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Help-Seeking And Intimate Partner Violence Re-Victimization Of Sexual Minority And Heterosexual College Students

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HELP-SEEKING AND INTIMATE PARTNER VIOLENCE RE-VICTIMIZATION OF SEXUAL MINORITY AND HETEROSEXUAL COLLEGE STUDENTS

by

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DEDICATION

I dedicate this thesis to Alex Ojeda, a beloved friend, classmate, and loving ally who died unexpectedly on October 12, 2014 at the age of 27. Prior to his death, Alex encouraged me to pursue my interest in the topic of intimate partner violence among sexual minorities despite my trepidation about doing so. Alex has had a profound impact on this work and my life and I am thankful for the time I got to spend with him.

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ABSTRACT

Recent estimates indicate that 18.5% of heterosexual college students and 30.3% of sexual minority college students are victims of physical intimate partner violence (IPV; Edwards, Sylaska, Barry, et al., 2015). Research among adult women in opposite-sex relationships has shown that once an individual is victimized by IPV she is subsequently at high risk for future IPV victimization. Re-victimization is associated with more severe physical and mental health consequences of IPV. No prior study has assessed the rate of re-victimization among sexual minority adults. Help-seeking behavior, which refers to accessing a range of sources of support (e.g., family and friends, law enforcement, mental health professionals), may mitigate many of the consequences of IPV, including re-victimization. However, no prior study has explored the effect of help-seeking on the re-victimization of sexual minorities. Results from this longitudinal study show that sexual minorities were approximately two times more likely than their heterosexual counterparts to be victims of IPV. Sexual minority victims at the first study time point (T1) were, as compared to heterosexual victims, also at heightened risk for re-victimization one year later while controlling for severity of the violence at T1. Contrary to my expectations, sexual minority victims more often sought help than heterosexual ones. This may be due to the more severe IPV reported by sexual minorities. Help-seeking did not influence risk for re-victimization. Continued research on IPV re-victimization and the help-seeking behavior of sexual minority victims of IPV is needed to better understand this phenomenon, which has substantial public health implications.

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CHAPTER 1

INTRODUCTION

1.1 Overview

Once an individual has been the target of violence at the hands of an intimate partner, he/she is at heightened risk for future victimization by that partner and by any future partners (Bybee & Sullivan, 2005; Carlson, Harris, & Holden, 1999; Cattaneo & Goodman, 2005; Cole, Logan, & Shannon, 2008; Crandall, Nathens, Kernic, Holt, & Rivara, 2004; Gondolf, 1997; Goodman, Dutton, Vankos, & Weinfurt, 2005; Krause, Kaltman, Goodman, & Dutton, 2006; Kuijpers, van der Knaap, & Lodewijks, 2011; Kuijpers, van der Knaap, & Winkel, 2012; Lauritsen & Davis Quinet, 1995; Mears, 2003; Walby & Allen, 2004; F. W. Winkel, 1999; F.W. Winkel, 2008). The increased risk that IPV victims incur after the first incident is one of many serious consequences of IPV (J. C. Campbell, 2002; Coker, Davis, et al., 2002; Dillon, Hussain, Loxton, & Rahman, 2013), many of which are, in turn, exacerbated by re-victimization (Cattaneo & Goodman, 2005). Since re-victimization—as compared to one-time victimization—is associated with more severe mental and physical health consequences (Scott-Storey, 2011), understanding factors that impact the rate of re-victimization is an important part of efforts to ameliorate the substantial public health impact of IPV.

Help-seeking is one such factor that appears to impact the rate of re-victimization (Bell & Goodman, 2001; Bybee & Sullivan, 2002, 2005; Cho & Wilke, 2010; Coker et al., 2012; Sullivan & Bybee, 1999). It encompasses a range of actions a survivor of IPV

can take in order to elicit or access support from both informal (e.g., friends and family) and formal (e.g., law enforcement, health care providers, domestic violence shelters) sources (Liang, Goodman, Tummala-Narra, & Weintraub, 2005). Help-seeking is an important phenomenon for IPV researchers to consider since it is a critical step that victims must take in order to access support that is protective against re-victimization. To date, the majority of research on help-seeking and re-victimization has focused on samples of heterosexual female adults recruited from domestic violence shelters, the criminal justice system, or the general community (e.g., Bybee & Sullivan, 2005; Cattaneo, Stuewig, Goodman, Kaltman, & Dutton, 2007; Coker et al., 2012; DePrince, Labus, Belknap, Buckingham, & Gover, 2012; Goodman et al., 2005; Young-Wolff et al., 2013).

In contrast, little is known about the effects of help-seeking on the IPV re-victimization of sexual minorities (i.e., individuals who identify as lesbian, gay, or bisexual, who have had same-sex sexual experiences, and/or who report being attracted to individuals of the same-sex or to both sexes). This is concerning given the consistent finding that sexual minority adults, including college students, are victimized by IPV at rates comparable to or greater than that of heterosexual adults (Edwards, Sylaska, Barry, et al., 2015; Walters, Chen, & Breiding, 2013). Within this area of research, two specific gaps in knowledge exist. First, the research that has focused on help-seeking and re-victimization among college students has focused on victims of sexual assault; little is known about IPV. Second, no prior study has explored these associations with sexual minority college students.

