internet (Grov et al., 2014). The internet has continued to facilitate risky sexual behavior for gay men due to its increased efficiency in helping gay men meet others in the community (Horvath et al., 2008). In 2008, when the data for this analysis was collected, the internet was the primary means for young gay and bisexual men to meet one another, and this was often for sexual encounters (Grov et al., 2014).

Although the spaces in which GB men meet each other have changed over the decades, the use of these spaces to facilitate sex is still common. Hirschi and Gottfredson's (1990) general theory of crime would lead us to conclude that those

participating in this behavior would have a lower level of self-control. The difficulty with this claim is that previous literature, although sparse, has shown that levels of self-control do not differ between heterosexuals and non-heterosexuals (Koeppel, 2015; Zavala, 2017). If Gottfredson and Hirschi's theory is applicable to GB men, we would expect that these risky sexual behaviors would only be seen in a subset of GB men, but we know that these behaviors are common among this group (Grov et al., 2014) To understand why low self-control may not be a primary driver for risky sexual behavior of GB men, we must first explore facets of the gay subculture that make it unique.

When a GB person is introduced to gay culture and behaviors, they are exposed to a new set of gay norms through increased interaction with members of the community. This primarily happens in defined gay spaces such as bars where older members will mentor or educate those new to the culture (Hooker, 1967). Further, they are taught definitions contrasting with dominant heterosexual culture, such as non-monogamy, sexual behaviors, and social identifiers (Hooker, 1967). Being around members of the gay community creates opportunities for imitation of behavior, including social signifiers (vocabulary, mannerisms) and sexual behaviors such as "cruising", which is searching for a casual sex encounter while at bars or in other public spaces (Akers, 1985). Social signifiers allow gay and curious men to tacitly communicate with each other in heterosexual spaces that they are a part of the same community, creating a sense of camaraderie.

The gay subculture also provides opportunities to partake in new activities and behaviors. One example of a space specific to the gay subculture are circuit parties, which are day or weekend-long parties with dancing as the primary activity (similar to a "rave"). Almost all participants in these activities use drugs, over two-thirds report having sex, and those partaking in both behaviors are more prone to having unprotected sex (Mansergh, 2001). Unprotected sex is a common behavior among GB men and has been researched heavily since the AIDS crisis (Adam, 2005; Halperin, 2007; Haubrich et al., 2004; Horvath,P., & Zuckerman, 1993; Shernoff, 2005; Zuckerman, 2007). Unprotected sex, or "bareback" sex, generally offers more pleasure for participants due to the lack of a barrier, which is the main reason respondents give for practicing this behavior (Adam, 2005; Klein, 2009). Although there are possible health consequences to unprotected sex, namely HIV and other STIs, people engaging in this behavior note that pleasure of sex is a guarantee while disease is a low probability event when considering a single encounter (Linville et al., 2015).

Those associating with members of the gay culture also learn different definitions of what type of interactions constitute risky sexual behavior. Definitions are not only how people define terms, but also a person's attitudes and rationalizations towards their behaviors (Akers, 1997). When talking about bareback sex, participants have sometimes reframed the behavior to be courageous or a form of masculine risk-taking because they are not afraid of contracting the "big bad bug", namely HIV (Carballo-Diéguez et al., 2006). The most common neutralization levied by participants is the idea that their sexual partner is individually responsible for their own decisions and safety, and that if they are choosing to engage in bareback sex then they have rationally weighed the benefits and consequences (Adam, 2005; CarballoDiéguez & Bauermeister, 2004). These neutralizations do not only function to increase prevalence of bareback sex, but sex in general through the discounting of possible consequences (Adam, 2005; Carballo-Diéguez & Bauermeister, 2004). Building from this idea that GB men still apply a cost and benefit analysis to risky sexual behavior, a possible critique of the proposed thesis is the idea that GB men hold different standards of what constitutes risky sexual behavior and that this standard is higher than for heterosexual men. If this were true, we should see that GB men have lower self-control on average due to their increased propensity for risktaking. Further, if we must recalibrate standards of risk to accommodate GB men under the theory, this is actually support for the main argument of the thesis. This would provide evidence against the theory's proposition that its effects are invariant across all groups. While there is a sect of men who eschew safer sex practices and partake only in bareback sex, mostly those who are already HIV positive, the majority of men fall somewhere in the middle with how often they use protection (Carballo-Diéguez & Bauermeister, 2004). Risk behaviors of GB men may increase over time as their interactions with members of the gay subculture continue. McGloin (2009) finds that peers' levels of deviancy converge over time to match one another. Relationships involving a heavily delinquent person and a non-delinquent person are generally unstable and attempt to bridge the gap. If we are to apply this process to the gay subculture, we can expect that those engaging closely with members of the subculture will change their own behavior to match that of their peers. Therefore, risky sexual behaviors may be a learned process outside of the scope of self-control

and are better explained by social processes in newly developed relationships as one is exposed to people with heightened tolerances for risk under the gay subculture.

Another possible explanation for the increased rate of risky sexual behavior is due to the gender of both parties in same-sex and opposite-sex dyads. Men from the ages of 15-35 are seen to increase risk behaviors (sex, crime, drug usage) during a period coined the "Young Male Syndrome" (Wilson & Daly, 1985). This increased tendency towards risk is corroborated by findings of male college students reporting higher numbers of sexual partners, higher numbers of sex with strangers, and less use of prophylactics (Poppen, 1995). Further, men have higher sex drives on average, making them more likely to seek out these activities (Baumeister et al., 2001). Due to the increased risk-seeking tendencies of young males, sexual activities in a same-sex dyad may simply arise from more congruent attitudes and definitions towards sex. Females generally report lower numbers of sex partners and increased usage of prophylactics (Poppen, 1995). These findings may be a result of female gender socialization where casual sex is generally frowned upon and females are seen as "sexual gatekeepers" (Poppen, 1995; Trinh, 2016). Unlike men who view casual sex as a "conquest" (Jozkowski et al., 2017), females tend to experience regret after having casual sex (Eshbaugh & Gute, 2008; Fisher et al., 2012).