Against this background, this study made several novel contributions to the literature on IPV among college students. The aims of the study were as follows: (1) Assess the proportion of heterosexual versus sexual minority victims of IPV who are re-victimized; (2) directly compare the help-seeking rate of heterosexual and sexual minority college student victims of IPV; (3) evaluate the extent to which help-seeking influences the rate of IPV re-victimization; and (4), if help-seeking does appear to influence re-victimization, explore whether the effect of help-seeking on IPV re-victimization varies by sexual minority status. These research aims were be achieved by secondary analysis of longitudinal data from a larger study on sexual and dating violence prevention among college students recruited from three large universities in the United States.[1]

1.2 Terminology

A note about the language used in subsequent sections is warranted. Language used to describe individuals who have experienced IPV is complicated and sensitive (Dunn, 2005; Hockett & Saucier, 2015; Peternelj-Taylor, 2015). The term "victim" has been described as conveying a passive, disempowered individual who is defined by the violence he or she experienced. Although "survivor" has been suggested as a more positive alternative to "victim", this term has also been criticized. For example, some have suggested that it implies the violence has stopped when it may not have. I have chosen to use the terminology recommended by the authors of a recent report (Breiding,

[1] The larger project from which these data were derived was supported by the Eunice Kennedy Shriver National Institute of Child Health & Human Development under award number R21HD06897, awarded to Corrine M. Williams, ScD, MS, entitled "Consortium to evaluate a novel violence prevention program on college campuses". For more information about this program of violence prevention research see Coker et al. (2015).

Basile, Smith, Black, & Mahendra, 2015) published under the auspices of the National Center for Injury Prevention and Control, an affiliate of the Centers for Disease Control and Prevention (CDC). Thus, throughout this text *victim* refers to the "person who is the target of IPV" and *perpetrator* refers to the "person who inflicts the IPV" (Breiding et al., 2015, p. 16).

Language describing sexual minorities also bears mentioning. Imprecision and inconsistency in operationally defining sexual orientation and gender identity has been identified as an impediment to progress in this area of research (Badgett & Goldberg, 2009; Meezan & Martin, 2009). My use of "sexual minority" is consistent with other sources that operationalize the term so as to include "those who identify as gay, lesbian, or bisexual or who have sexual contact with person of the same or both sexes" (CDC, 2015) . This stands in contrast to other sources (e.g., Gay & Lesbian Medical Association, 2001) whose operationalization of sexual minorities includes gender minorities (i.e., "transgender and gender non-conforming people—whose gender identity or gender expression do not conform to social expectations based on their sex assigned at birth)" (The GenIUSS Group, 2014, p. ix). The exclusion of gender minorities from the proposed study is not reflective of the importance of IPV research in this population, which is sorely needed (Stotzer, 2009). Rather, as described in greater detail below, gender identity was not a focus of—and was not assessed in—the larger project from which the data I utilized were derived.

One last note regarding the terminology used throughout this proposal concerns the scope of the literature review. Articles were found using the following databases/search engines: Google Scholar, PsycINFO, PubMed, and Web of Science. The

search terms used were various combinations of the following: intimate partner violence, domestic violence, IPV, partner aggression, aggression, abuse, re-victimization, re-abuse, reabuse, repeat abuse, sexual minority, LGBT, LGB, lesbian, gay, bisexual, MSM, same-sex, same-gender, college, university, student, help-seeking, support, social support, police, law enforcement, legal, mental health.

1.3 Intimate Partner Violence

According to a CDC report (Breiding et al., 2015), in which recommendations for defining IPV are made, IPV includes "physical violence, sexual violence, stalking and psychological aggression (including coercive tactics) by a current or former partner (i.e., spouse, boyfriend/girlfriend, dating partner, or ongoing sexual partner)" (p. 11). The scope of this study includes physical IPV. Physical partner violence has been defined as a partner's "intentional use of physical force with the potential for causing death, disability, injury, or harm", examples of which include "shaking, hair-pulling, slapping, punching, hitting, burning, [and] use of a weapon" (Breiding et al., 2015, p. 11). It is clear across an expansive literature that IPV has harmful and enduring effects on victims' physical and mental health that often endure years after the violence has stopped (J. C. Campbell, 2002; J. C. Campbell & Soeken, 1999; Coker, Davis, et al., 2002; Coker, Smith, et al., 2002; Coker, Williams, Follingstad, & Jordan, 2010; Flannery & Quinn-Leering, 2000; Follingstad, 2009; Langton & Truman, 2014; Lawrence, Yoon, Langer, & Ro, 2009; World Health Organization, 2005, 2010, 2012, 2013).

An area of the IPV literature that is less established concerns the victimization of sexual minority college students, who are the focus of this study. Although few in number, the existing studies on IPV among sexual minority college students have

consistently provided evidence that violence in this population is a substantial problem that warrants continued attention (Edwards & Sylaska, 2013, 2014; Edwards, Sylaska, Barry, et al., 2015; Edwards, Sylaska, & Neal, 2015; Gaskins & Yankouski, 2007; Sylaska & Edwards, 2015). In the remainder of this section, I describe research on IPV among sexual minority college students. This overview is followed by a review of research on IPV re-victimization (Section 1.4) and on the help-seeking behavior of IPV victims (Section 1.5). The focus of Section 1.6 is the few studies that explore the impact of help-seeking on re-victimization. Finally, in Section 1.7 I frame my research questions in an overarching theoretical model that organizes and further contextualizes my hypotheses. Because of the substantial gaps throughout this body of research I incorporate, as needed, studies on IPV in general adult population (e.g., non-student, heterosexual samples).

Edwards, Sylaska, Barry, et al. (2015) recently published the first study to utilize a large sample in order to compare incidence rates of multiple types of IPV victimization between heterosexual and sexual minority college students. Their results indicate that sexual minority participants reported significantly greater 6-month incidence rates of physical IPV as compared to heterosexual students. More specifically, 30.3% of sexual minority students versus 18.5% of heterosexual students reported physical IPV victimization. Odds ratios indicated that sexual minority students were "2.29 times more likely than heterosexual students to report physical [IPV] victimization during the past 6 months" (p. 589). Similarly, Porter and Williams (2011) found that sexual minority college students were approximately three times more likely to report physical IPV victimization during the prior year than heterosexual students.