To summarize, gay culture has a rich history of casual sexual behaviors that has arisen naturally over time unrelated to self-control. GB men are exposed to new standards of acceptable behavior by associating with members of the gay culture, making risky sexual behavior more likely and justifiable. The gender differences involved in an opposite-sex dyad also create a mismatch in sexual definitions, which supports negative feelings about casual sex after the encounter. Thus, females and males experience sexual reinforcement in different ways and men are subjected less to these consequences (Fisher et al., 2012). Due to the differences stated above in the gay sexual subculture, this thesis argues against the idea that Gottfredson & Hirschi's (1990) self-control can be invariantly applied to the population.

## **Chapter 4: Hypotheses**

To set the stage for hypothesis testing, I first compare levels of self-control across heterosexual and GB men to confirm that the two groups do not differ. To my knowledge, there are no studies showing a significant difference between self-control across sexual orientation. There are a limited number of studies on this topic, but those that have examined this relationship show no significant differences between heterosexual and non-heterosexual self-control (Koeppel, 2015; Zavala, 2017). Further, self-report measures of self-control have been successfully employed to predict criminal behavior in college students among heterosexual and nonheterosexuals, with reported effect sizes not varying in magnitude (Koeppel, 2015). Considering these findings, I have no compelling reason to expect any significant differences in levels of low self-control.

In accordance with previous findings on the topic, I anticipate increased rates of violent behavior to be seen in the heterosexual sample (Beaver et al., 2016; Ellis et al., 1990; Udry et al., 2002). Although no mechanisms are directly tested in this thesis, the most posed arguments for this relationship are based around masculine ideals of violence. These ideals are endorsed most often by heterosexual men rather than GB men (Lippa, 2008). Still, violence in most cases yields consequences for the actor, meaning that each person has an equal incentive to not act on their urges. Due to masculine norms of violence in heterosexual men, I expect to find that self-control will play a stronger role in determining if a heterosexual man is violent when compared to GB men. It is still plausible that self-control may have a weaker relationship to heterosexual men's violence because violent behavior is in accordance with their masculinity. Heterosexual men may therefore feel less of a need to suppress violent behaviors, whereas GB men still feel a pressure to suppress violent behavior because it does not fit definitions of masculinity for this group. Given that these opposing arguments are both tenable, a two-tailed hypothesis leaves room for either.

H1: The relationship between low self-control and criminal behavior will be different when comparing heterosexual to GB men.

The second hypothesis relates to risky sexual behavior in the GB population. I hypothesize that risky sexual behavior in GB men is driven by factors other than low self-control. Due to learned behaviors and definitions from the broader gay culture, GB men will be more likely to engage in casual sex. Previous work has shown that bisexual men tend to be more similar in attitudes to gay men (Lippa, 2008). Further, two men will have shared attitudes about sex that make it easier to facilitate when compared to a male and female dyad (Fisher et al., 2012; Jozkowski et al., 2017). Therefore, it is possible that low self-control will be a greater predictor for outcomes of risky sexual behaviors in heterosexual men. Still, it could be that self-control is more highly related to GB men's sexual activities because homosexual sexual behavior carries much greater risks compared to heterosexual sexual behavior, specifically through sexually transmitted disease (Glick et al., 2012). Because of the increased severity of consequences, self-control may feature a greater role in decision-making for GB men. The plausibility of a significant interaction effect in either direction leads us to consider this second hypothesis:

H2: The relationship between low self-control and risky sexual behavior will be different when comparing GB to heterosexual men.

## **Chapter 5: Data and Methods**

To analyze the hypotheses presented, I use the National Longitudinal Survey of Adolescent Health (Add Health). This dataset is nationally representative and has intentional oversampling of certain ethnic groups, siblings, adopted children, and people with disabilities (Harris, 2020). Previous research studying LGBT populations has made use of this dataset (Magnusson et al., 2019; S. T. Russell & Joyner, 2001; Sabia, 2014; Savin-Williams & Joyner, 2014) or have gathered their own data from adolescent and college samples (Koeppel, 2015; Rieger & Savin-Williams, 2012; Robinson & Espelage, 2011). Add Health is an appropriate dataset for this analysis because it includes specific self-reported information on the person's sexual orientation, sexual behaviors, and criminal behaviors.

Add Health is a longitudinal dataset with five waves, with the fifth wave having just been released. Collection began during the school year of 1994-1995 and interviews were conducted for 90,118 adolescents in grades 7-12 across 132 different high schools in the United States (Harris, 2020). Waves 2 through 5 were collected at the participant's homes, while Wave 1 data was collected in the respondent's school. For the thesis, I use Waves 3 and 4 of the data. Wave 3 of Add Health was collected in 2001-2002 (ages 18-26) and Wave 4 was collected in 2008 (ages 24-32).

#### <u>Variables</u>

The variables and their operationalizations used in this thesis can be seen in **Table 1** at the end of this section. The violent crime variety score dependent variable is comprised of 4 questions asking the respondent if they have participated in various kinds of criminal activity in the past year. The four questions comprising the score ask if the respondent "used or threatened to use a weapon to get something from someone," "took part in a physical fight where a group of your friends was against another group," "hurt someone badly enough they needed medical care," or "used a weapon in a fight." Although participants could report the number of times each of these incidences had occurred, most of the responses are zeros. Because of this, a variety score is most appropriate to use, and participants are coded as one if the incident occurred at least once in the previous 12 months. Therefore, if someone had committed all of these acts in the previous year, they would receive a score of 4 for this measure.