These findings on the prevalence of IPV among sexual minority college students are in line with trends in the prevalence estimates of IPV among the general (i.e., non-college student) adult sexual minority population (e.g., Badenes-Ribera, Frias-Navarro, Bonilla-Campos, Pons-Salvador, & Monterde-i-Bort, 2015; Burke & Follingstad, 1999; Greenwood et al., 2002; Lampinen et al., 2008; Mason et al., 2014; Messinger, 2011; Stiles-Shields & Carroll, 2015; Walters et al., 2013). Since no comparable study has been done with a college student population, I now review the most comprehensive study on IPV among heterosexual and sexual minority adults.

Walters et al. (2013) analyzed data from the the 2010 National Intimate Partner and Sexual Violence Survey (NISVS) by sexual orientation. The NISVS is a nationally representative sample of over 18,000 participants who completed interviews by phone that assessed lifetime and 12-month prevalence estimates of various forms of IPV. The lifetime prevalence of physical IPV victimization was 36.3% of lesbian women, 55.1% of bisexual women, and 29.8% of heterosexual women. Bisexual women were significantly more likely to report severe physical IPV (49.3%) than lesbian (29.4%) or heterosexual (23.6%) women. The lifetime prevalence of physical IPV for men varied less by sexual orientation: 24.0% of gay men, 27.0% of bisexual men, and 26.3% of heterosexual men reported lifetime victimization. Comparable rates of severe physical IPV victimization were observed for heterosexual (13.9%) and gay (16.4%) men (rates of severe IPV victimization were not reported for bisexual men because there were too few members of this group to calculate reliable estimates). Overall, this and other studies demonstrate that sexual minorities report rates of IPV greater to or higher than that of heterosexuals and that sexual minority women, in particular, are disproportionately victimized by intimate

partner(s) (Edwards, Sylaska, & Neal, 2015; Frankland & Brown, 2014; Guadalupe-Diaz, 2015; Stanley, Bartholomew, Taylor, Oram, & Landolt, 2006). Next, research on IPV re-victimization will be described.

1.4 Re-victimization

An important part of understanding and ameliorating the consequences of IPV concerns the frequency with which an individual experiences violence at the hands of a partner. The available evidence, described in greater detail below, suggests that once an individual is victimized by IPV he or she is at increased risk of future victimization (Aldarondo, 1996; Bybee & Sullivan, 2002, 2005; J. C. Campbell & Soeken, 1999; Carlson et al., 1999; Cattaneo & Goodman, 2003; Cattaneo & Goodman, 2005; Cole et al., 2008; Crandall et al., 2004; Follingstad, Hause, Rutledge, & Polek, 1992; Frias & Angel, 2007; Goodman et al., 2005; Jacobson, Gottman, Berns, & Shortt, 1996; Krause et al., 2006; Kuijpers et al., 2011; Kuijpers et al., 2012; Lie, Schilit, Bush, Montague, & Reyes, 1991; Mears, 2003; Rapp-Paglicci & Dulmus, 2001; Scott-Storey, 2011; Shepard, 1992; Snow Jones & Gondolf, 2001; Walker, Bowen, & Brown, 2013; Woffordt, Mihalic, & Menard, 1994; World Health Organization, 2010). However, the vast majority of research on this topic has utilized community samples of adult heterosexual women (although most studies do not formally assess sexual orientation). The few studies that have investigated college students' risk of IPV re-victimization concern sexual assault victimization (e.g., Daigle, Fisher, & Cullen, 2008; Messman-Moore, Long, & Siegfried, 2000). Only one prior study (Smith, White, & Holland, 2003), described next, has assessed re-victimization among college student victims of non-sexual forms of IPV and no prior study has assessed this figure with sexual minority adults.

Smith et al. (2003) surveyed female college students regarding their retrospective report of abuse, during childhood and adolescence, and surveyed them again each of the following four years. They found that, as compared to women who were not assaulted prior to entering college, women who were physically assaulted by a dating partner in adolescence were approximately three times more likely to be victimized during their first year at college. Furthermore, the authors reported that the "relative risk of being physically victimized rose across the 4 years of college for women who had been physically victimized in the immediately preceding year" (p. 1107). These findings are consistent with research on IPV re-victimization with community samples of heterosexual adults (e.g., Cattaneo & Goodman, 2005; Walby & Allen, 2004; Woffordt et al., 1994) which, due to the dearth of relevant research on college students, is discussed below.

A 2004 report of the British Crime Survey (Walby & Allen, 2004) includes information on domestic violence re-victimization from a nationally representative sample of 22,463 men and women (ages 16-59). The authors of this report defined re-victimization as repeat IPV regardless of whether it occurred in the same or a different relationship. Out of all the female victims of physical or psychological IPV in this sample, 28% reported having been victimized only once since age sixteen (i.e., approximately three out of four female victims of IPV were re-victimized). A greater number of male victims (47%) reported experiencing only one incident (i.e., were not re-victimized).

Woffordt et al. (1994) assessed the continuation of violence in a longitudinal design with a sample of 1,725 heterosexual adults. Approximately half of the participants

who reported IPV at the first time point also reported IPV at the next time point (three years later). The authors also examined the likelihood that women victimized by IPV in a relationship at the beginning of the study—and who were in new relationships at the last time point (three years later)—would report IPV victimization from a new partner. Of the 34% of the sample who reported being in a new relationship at the second time point, 49% reported IPV victimization taking place in the new relationship. Fifty-two percent of women who were victims at the first time-point and who were in the same relationship at the last time point, were re-victimized.

Although these studies shed light on the topic of IPV re-victimization, there is a need for longitudinal studies to determine the rate of re-victimization among college student victims of IPV. The only study that has done so, which is described above, only included heterosexual women (Smith et al., 2003). The high rate of re-victimization documented in the literature on non-student samples, in conjunction with Smith et al. (2003), provide strong rationale for further investigation of re-victimization among college students. The need for such studies has been identified by several authors who call for research on re-victimization with longitudinal designs (e.g., Edwards, Sylaska, & Neal, 2015; Goodman et al., 2005; Scott-Storey, 2011).