The second dependent variable in the analysis is related to risky sexual outcomes. This variable has three different operationalizations and all are featured as outcomes in separate models. The three questions all ask about the previous 12 months and are, "with how many partners have you had sex?" if the respondent has "used condoms as a method for birth control or disease prevention," and if the respondent has had sex with "more than one person at around the same time." The latter question seems to be ambiguous regarding how participants interpret "around the same time", so answers to this question will vary depending on each respondent's interpretation of "around the same time". It is unlikely that all respondents considered the same range when answering this question.<sup>2</sup> Magnusson et al. (2019) use two

<sup>&</sup>lt;sup>2</sup> To support this conjecture, I took an informal survey of male friends and family (n=8) and "around the same time" was interpreted in various ways ranging from a few hours to a month.

previously mentioned questions (not the question relating to condom use) as a measure of risky sexual behavior in their Add Health analysis but include another question asking if the respondent had paid for sex in the past 12 months. The incidence of this behavior is too low (approximately 1.5%) to use in a model given the sample size of GB respondents.

For the low self-control variable, I created a composite measure of 6 items from Wave 3. The appropriate questions were reverse coded so that higher values represent lower levels of self-control. Add Health includes 41 questions specifically related to personality from which these 6 items are derived. These 6 questions, and 14 others, were first compiled by Beaver et al. (2009a, 2009b) to examine self-control in Add Health. The 20-item measure includes items with questionable face validity for any domain of self-control. Examples of these questions include "You like yourself just the way you are.", "You never get sad or you felt sad.", and "You enjoyed life." Further, the five questions I first excluded possess a narrow timeframe (the previous two weeks) while the personality questions are in their own section and are assumed to be part of stable traits. The questions possessing a timeframe are part of the mental health section of Add Health and are meant to measure depressive symptoms. To confirm the appropriateness of the measure, exploratory factor analysis was completed for the 15 items using a varimax rotation. Of the 15 items, none possessed correlations higher than 0.6 and therefore none were dropped at this stage. To identify the number of factors, a scree plot was first created. The plot delineated two factors before leveling off. Parallel analysis was also implemented as a secondary means of identifying the number of factors to retain. This analysis identified 3 factors with

eigenvalues above what would be expected from random chance. To be conservative, factor loadings were compared when retaining two versus three factors. When three factors were retained, loadings were below the recommended cutoff (0.5) given for our small sample of GB males (Hair Jr. et al., 1998). After choosing two factors to retain, 6 of the original 15 items possessed loadings over 0.5. The first factor includes statements 1-4 and the second factor includes statements 5-6:

- "I change my interest a lot because my attention often shifts to something else."
- 2. "I often follow my instincts, without thinking through all the details."
- 3. "I can do a good job of 'stretching the truth' when I'm talking to people."
- 4. "I sometimes get so excited that I lose control of myself."
- "When nothing new is happening, I usually start looking for something exciting"
- "I often try new things just for fun or thrills, even if most people think they are a waste of time."

Although the summary statistics in this thesis show no difference in overall levels of self-control between the two samples, it is still possible that the self-control questions load onto different factors for each group. To confirm that the factors load the same for each group, the loadings were also calculated running the sample separately. The factor loadings for the full sample and separate samples can be seen in **Appendix D**. The loadings displayed in this table show that the questions loaded to the same factors across both groups, demonstrating consistency in the construct of self-control irrespective of sexual orientation. The first factor seems to be most closely related to Gottfredson & Hirschi's (1990) concept of impulsivity where they describe the inability to defer gratification. The fourth question lacks face validity in comparison to the other questions in the factor but may be related to an inability to control reactions to stimuli. This concept resembles Gottfredson & Hirschi's (1990) description of the same construct through the "simple gratification of desires", whereas a person with high self-control would be able to control outbursts. The second factor is explicitly related to risk-seeking behaviors, which is described by Gottfredson & Hirschi as those who seek activities that are "exciting, risky, or thrilling" (p. 89).

I used 5 control variables for the models. Descriptive statistics and independent sample t-tests for the variables included in the analysis can be seen in **Table 2**. The first two variables are related to the respondent's relationship status. There are four responses available for this question: single, dating, cohabitating, and married. Due to same-sex marriage being illegal in most states at the time of data collection, I collapsed "married" and "cohabitating" into a single variable. Therefore, married/cohabitating and dating are included in the models with single serving as the reference category. Still, heterosexuals are much more likely to be cohabitating/married when compared to the GB sample. Roughly double the percentage of heterosexuals report this arrangement (63.6% compared to 33.3%). Socioeconomic status of the respondent is controlled through a single variable created from four questions. These questions ask about the respondent's ability to meet all basic needs (electricity, rent, food, phone). The samples are not significantly different from each other in their inability to meet all four basic needs; 21.65% of
heterosexuals report being unable to meet all basic needs compared to 23.6% of GBs. Race is coded as a single binary variable and is equal to one if the respondent is black. Due to the sample size limiting the number of variables that can be used in the model, the inclusion of black as the only race in the model is used as a proxy for disadvantage. This is made clearer when looking at the final model for violent crime and seeing that being black is associated with a significant and moderate increase in the likelihood of perpetrating violent crime. Still, there are other factors beyond socioeconomic disadvantage that this covariate captures, such as cultural context, effects of discrimination, or neighborhood characteristics (VanderWeele & Robinson, 2014). Black people comprise 17.9% of the heterosexual sample and 20.0% of the GB sample. Most of the reference group is white, 57% for heterosexuals and 47% for GBs. Age is included as a control and is calculated from the time the interview took place. As expected, the mean age of the samples does not significantly differ from each other (28.5 for heterosexuals and 28.3 for GBs).