This gap in the research is one addressed by this study. My first aim was to assess the rate at which heterosexual and sexual minority college student IPV victims are re-victimized over the course of an academic year. Furthermore, I compared re-victimization rates between heterosexual and sexual minority groups. The next section addresses the second area under investigation: The effect of help-seeking on the re-victimization of sexual minority and heterosexual college students.

1.5 Help-seeking

Help-seeking refers to a broad range of actions that an individual can take in order to obtain support needed to meet some need. A comprehensive definition from a World Health Organization report on help-seeking behavior and social support (Barker, 2007) defines help-seeking as:

> Any action or activity carried out by [a person] who perceives herself/himself as needing personal, psychological, affective assistance or health or social services, with the purpose of meeting this need in a positive way. This includes seeking help from formal services – for example, clinic services, counsellors, psychologists, medical staff, traditional healers, religious leaders or youth programmes – as well as informal sources, which includes peer groups and friends, family members or kinship groups and/or other adults in the community. The "help" provided might consist of a service (e.g. a medical consultation, clinical care, medical treatment or a counselling session), a referral for a service provided elsewhere or for follow- up care or talking to another person informally about the need in question. (p. 2)

Understanding the help-seeking behavior of IPV victims is a critical endeavor because seeking help is a necessary step in order to benefit from the sources of support that have been shown to lessen many of the negative consequences of IPV victimization (Bell & Goodman, 2001; Bennett, Riger, Schewe, Howard, & Wasco, 2004; Bybee & Sullivan, 2002; Coker et al., 2012; DePrince et al., 2012; Goodman et al., 2005; Meyer, 2010). I preface the remainder of this section with a note on language related to help-seeking. Throughout this area of the literature, the language used to describe phenomena

that I refer to as “help-seeking” varies. For example, in a review on the help-seeking behavior of IPV victims, Liang et al. (2005) interchangeably uses terms such as “help-seeking”, “accessing social support”, and “disclosing”, to describe IPV victims’ actions to seek help. Others have described seeking help from law enforcement as “reporting the abuse”. Finally, seeking a protective order has been described as a means of “seeking help” from the legal system. My intention in pointing out this inconsistency is to contextualize the following section in which ostensibly different constructs are presented under the umbrella term help-seeking. Secondly, I want to acknowledge that studies I cite as evidence of the effectiveness of “seeking help from the legal system”, for example, may be about the effectiveness of obtaining an order of protection in reducing re-victimization and may not explicitly use the language “help-seeking”.

Given the importance of help-seeking on the wellbeing of IPV victims—and the prevalence of IPV on college campuses—surprisingly little research exists on this phenomenon among heterosexual or sexual minority college students. As described in greater detail below, the existing studies on help-seeking among college student IPV victims are primarily descriptive in nature and focus on the frequency with which victims seek help from various sources (e.g., mental health providers, family members, friends).

Amar and Gennaro (2005) examined the rate of formal and informal help-seeking among a convenience sample of 863 college women who reported dating a male within the prior year. Forty-eight percent of the sample reported being a victim of physical, sexual, and/or psychological IPV. About one third of the victims reported incurring some kind of physical injury as a result (including scratches, bruises, and broken bones) but less than half of those injured sought medical care as a result. Fewer than 3% of victims

sought help from a mental health professional (formal help-seeking) and about 50% told a friend (informal help-seeking). Mahlstedt and Keeny (1993) studied informal help-seeking among adult women and found that 92% of their sample of physical IPV victims disclosed the IPV to at least one person—most often the participants' friend, sister, or mother. In another study on informal help-seeking, Dunham and Senn (2000) found that 59% of their sample of 306 female undergraduates reported at least once incident of IPV (physical, verbal, psychological, and/or sexual) perpetrated by a male partner. Sixty-seven percent of these victims reported disclosing the IPV to a friend or relative.

Edwards, Dardis, and Gidycz (2012) conducted a mixed-methods study with a sample of 44 women recruited from undergraduate psychology classes. The 44 participants were chosen from a screening sample of 107 students because they reported "at least once incident of sexual, physical, or psychological abuse in their current heterosexual relationship" (p. 509). Approximately 75% of the IPV victims reported disclosing the IPV to at least one source—most frequently a friend or family member. Few participants (5%) disclosed to a counselor and no participants disclosed to other formal sources of help (e.g., medical doctor, law enforcement, or a religious leader). Low rates of seeking help from law enforcement were also found in a study on 492 female undergraduate women. Of the 135 women who were victims of physical IPV, only three reported the IPV to the police (Thompson, Sitterle, Clay, & Kingree, 2007). Similar patterns in help-seeking were discovered in a study on sexual minority victims of IPV, described below.

One of the only studies on the help-seeking rates of sexual minority college student victims of IPV was recently published by Edwards and Sylaska (2014). The study

is based on a sample of male and female college students in same-sex romantic relationships and assessed psychological, sexual, and physical IPV victimization and perpetration in respondents' current relationship. Of the students who reported IPV victimization (approximately one third of the sample), approximately two-thirds disclosed about the IPV to at least one person. The most frequent persons to whom victims chose to disclose were friends or family members (termed as "informal help-seeking). Formal help-seeking was much less common that informal help-seeking: 9% of victimized students disclosed to "formal supports, such as counselors, medical professionals, or law enforcement professionals" (p. 2). Since a heterosexual comparison group was not included in this study, it is not possible, based on this study, to draw conclusions about the relative frequency of help-seeking of heterosexual and sexual minority IPV victims. Aim Two of the proposed study will address this gap in knowledge by reporting descriptive statistics in help-seeking rates for both sexual minority and heterosexual IPV victims from the same sample.

1.6 Effect of Help-Seeking on Re-victimization

Taken together, this research raises concern over the many college students who experience violence at the hands of an intimate partner but do not seek help and, thus, do not benefit from the protective effects associated with various forms of help. The aforementioned studies on help-seeking have been descriptive in nature; they report the frequency with which victims sought various forms of help. However, they do not examine the effect of having sought help on outcomes like re-victimization. Understanding how victims' help-seeking behavior influences their risk for subsequent violence has the potential to inform efforts to address and prevent IPV. However, no prior

study has used a longitudinal design to examine the impact of help-seeking behaviors on re-victimization of college students or sexual minorities. Because of the dearth of research in this area, I describe several studies that have assessed the impact of help-seeking on re-victimization.

Sullivan and Bybee (1999) conducted one of the few longitudinal studies on the effect of connecting IPV victims with formal and informal sources of support. These authors randomly assigned 278 battered women who were leaving a domestic violence shelter to an intervention or control condition. Women assigned to the intervention condition worked with a trained advocate, as described below, whereas women in the control group were not contacted by staff again except for at later time points in the study at which they completed research measures. Women in the advocacy intervention received "advocacy services" four to six hours per week for 10 weeks after leaving the shelter. The advocates' purpose included helping women create a safety plan and to connect women with relevant community resources related to education, legal assistance, employment, services for their children, housing, childcare, transportation, financial assistance, health care, and social support (p. 45). The authors included an example in which a participant in the intervention helped the client with "obtaining a restraining order against her ex-boyfriend; earning money; finding accessible, affordable childcare; and making friends" (p. 45). This study is notable in that it demonstrates the effect of connecting IPV victims with multiple sources of support: Twice as many women who received the intervention reported no violence throughout a two-year follow-up period than those in the control group.

The protective effect of social support against re-victimization is also demonstrated by Goodman et al. (2005), who assessed this relationship among women who had sought help for IPV from a crisis shelter or a court. Social support was operationalized so as to include the "availability of someone to talk to about problems" and the "availability of people with whom one can do things" (p. 320). The authors found that "those with the least amount of social support had a 65% predicted probability of re-abuse during the next year, compared to a 20% predicted probability for women reporting the highest level of social support" (p. 311).

Clearly, the design, population, and purpose of these studies is different than the proposed study. However, this prior research does provide support for my hypothesis that help-seeking will decrease risk for subsequent victimization given that increased access to sources of support so substantially decreased re-victimization.

1.7 Theoretical Context.

There are several theoretical models that help tie together the aforementioned research on help-seeking and re-victimization among sexual minority college students. These models also help to connect the multiple components of the prior literature into an overarching context framing my research questions.

Violence does not occur in a vacuum. Many leaders in the field of IPV research have spoken to the importance of contextualizing any analysis of IPV and embracing the complexity of the phenomena (e.g., Hamby & Grych, 2013; Renzetti, 1994, 2006). Nor does help-seeking occur in a vacuum: Research on seeking help for a broad range of experiences (e.g., violence, mental illness) has highlighted the complexity of the factors

that influence help-seeking choices, emphasizing the sociocultural context (Barker, 2007; Liang et al., 2005; Pescosolido, 1992).

A particularly helpful framework with which to organize the relations between these constructs is ecological systems theory, originally applied to human development (Bronfenbrenner, 1977) and, more recently, applied to violence (e.g., Belsky, 1980; R. Campbell, Dworkin, & Cabral, 2009; Heise, 1998; World Health Organization, 2010). As described by the World Health Organization (2010), an ecological model addresses individual-level risk and protective factors but also "the norms, beliefs, and social and economic systems that create the conditions for intimate partner and sexual violence to occur" and includes a "strong emphasis on the multiple and dynamic interactions among risk factors within and between its different levels" (p. 19).

A relevant adaptation of this model comes from a report by Dutton, Goodman, and Schmidt (2006), as displayed in Figure 1.1. As applied to the proposed study, the individual characteristic of help-seeking strategies takes place within broader systems. "Social networks", which in the proposed study are considered informal sources of support (e.g., family, friends) and "Institutional response" (i.e., formal sources of support) take place in a larger cultural and social context. Although great strides have been made toward equity for sexual minorities, the current cultural and social context is a heterosexist one in which sexual minorities remain stigmatized (for review see Herek, 2004; Herek & McLemore, 2013). Stigma is also associated with IPV victimization and has been identified as a major barrier to help-seeking regardless of sexual orientation (for review, see Overstreet & Quinn, 2013).

A theme throughout the emerging research on help-seeking and sexual minority victims of IPV—described in more detail below— is that the additional barriers faced by this population further hinder help-seeking (for review, see Calton, Cattaneo, & Gebhard, 2015). More specifically, given the heterosexist social and cultural climate, a sexual minority victim may be less inclined to reach out to an informal or formal source of support. This is consistent with an aforementioned study by Sylaska and Edwards (2015), who describe the experiences of sexual minority college students in disclosing their experiences of physical IPV. The authors write that "Victims who did not disclose their experiences of physical victimization also reported higher levels of "minority stress" from concealing their identity or from expectations of rejection, or negative feelings about their own sexual orientation" (p. 2) It is not surprising that individuals who are high on measures of identity concealment, for example, are less likely to seek help given that doing so would likely require outing oneself.

The recent work of Edwards and Sylaska (2013) provides further evidence of the important part minority stress plays in the occurrence of partner violence among sexual minority college students. With a sample of 391 sexual minority college students, the authors investigated the relation between several facets of minority stress—including internalized homonegativity and sexual identity concealment—and the perpetration of IPV in this population. They found compelling evidence that sexual minority stress was associated with violence perpetration, both of which were also associated with violence victimization. Thus, not only does a heterosexist social and cultural climate appear to be negatively associated with seeking help from informal sources, but the internalization of heterosexism/homonegativity is associated with perpetration of IPV in same-same sex

partnerships. The latter of these associations, in combination with the lack of help for sexual minority IPV victims, suggests that sexual minorities (especially those who do not have access to sources of help) may be re-victimized more often than heterosexuals.