# Table 1

# Variables and Operationalization

Variables	Operationalization	Minimum Possible	Maximum Possible
Dependent Variables			
Violent Crime (Model 1)	Variety score created from 11 binary variables self-report questions about different criminal activity in the previous 12 months	0	4
Sexual Partners (Model 2)	The number of sexual partners the respondent reported having in the previous 12 months	0	œ
Multiple Sexual Partners (Model 3)	Binary variable indicating if the respondent stated they "engaged in sex with multiple partners around the same time"	0	1
Condom Usage (Model 4)	Binary variable indicating if the respondent stated that they had ever used condoms during any of their sexual encounters in the previous 12 months	0	1
Independent Variables			
Low Self-Control	Composite measure created from self- report questions taken during Wave 3. Questions are reverse coded so that higher scores are indicative of lower self-control	0	24
<b>Control variables</b>			
Relationship Status	Two binary variables denoting their current relationship status: married/cohabitating, dating	0	1
Age	Age of respondent at time of interview in Wave 4	24	32
Race	Binary variable indicating if the respondent is black or not	0	1

## **Chapter 6: Analysis**

I analyze the data in two different ways to assess the robustness of the results. In line with previous research, the first analysis includes separate models based on the respondent's reported sexual orientation (Koeppel, 2015; Zavala, 2017). Each group has a total of 4 models, one for the composite crime measure and one for each of the variables on risky sexual behaviors. Analyzing the models separately allows all coefficients to vary, and afterwards I compare coefficient estimates across the heterosexual and GB samples to see if the estimates have overlapping confidence intervals. These models serve as a sensitivity check to the preferred interaction models and can be found in Appendix E and F. The second method analyzes the data using one model while including an interaction effect for identifying as GB and the level of low self-control. Using this method, a significant interaction effect means that the groups differ on the model's outcome as a function of low self-control. Two of the outcome variables are count data, the criminal act variety score and the number of sexual partners. These variables are included in a Poisson model, which was changed to a negative binomial model due to overdispersion significantly affecting the Poisson estimates and yielding unprecise robust standard errors. Due to the small sample of GB men, the conditional variance is much greater than the conditional mean. Likelihood-ratio tests of alpha shows that all models, either the full sample or heterosexual and GBs, possess values significantly different from zero. The other two variables, "multiple sexual partners around the same time" and reported condom use, are binary variables that are included in a logistic model.

#### <u>Results</u>

In the final sample, there are 4,671 heterosexual male respondents and 165 GB male respondents. Proper weighting and clustering of the data was applied to the data following instruction from official Add Health documentation (Chen & Harris, 2020). To set the stage for the hypothesis testing, we first turn to the self-reported levels of self-control for heterosexuals and GBs. These scores, 9.8 (s = 5.7) for heterosexuals and 10.1 (s = 5.5) for GBs, do not significantly differ from each other when compared using an independent sample t-test (p = 0.59). Heterosexual men selfreported a mean of 0.43 (s = 0.77) violent crimes in the previous 12 months, while GB men reported 0.35 (s = 0.82), showing a non-significant difference between the two groups. For the number of sexual partners in the previous 12 months, heterosexual men report an average of 2.02 (s = 2.81) while GB men report an average of 5.05 (s = 8.06). 18.9% of heterosexual men and 38.1% of GB men report engaging in sex with "more than one person around the same time" during the previous 12 months. The final outcome measuring risky sexual behavior considers if the respondent never used a condom during any sexual encounter in the previous 12 months. For the 12-month timeframe, 40.5% of heterosexual respondents and 15.8% of GB men reported never having used a condom. On all outcomes of risky sexual behavior, the numbers for each group are significantly different at  $p \le 0.001$ . GB men report a significantly higher number of partners and a higher incidence of multiple sexual partners in the same time period, but they also report increased condom usage compared to heterosexual men. Results and t-tests for the entire set of variables can be seen in Table 2.

	Heterosexual $(n = 4,671)$			Gay or Bise	Gay or Bisexual (n= 165)					
Variable	Mean (or %)	Std. Dev.	Min	Max	Mean (or %)	Std. Dev.	Min	Max	t	р
Violent Crime Score (12 months)	0.35	0.77	0	5	0.35	0.82	0	6	0.06	0.949
<b>Risky Sexual Behaviors</b>										
# Sexual Partners (12 months)	2.03	2.90	1	56	5.05	8.06	1	75	-4.80	0.000**
Sex more than one person at around same time	18.9%		0	1	38.1%		0	1	-5.03	0.000**
Condom never used in the past 12 months	40.5%		0	1	15.8%		0	1	8.45	0.000**
Low Self-Control										
6-items	9.83	5.68	0.00	24.00	10.07	5.53	23.00	61	-0.56	0.57
Socioeconomic Status										
Unable to meet basic needs	21.65%		0	1	23.6%		0	1	-0.59	0.556
Individual Controls										
Age	28.53	1.80	24	32	28.32	1.68	24	32	1.53	0.127
Dating	19.9%		0	1	23.0%		0	1	-0.93	0.35
Cohabitating/Married	63.6%		0	1	33.3%		0	1	8.07	0.000**
Race (Black)	17.9%		0	1	20.0%		0	1	-0.66	0.506

# **Table 2** Summary Statistics of Full Sample

 $* p \le 0.05; **p \le 0.01$  (two-tailed)

The first hypothesis of this thesis is concerned with the effect of self-control on violent criminal outcomes for heterosexual and GB men. We would expect that heterosexual men with low self-control will have a stronger relationship with violent criminal outcomes than GB men due to heteronormative expectations of masculine behavior. If this were true, there would be a significantly negative beta in our interaction coefficient for low self-control and GB men. The results of this negative binomial regression are seen in **Table 3** below. After controlling for individual-level characteristics, this thesis did not find support for the hypothesis. Because violent crime was only measured through a single variable, the thesis did not find support for the first hypothesis that the effect of low self-control on violent crime would be different between heterosexual and GB men.