The "Institutional Responses" level of the ecological model of IPV includes community and legal interventions. This aligns with the "formal help-seeking" component of the proposed study. Many formal sources of support (e.g., domestic violence shelters) are designed to address the needs of heterosexual females, which may undermine their utility for—and decrease the likelihood that they will be accessed by—sexual minority victims (Helfrich & Simpson, 2006; Renzetti, 1996). Studies with community samples of adult sexual minority victims have found those who do seek help from formal sources are likely to report that the experience was not helpful (Finneran & Stephenson, 2013; Merrill & Wolfe, 2000; Renzetti, 1989). A report by the GLBT Domestic Violence Coalition and Jane Done Inc. (2005) found that 57% of sexual minority victims of IPV become homeless due to the abuse and that sexual minority victims are often denied access to formal services for IPV victims such as shelter. Renzetti (1992) found that most lesbian women who received services from a domestic violence shelter reported that the experience was not helpful in part due to experiencing homophobia from staff and other residents. These findings provide support for the hypothesis that sexual minority victims who do seek help will benefit less as measured by the rate of re-victimization. Individuals who previously experienced unhelpful responses from formal sources of support would also be less likely to seek help in the future.

1.8 Study Aims & Hypotheses

Against this background, the purpose of this study is to explore several aspects of help-seeking and re-victimization among sexual minority and heterosexual college students. More specifically, I will address the following aims: (1) First, I will compare the proportion of heterosexual versus sexual minority victims of IPV who are re-victimized. I hypothesize that sexual minority victims of IPV will be at higher risk for re-victimization than heterosexuals. (2) Next, I will compare the help-seeking rate of heterosexual and sexual minority college student victims of IPV. I hypothesize that fewer sexual minority victims will seek help as compared to heterosexual victims. My third and fourth aims are exploratory in nature given the dearth of prior research in this area. (3) I will assess the extent to which help-seeking influences risk for re-victimization. I hypothesize that help-seeking will be associated with less risk for re-victimization. (4) Finally, if help-seeking does appear, overall, to be protective against re-victimization, I will determine whether the magnitude of this protective effect systematically varies as a function of sexual minority status. I predict that help-seeking will decrease the likelihood of re-victimization but that the magnitude of this decrease is smaller for sexual minority students than heterosexual students.

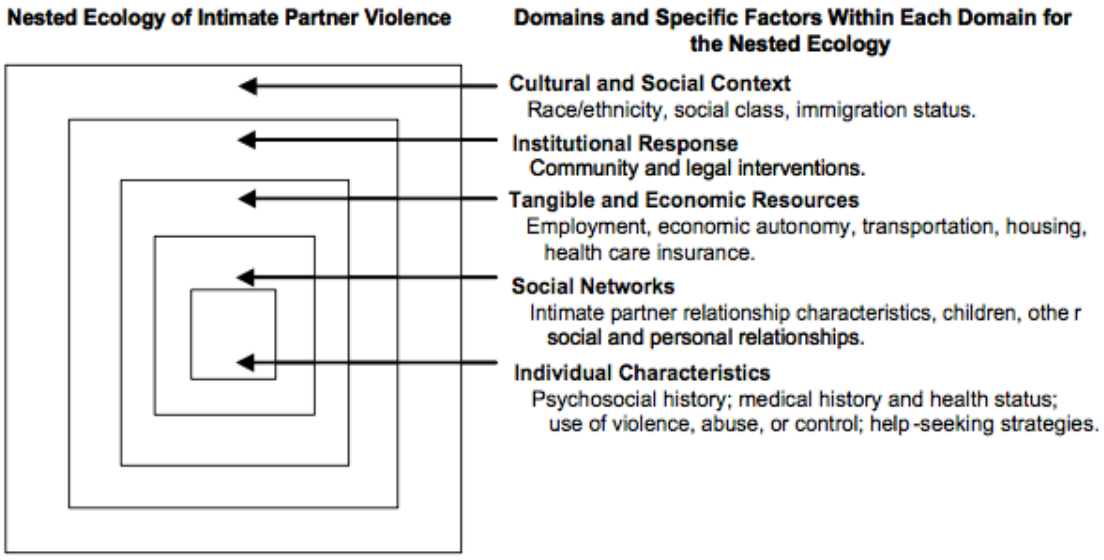

Figure 1.1. Nested Ecological Model of Intimate Partner Violence.

Note. Figure duplicated from Dutton et al. (2006)

CHAPTER 2

METHOD

2.1 Sampling & Data Collection

This study involved secondary analysis of data collected as a part of a longitudinal study on dating and sexual violence prevention among college students at three universities: University of South Carolina, University of Kentucky, and University of Cincinnati. Data were collected via an online survey, which was administered during March and April of 2010, 2011, 2012, and 2013. Data from 2011 and 2012 are used in the current study because in these years more students participated than in other years of the study.

In 2010, a stratified random sample of 16,000 full-time undergraduate students ages 18 to 24 years was obtained using enrollment data from the Registrar's office at each campus. Stratum selection was based on year in school with 25% from each class (i.e., first year, sophomore, junior, and senior); within class, half were female. In 2011, 2012, and 2013, all students who had completed the survey the prior year (except for seniors, who were assumed to have graduated) were invited to complete the survey again. First-year students were randomly selected and invited to participate in 2011, 2012, and 2013 to replenish the graduating seniors.

Information about the sample participation rates is displayed in Figure 2.1. As indicated, in 2011, the sample included first year students who were invited to complete the survey for the first time in 2011 (N = 8,766; with 3,546 responses; response rate

=40.45%) and sophomores, juniors, and seniors who had completed the survey in 2010 and were invited to complete it again in 2011 (N = 5,769; with 2,900 responses; response rate = 50.27%). Combining these subsets of the sample indicates that 44.35% (n = 6,446) of the 14,535 individuals invited to participate responded. Further information about data management is described below in Section 2.4.1.

2.2 Procedure

In March or April of 2011, a letter was sent to students' campus address inviting them to complete the survey with two dollars enclosed. The letter stated that they would be receiving an e-mail with a link to the survey. Reminder e-mails were sent approximately every 3-4 days for the following four weeks. This survey technique, in which participants are contacted via multiple forms of communication, is described by Dillman et al. (2009) and Christian, Parsons, and Dillman (2009).

The Institutional Review Board at each university approved the research protocol. A waiver of written consent was granted and a certificate of confidentiality was obtained through the National Institutes of Health. At the end of the survey, participants were provided with the websites and phone numbers of resources designed to support individuals with mental health issues and victims of sexual and dating violence. This information included contact information for resources (e.g., counseling center) specific to each campus. In 2012, prospective participants received an e-mail invitation that described the study and included a link to participate. In 2012, students received a $5 Amazon gift card for participating.

2.3 Measures

2.3.1 Demographics. Basic demographic information was collected with several items including age, year in school, sex, race and ethnicity, and the highest level of parent education. Sex was assessed by an item which read "What is your sex?" followed by the options "male" and "female". These items are displayed in Appendix B.

2.3.2 Intimate partner violence. Physical IPV was assessed with four items from the physical assault subscale of the second version of the Conflict Tactics Scale (CTS2; Straus, Hamby, & Warren, 2003). All items were framed with a prompt to consider whether the specific form of IPV had occurred since the beginning of that academic year (see Appendix B). For two of the physical IPV items, two CTS2 items were combined into one item (28 and 44). Combining the items was deemed necessary in order to capture a wide range of IPV behaviors while also adhering to constraints on the length of the survey. A list of the original CTS2 items and the adapted items used for this study are in Appendix A.

For all of the IPV questions, the response options from which participants chose were: "0 times" (coded as 0), "1 time" (coded as 1), "2 times" (coded as 2), "3-5 times" (coded as 3), "6-9 times" (coded as 4), "10 or more times" (coded as 5), "Yes, but not since the beginning of the Fall 2010 [or 2011, for the second year of the survey] term" (coded as 0, since it did not occur in the past year), and "Choose not to answer" (coded as missing). In constructing the IPV scale we used variety scores, which indicate the number of different forms of IPV that were perpetrated against the victim at least once in the past academic year; the greater the score, the more severe the physical IPV. Thus, the frequency responses described above were recoded so that one through five were recoded

as one, then these four values were summed. Variety scores have several advantages over frequency estimates (Elliott & Huizinga, 1987; Shorey, Brasfield, Febres, Cornelius, & Stuart, 2012), not the least of which is that they are more accurate than the self-reported frequency of violent experiences (Hirschi, Hindelang, & Weis, 1980). It is easier to recall whether a certain event occurred or did not occur than the number of times it occurred, especially for those who have experienced the event many times (Moffitt et al., 1997). Finally, variety scores "give equal weight to all abusive acts, unlike frequency scores, which give more weight to nonserious acts that are committed frequently" (Moffitt et al., 1997, p. 51).

A reliability coefficient, ordinal alpha, was calculated for these items using a polychoric correlation matrix, as described by Gadermann, Guhn, and Zumbo (2012). This approach to estimating the reliability of the measure was taken given because with ordinal data it is a more accurate reliability estimate than Chronbach's alpha, which is calculated with a Pearson correlation matrix. Ordinal alpha is also more accurate than its alternatives with skewed data (Zumbo, Gadermann, & Zeisser, 2007). Ordinal alpha for the IPV scales was 0.92 at T1 and at T2.

2.3.3 Help-seeking. Participants were asked whether they had sought help from a number of sources as a result of being physically hurt or injured by a partner ("no" coded as 0; "yes" coded as 1). These items are displayed in Appendix B. The first of the items assessed whether participants had talked with each of the following potential sources of help: a friend; family member; Resident Mentor; counselor; victim advocate; social worker; and therapist or other mental health provider. The items "Counselor", "Social worker", and "Therapist or other mental health provider" were combined into "mental

health" for analyses. Participants were also asked whether they had called the police or a hotline. Finally, sources of help specific to each campus were also listed including the student health center or campus sexual assault intervention program. The items were framed by instructions asking whether they sought help as a result of being "physically hurt or injured by a partner". Similar to Swan and Sullivan (2009), the help-seeking variable is the sum of the forms of help participants reported seeking. This allows for inferences to be made about a wide range of sources of help sought by victims of IPV. Ordinal alpha for this 11-item scale was 0.96.

2.3.4 Sexual minority status. Sexual minority status was assessed with a single item prompting participants to choose the response option that best described their sexual attraction toward other people (Appendix B). This item read, "People are different in their sexual attraction to other people. Which best describes you?" Response options were: "only attracted to females", "mostly attracted to females", "equally attracted to males and females", "mostly attracted to males", "only attracted to males", and "not sure". People who reported being attracted exclusively to members of the opposite sex were categorized as being heterosexual. The item assessing sexual minority status appeared near the beginning of the survey with other demographic questions (about, e.g., race, ethnicity, and parent education attainment). This is consistent with the recommendations in the literature to avoid placing questions about sexual orientation directly after questions about, for example, sexual abuse (Badgett & Goldberg, 2009).

2.4. Data Management & Missing Data

As described above, and displayed in Figure 2.1, 6,446 (44.35%) of the individuals who were invited to participate at T1 responded to the invitation. In this

section, I describe how the final sample was comprised and the procedure for missing data handling.

Case-wise deletion was used for a portion of the initial survey respondents who did not meet the study inclusion criteria: 390 declined to participate and/or did not meet the age inclusion criteria; 58 did not indicate their relationship history; 533 indicated that they had never had an intimate partner. An additional 88 respondents were removed because they erroneously completed the survey twice, giving partial responses each time; neither response set was retained because data storage limitations precluded identifying which survey was submitted first. This resulted in a sample of n= 5,377 eligible participants at T1, 83.42% of the total respondents. Participants with one or more missing items on the four-item T1 IPV scale were removed (n = 104, 1.97%) since this is the predictor variable for many of the analyses I conducted. This resulted in a sample of N = 5,273 college students.