#### Table 3

#### Violent Behavior Model with Interaction Term

Negative Binomial Regression					
Violent Crime Score					
Variables	Incident Rate Ratio				
Low Self-Control	1.024** (0.0078)				
Gay/Bisexual	0.663 (0.310)				
Interaction Term					
Low Self-Control*Gay/Bisexual	1.023 (0.036)				
Individual Controls					
Age	0.981 (0.0253)				
Dating	1.138 (0.178)				
Cohabitating/Married	0.895 (0.128)				
Black	1.371** (0.154)				
Unable to meet basic needs	1.204 (0.127)				

\* $p \le 0.05$ ; \*\* $p \le 0.01$  (two-tailed).

Regarding the second hypothesis, risky sexual behaviors have been measured in three different ways in this thesis. The first logistic model measures risky sexual behavior as a function of whether the respondent reported having never used a condom during any of their sexual encounters in the previous 12 months. If the hypothesis is supported, we would expect a significant negative interaction effect for low self-control and identifying as GB, meaning that low self-control will have less of an effect on a GB respondent reporting never having used a condom in their sexual encounters when compared to a heterosexual respondent. This model did not find any significant difference between the groups and therefore did not lend support to the hypothesis.

The second logistic model still testing the second hypothesis on risky sexual behaviors considers the respondent outcome of having sex with "more than one person around the same time". If the hypothesis is supported, we would expect a negative interaction effect for identifying as GB and low self-control, meaning that having multiple sexual partners is less related to low self-control in GB men than it is in heterosexual men. The results of this model did not find any significant interaction effect and therefore did not lend support for any differences between heterosexual and GB men on this outcome. The results of this model and the previous logistic model are found in **Table 4**.

## Table 4

	Logistic R	Negative Binomial Regression		
	Sex with More than Reported Never			
	One Person	Using a Condom	# Sexual Partners	
Variables	<b>Odds Ratio</b>	<b>Odds Ratio</b>	<b>Incident Rate Ratios</b>	
Low Self-Control	1.045*	0.998	1.016**	
	(0.0104)	(0.009)	(0.0048)	
Gay/Bisexual	3.309*	0.219**	5.13**	
	(1.77)	(0.173)	(2.84)	
<b>Interaction Term</b>				
Low Self-	0.956	1.048	0.917*	
Control*Gay/Bisexual	(0.0413)	(0.062)	(0.0376)	
Individual Controls				
Age	0.97	1.12*	1.012	
	(0.028)	(0.03)	(0.0137)	
Dating	1.88*	0.85	1.13	
	(0.144)	(0.144)	(0.0886)	
Cohabitating/Married	0.417*	3.55*	-0.564**	
	(0.509)	(0.509)	(0.0424)	
Black	2.629	0.405*	0.408**	
	(0.372)	(0.053)	(0.064)	
Unable to meet basic needs	1.33*	1.13	0.0711	
	(0.139)	(0.139)	(0.053)	

Risky Sexual Behavior Models with Interaction Term

 $\overline{p \le 0.05; **p \le 0.01}$  (two-tailed).

The final model testing the second hypothesis examines the number of sexual partners within the previous 12 months. To test this hypothesis, I use a negative binomial model to accommodate the outcome being a count. If the model finds

support for this hypothesis, we would see a negative interaction effect between being GB and having low self-control. The results of the interaction in this model are significantly negative (p=0.037,  $\beta$  = -0.087). The results shown in **Table 4** above suggest an interaction effect of small magnitude, and the marginal effect of low selfcontrol on each sample can be seen in Figure 1. As can be seen in the figure, the confidence intervals for the heterosexual and GB samples do not overlap in the central values of low self-control. More interesting is that there is a downward trend in the GB regression line, while there is a small upwards trend in the number of partners for heterosexuals. The heterosexual regression line is exactly what one would expect following the logic of Gottfredson and Hirschi, i.e., lower self-control would equate to a higher number of partners. The regression line for the GB sample is the opposite of this with the number of partners slowly decreasing as low self-control increases. This finding in the interaction model is confirmed by running the models as separate samples as seen in Appendix F. The coefficient for the GB sample is significantly negative while the coefficient for the heterosexual sample is significantly positive.<sup>3</sup> The numbers presented show that GB men with high selfcontrol have significantly higher numbers of reported partners on average, but that this number decreases as low self-control increases. At the highest levels of low selfcontrol, the confidence intervals are overlapping for the two samples. The interaction effect is in support of the second hypothesis that low self-control is not related to GB

<sup>&</sup>lt;sup>3</sup> To confirm this finding, the difference in coefficients between the two samples was tested using a Paternoster test (1998). This test confirmed a significant difference in the coefficients (p=0.0044, t=2.85).

men's reported number of partners in the way that Gottfredson & Hirschi's selfcontrol theory would predict.





#### **Chapter 7: Conclusion**

This study is the first to examine Gottfredson & Hirschi's (1990) self-control theory in a sexual minority sample using risky sexual behavior as an analogous act of comparison. The data revealed no significant differences between levels of low selfcontrol between heterosexual and GB men, which is in accordance with previous studies instead using samples of college students (Koeppel, 2015; Zavala, 2017). The first hypothesis tested differences in the effect of low self-control on violent crime between heterosexual and GB men with the assumption that heterosexual men would have a stronger relationship due to their socialization experiences around masculinity. The data did not support the hypothesis and instead found no difference between the two groups. This finding is in accordance with Koeppel's (2015) analysis, where heterosexuals and non-heterosexuals did not differ in levels of self-control nor delinquency. Still, this analysis is in disagreement with other studies examining rates of delinquency across lesbian, gay, and bisexual samples (Beaver et al., 2016; Ellis et al., 1990; Udry et al., 2002). One possible explanation relates to the delineation of sexual orientations used in these analyses. The three studies finding a significant difference treated bisexuals as a separate category rather than grouping them with the gay sample, whereas this analysis along with Koeppel's (2015) analysis chose to group them together. These studies found that bisexuals had higher rates of overall delinquency than heterosexuals, but they were based on samples of approximately 20-50. These low sample numbers indicate the conundrum in treating gays and bisexuals separately where researchers are forced to choose between specificity and statistical

power. Bisexuals were approximately a third of the total GB sample, meaning that we would be splitting the sample to two even smaller groups making statistical analysis more difficult. Due to the limited number of bisexual and gay respondents in the Add Health data, future analyses should focus efforts on data collection in these populations. Koeppel's (2015) and Zavala's (2017) analyses are examples of this, but they lack the national representativeness that the Add Health data offers. Furthermore, there is limited research on offender motivations in this population. Sexual minorities may have different reasons for offending compared to their heterosexual counterparts due to different stressors faced by this population. Teasdale & Bradley (2020) find using Add Health that same-sex attracted youth were much more likely to carry and brandish weapons in school if they reported being mistreated in school. Strain caused by discrimination because of one's sexual orientation may be one pathway to crime unique to these groups. Future research will need to consider and compare the underlying processes that generate criminal outcomes in these populations.

The second hypothesis in the analysis is concerned with risky sexual behaviors and its relationship with low self-control in heterosexual and GB men. There were three separate models examining this outcome. The two logistic models testing lack of condom usage and having multiple sexual partners both yielded nonsignificant findings. In the context of the literature (Adam, 2005; Klein, 2009), it may be surprising to see that GB men reported much higher levels of condom usage in comparison to the heterosexual sample (40.5% and 15.8% respectively). I would

argue that there is a relatively simple explanation for this based around the relationship demographics of the two samples and the number of reported partners. Firstly, a much higher percentage of the heterosexual sample reports either cohabitating or being married to their partner (63.6% and 33.3% respectively), while the percentage of those dating is approximately the same. As expected, partners in committed relationships are much less likely to use condoms when compared to unfamiliar partners (Nasrullah et al., 2017). Secondly, because the question asks if the participant has ever used a condom in the previous 12 months as opposed to a percentage, we do not know the true percentage of times that respondents do not use a condom. Because we know that most GB men are not consistent in their use of condoms (Carballo-Diéguez & Bauermeister, 2004), it is likely that respondents with higher numbers of sexual partners will be more likely to report using condoms at least once in the past year as a function of probability. This issue is compounded by the fact that in the current dataset, GB men report over twice as many sexual partners on average. GB men reported a mean of 5.05 sexual partners in the previous 12 months compared to the heterosexual average of 2.03.

To further explore this issue, I ran another logistic model regressing on condom usage, but this time including the total partner count as an independent variable. These results are shown in **Appendix I**. In accordance with my argument, total reported partners in the previous 12 months was a significant predictor of having never used a condom (p=0.000, OR = 0.65). This finding means that as the reported partner count increases by one, the odds of having never used a condom in the previous 12 months decreases by approximately 35%. This result is quite large and demonstrates the issue with the Add Health data for this question: as one risky behavior increases (partner count), another risky behavior falsely appears to decrease (foregoing a condom during sex). This issue could have been resolved had Add Health asked the respondents about the percentage of times they had used a condom, as opposed to if they had ever used one in the prior year. While condom usage is arguably the most interesting and reliable measure of sexual risk tolerance, the measure in its current form does not allow us to parse out true incidence of this risk behavior.

The second logistic model measuring a respondent's claim of multiple sexual partners also did not yield significant results. This measure also has its own issues related to ambiguity in definitions of what "around the same time" is supposed to mean in the question. Twice as many GB men responded in the affirmative to this question compared to heterosexual men (38% compared to 19%). Aside from the ambiguous timeframe, the results of this measure may also be subject to the same probability issues that were present in the condom use question. If a respondent is reporting a higher number of sexual partners, it is more likely that at least two of the partners will be around a similar timeframe. Magnusson et al. (2019) used this question in their analysis of risky sexual behavior (not split by sexuality) and did find that this behavior could be predicted by early sexual debut, a predicting factor for future risky behavior in a respondent. Although, this question was used as one of

three outcomes in the same model, so it is unclear if it is a valid assessment of risk by itself.

The last outcome of risky sexual behavior examining the number of sexual partners did yield a significantly negative interaction, which is in support of the second hypothesis. This finding was also confirmed when running the heterosexual and GB samples separately showing that the model coefficients for low self-control did not overlap. The interaction effect, although small in magnitude, highlights that low self-control is not related to the number of sexual partners in GB men in the same way that it is in heterosexual men. Even more surprising is that when analyzing the groups in separate models, the effects are significant in the opposite direction, with low self-control being negatively related to the number of partners in GB men. Previous literature has supported a positive link between low self-control and the number of sexual partners that the average person reports (Hope & Chapple, 2004; Jones & Quisenberry, 2004; Magnusson et al., 2019; Paternoster & Brame, 1998), which reflects the heterosexual relationship found in the data for this thesis. Although, none of the cited studies included a construct for sexual orientation, meaning that it is possible that a GB effect was hidden by the majority heterosexual sample in these studies.

An unexpected finding in the data was the significantly negative relationship between the number of sexual partners and low self-control in the GB sample. This finding is displayed in the downward trend of the negative binomial regression line in **Figure 1** where the number of partners peaks at the lowest level of low self-control. One possibility for this explanation is that having high self-control makes someone more desirable as a sexual partner. High self-control is associated with better peer relationships, dating success, and social status (Paternoster et al., 1998; Vohs et al., 2011), which may also express itself through increased success in the sexual marketplace. The positive perceptions of high self-control have been reported to vary by context, but people still prefer friends and partners with high levels of self-control when asked generally (Röseler et al., 2021). In romantic relationships, partners with high self-control are able to better facilitate communication, are willing to accommodate more mistakes from their partners, and are able to better solve problems within the relationship (de Ridder et al., 2012; Vohs et al., 2011). Still, the lack of this finding in the heterosexual sample necessitates further exploration. A possible explanation for this finding could be that GB men consider different factors when choosing sexual partners compared to heterosexual women. Because same-sex behaviors carry heightened risk of disease (Glick et al., 2012), GB men may be more concerned with a potential partner's level of self-control as a proxy for perceived risk. A person with high self-control may be perceived to be a "safer" choice because they are less likely to make risky decisions. GB men have been seen to practice unique methods of partner selection, specifically around HIV. "Serosorting" is a common tactic employed where men select partners based on having the same HIV-status as themselves (Eaton et al., 2009). Serosorting is primarily practiced by GB men to provide a sense of security while having sex, generally without the use of condoms (Eaton et al., 2009). Therefore, they may also select partners whom they perceive to

have high self-control because it provides a sense of security. Still, more information is needed on the context of the interactions between sexual partners in the Add Health data before any conclusions can be drawn.

The idea that GB men may consider different factors or weigh them differently when choosing sexual partners draws from a rational choice approach. Gottfredson & Hirschi (1990) argued that low self-control precludes people from making rational choices in line with their preferences. This thesis instead argues that self-control can be included in a rational choice analysis and that an individual's level of self-control may affect how much an individual considers and weighs rewards/consequences. In a summary of rational choice literature, McCarthy (2002) points out that people's preferences, orientation towards present and future outcomes (synonymous with self-control's conceptualization of immediate versus delayed gratification), and tolerance of risk/uncertainty affect the decisions that one makes. These differences are generally ignored in research on self-control, but I believe that including these individual differences in perception may offer a more holistic analysis. It is entirely possible that those with low self-control systematically perceive themselves as being less likely to experience consequences and therefore more likely to engage in risk behaviors. It is also possible that they simply value immediate gratification more than those with high self-control and are therefore more willing to trade future consequences for present benefits. I believe that Gottfredson & Hirschi (1990) did a disservice to their own theory by trying to differentiate self-control and rational-choice approaches and instead we should attempt to better integrate the two

concepts. Future research in self-control should consider how differences in perceptions of consequences for people or groups are related to self-control and the behaviors in which they choose to engage.

Aside from the issues with the specificity of the sexual behavior measures, there are still other critiques to be made for this analysis. One criticism of the research relates to the usage of cognitive measures as opposed to behavioral measures for selfcontrol. Hirschi and Gottfredson (1993) have argued against cognitive measures due to the possibility of low self-control creating response bias. Despite this, cognitive measures have proven to be as robust as behavioral measures in predicting delinquent outcomes (Tittle et al., 2003; Walters, 2016). Further, cognitive measures of selfcontrol are one of the most commonly used methods in psychology, and have been successfully employed to predict outcomes of delinquency, health, and academic achievement (Duckworth & Kern, 2011). Therefore, I do not expect that the use of cognitive measures in this thesis affected the validity of the findings.

Another important limitation also relates to a lack of measure for opportunity in the criminal and sexual outcomes used. Although this may be perceived as a limitation in the context of the original writing of Gottfredson & Hirschi (1990), many analyses of self-control do not actually include a measure of opportunity or they take it for granted (Baron, 2003; Holtfreter et al., 2010; Koeppel, 2015; Paternoster & Brame, 1998; Piquero & Bouffard, 2007; Reisig & Pratt, 2011; Zavala, 2017). Some have argued that the usage of opportunity in the original theory is a catch-all defense for the theory when self-control falls short in explaining a behavior (Geis, 2000; Paternoster & Brame, 1998). I agree with this argument, because as these same researchers have pointed out, opportunity for these unskilled acts (sex and crime) are generally ubiquitous and abundant.

This analysis and its findings add to discussion relating to the inclusion of members of minority communities in criminological theory. Future studies on this topic should focus effort on data collection to explore if there are true differences between bisexual and homosexual outcomes with these measures. Another addition to this topic would be to include victimization measures of violent crime, as opposed to only including measures of the perpetration of violent crime. Some scholars have called for the creation of separate theories to accommodate unique life experiences experienced by minority groups, such as those advocating for a black criminology (K. K. Russell, 1992). Other scholars have highlighted the need for research in these understudied populations, such as those calling for more research under the umbrella of queer criminology (Panfil, 2018). The current research answers this call to queer criminology by exploring the heteronormative nature of one of the most studied theories in the field. As shown in this thesis, unexpected findings may emerge when we consider these populations. To advance the study of criminology, we must consider how to integrate new findings into the current body of theoretical literature, or we must create our own set of theories to reflect the unique lives and circumstances of queer people.

# Appendices

#### Appendix A

Crime at Wave 4

- 1. In the past 12 months, how often did you use or threaten to use a weapon to get something from someone?
- 2. In the past 12 months, how often did you take part in a physical fight where a group of your friends was against another group?
- 3. In the past 12 months, how often did you hurt someone badly enough in a physical fight that he or she needed care from a doctor or nurse?
- 4. In the past 12 months, how often did you use a weapon in a fight?

#### Appendix B

Risky Sexual Behaviors at Wave 4

- 1. Considering all types of sexual activity, with how many male partners have you had sex in the past 12 months, even if only one time?
- 2. Considering all types of sexual activity, with how many female partners have you had sex in the past 12 months?
- 3. In the past 12 months, did you have sex with more than one partner at around the same time?

### Appendix C

Self-Control at Wave 3

- 1. I often follow my instincts, without thinking through all the details.
- 2. I often try new things just for fun or thrills, even if most people think they are a waste of time.
- 3. When nothing new is happening, I usually start looking for something exciting.
- 4. I sometimes get so excited that I lose control of myself.
- 5. I can do a good job of "stretching the truth" when I am talking to people.
- 6. I change my interest a lot because my attention often shifts to something else.

# Appendix D Table 5 Factor Loadings for Statements in Self-Control Measure

	Full Sample		Heterosexual		Gay/I	Bisexual
Statement	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1	Factor 2
I sometimes get so excited that I lose control of myself	0.557	0.309	0.7116	0.5408	0.7186	0.612
I change my interest a lot because my attention often shifts to something else	0.614	0.301	0.753	0.365	0.334	-0.1317
I often follow my instincts, without thinking through all the details 33	0.577	0.31	0.6879	0.4737	0.8684	-0.0163
I can do a good job of "stretching the truth" when I'm talking to people	0.527	0.219	0.6617	0.3994	0.2344	-0.0647
When nothing new is happening, I usually start looking for something exciting	0.232	0.646	0.4309	0.626	0.0493	0.7063
I often try new things just for fun or thrills, even if most people think they are a waste of time	0.274	0.653	0.473	0.6788	0.0738	0.6902

# Appendix E Table 6

Violent Behavior Outcome - Separate Heterosexual and GB Models

	Negative Binomial Regression				
	Heterosexual $(n = 4,671)$	Gay or Bisexual (n= 165)			
Variables	Incident Rate Ratio	Incident Rate Ratio			
Low Self-Control	1.024** (0.0078)	1.056 (0.0361)			
Individual Controls					
Age	0.978 (0.255)	1.14 (0.120)			
Dating	1.15 (0.185)	0.884 (0.615)			
Cohabitating/Married	-0.893 (0.131)	1.50 (0.677)			
Black	1.37** (0.153)	1.84 (1.14)			
Unable to meet basic needs	1.21 (0.129)	1.47 (0.598)			

\*\* $p \le 0.01$  (two-tailed).

		Logistic R	Negative Binomial Regression				
	Model A: Reporte Part	eported Multiple Sexual Model B: Reported Never Using a Partners Condom		ed Never Using a	Model C: # of Partners in Previous 12 Months		
	Heterosexual $(n = 4,671)$	Gay/Bisexual (n= 165)	Heterosexual $(n = 4,671)$	Gay/Bisexual (n= 165)	Heterosexual $(n = 4,671)$	Gay/Bisexual (n= 165)	
Independent Variable	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Incident Rate Ratio	Incident Rate Ratio	
Low Self-Control	1.045**	1.00	0.998	1.046	0.016**	-0.051*	
	(0.0104)	(0.038)	(0.009)	(0.052)	(0.0048)	(0.023)	
Individual Controls							
Age	0.977	-0.162	1.12**	1.075	0.0232	-0.22**	
	(0.29)	(0.169)	(0.03)	(0.298)	(0.0139)	(0.074)	
Dating	1.84**	1.944	0.85	2.032	0.155*	-0.093	
	(0.285)	(1.32)	(0.144)	(1.409)	(0.077)	(0.304)	
Cohabitating/Married	0.382**	1.73	3.55**	1.58	-0.573**	-0.373	
	(0.0569)	(0.911)	(0.509)	(1.18)	(0.081)	(0.303)	
Black	2.79**	1.18	0.400**	0.632	0.433**	-0.036	
	(0.395)	(0.888)	(0.052)	(0.542)	(0.062)	(0.235)	
Unable to meet basic needs	1.358*	1.097	1.11	1.38	0.079	-0.039	
	(0.154)	(0.659)	(0.139)	(0.846)	(0.054)	(0.23)	

Appendix F 
 Table 7: Risky Sexual Behavior Outcomes - Separate Heterosexual and GB Models

Note: Highlighted boxes are indicative of overlapping confidence intervals for estimates.  $*p \le 0.05$ ;  $**p \le 0.01$  (two-tailed).

### Appendix G

Distribution of Responses of Dependent Variables Figure G1 Distribution of Responses for Violent Crime Score



# Figure G2

Distribution of Responses for Number of Sexual Partners in the Last 12 Months



# Figure G3

Distribution of Responses for Having Multiple Sex Partners around the Same Time



### Figure G4

Distribution of Responses for Having Reported Never Using a Condom in the Previous 12 Months



### Appendix H

Predictive Margins for Non-Significant Models Figure H1 Predictive Margins for Violent Crime Score



# Figure H2

Predictive Margins for Reported No Condom Usage



**Figure H3** *Predictive Margins for Sex with Multiple Partners Around Same Time* 



Logistic Regression							
Reported Never Using a Condom							
Variables	Odds Ratio						
	0.651**						
# Sexual Partners	(0.0365)						
Low Self-Control	1.0064						
	(0.0091)						
	1.040						
Low Self-Control*Gay/Bisexual	(0.0572)						
	0.368						
Gay/Bisexual	(0.281)						
Individual Controls	4 4 4 h h						
Age	1.14**						
	(0.0321)						
Dating	0.996						
	(0.109)						
Cohabitating/Married	(0.370)						
	0.525**						
Black	(0.0646)						
	1 18						
Unable to meet basic needs	(0.147)						
	(0.177)						

Appendix I Table 8

 Table 8

 Condom Use as a Function of # of Sexual Partners

\*  $p \le 0.01$  (two-tailed).

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