Given my focus on IPV among college students, T1 participants who were seniors at the time of participating in 2011 (n = 700, 13.3%) were not eligible for participation at T2 since they would have already graduated. The rationale for this decision is that these individuals would then be considered a non-student, community-based sample, which would limit my ability to generalize these results to college student populations. Thus, as indicated throughout the relevant portions of the results section, only self-identified freshmen, sophomores, and juniors at T1 are included in analyses related to re-victimization. Of the n = 4,573 freshmen, sophomores, and juniors who participated at T1, n = 1,887 responded to the invitation to participate again in 2012 (40.80%).

I will now describe my approach to handle missing data among these participants. Descriptive statistics on the portion of missing data on each demographic variable are displayed in Table 2.1. Seventy participants (1.33%) had missing data on one or more of the following variables: sexual orientation, gender, age, race/ethnicity, and level of parent education. Because sexual orientation is central to my research questions, participants who were missing that variable were deleted (n = 49, 0.9%). These cases overlapped with all of those missing the gender variable since the gender was necessary in order to properly code the sexual orientation variable. This, finally, resulted in a 2011 sample of 5,224 college students. Those missing age, gender, and race/ethnicity items were not removed.

As indicated throughout the text below, several of the analyses were conducted with a subset of the sample: participants who endorsed at least one form of IPV at T1 (n = 563, 10.8%). The analyses included help-seeking descriptives, from which n = 49 T1 victims (8.9%) were excluded due to one or more missing help-seeking items. These participants (T1 victims) included n = 77 seniors (11.1%) who, as described above, were not invited to participate in T2. Although seniors are included in analyses that only concern T1, they are removed from longitudinal analyses, which focus on re-victimization. It did not appear that seniors (10.7%) were systematically more or less likely than freshmen, sophomores, and juniors (11.1%) to be T1 victims ($\chi^2(1) = 0.07, p > .05$). This leaves n = 486 T1 victims who were freshmen, sophomores, or juniors (86.3% of T1 victims), n = 186 of which (38.3%) responded to the T2 invitation to participate again. This rate of retention is not significantly different than non-victim freshmen, sophomores, or juniors at T1 ($41.1\%;\ \chi^2(1) = 1.48, p > .05$). Finally,

participants' likelihood of participating at T2 was not associated with whether or not they were a victim of IPV at T1 ($\chi^2(1) = 1.48, p > .05$).

Because a high rate of attrition occurred between T1 and T2, maximum likelihood estimation (MLE) for missing data was employed in all regression models in which the outcome was T2 victimization. This procedure utilized Full Information Maximum Likelihood (FIML). I gave priority to addressing attrition at T2 rather than item-level missing data because, relative to the rate of attrition, there was an acceptable level of item-level missing data (e.g., n = 104, 1.97%, were removed from sample due to missing one or more T1 IPV items). As described by Enders (2010), who cites Schafer and Graham (2002), "…methodologists currently regard maximum likelihood estimation as a state-of the art missing data technique because it improves the accuracy and the power of the analyses relative to other missing data handling methods" (p. 342; see also Graham, 2009). As a corrective procedure against violations of the assumption of a normal distribution, which can bias results, robust standard errors were used in MLE analyses.

2.5 Data Analytic Plan

2.5.1 Software. With the exception of longitudinal analyses, I conducted all analyses with IBM SPSS Statistics, Version 24. When appropriate, bootstrapping was utilized for analyses where indicated because it is a robust procedure (Cumming, 2014) that decreases the likelihood of bias in the parameter estimates such as confidence intervals in the presence of violations of the assumptions of statistical procedures (Wilcox, 2005). This is especially important in the presence of violations of the assumptions upon which the parametric analyses I utilized are based, which have specifically been shown to bias results (Wilcox, 2005). The bootstrapping feature of

SPSS Statistics (Version 24) was utilized with 5,000 iterations of the sampling procedure. Bias-corrected confidence intervals (95%, two-tailed) were calculated because they have been shown to lead to better estimations of lower and upper confidence interval limits (Chen & Peng, 2013). Because SPSS does not have the capacity to employ maximum likelihood estimation to address missing data, I exported the same dataset described above to R (R Core Team, 2016), in which I used the "lavaan" package for all longitudinal analyses. The code I used for this was adapted from the companion website of Enders (2010).

2.5.2 Analysis Plan by Study Aims. Analyses for Aim One will includes descriptives on the rates at which sexual minority and heterosexual college students were victimized at T1 and on the proportion of sexual minority and heterosexual victims at T1 who are re-victimized at T2. In addition to reporting descriptive statistics, I will conduct a linear regression to determine the extent to which, among T1 victims, sexual minority status is a predictor of re-victimization at T2.

Secondly, in order to compare the rate of help-seeking between sexual minority and heterosexual IPV victims at T1, I will report descriptive statistics. These will include the percent of sexual minority and heterosexual participants who sought each form of help and an overall percentage representing the proportion of IPV victims that sought any form of help. Independent-samples t-tests will be conducted to examine between-group mean differences in seeking help.

For Aim Three, a linear regression will be performed, with a subsample of T1 IPV victims, in which help-seeking is entered as a predictor of T2 victimization (i.e., re-

victimization). Victimization at T1 will be included as a covariate given that prior research has identified severity of prior abuse as a predictor of re-victimization.

Finally, in the event that help-seeking is a meaningful predictor of T2 victimization, as assessed by Aim Three, in Aim Four analyses sexual minority status will be added as a possible moderator of the relation between help-seeking and re-victimization. Moderation models test "whether the prediction of a dependent variable, Y, from an independent variable, X, differs across levels of a third variable, Z" (Fairchild & MacKinnon, 2009, p. 89) As applied to the current study, this model will allow me to assess whether the effect of help-seeking (X) on re-victimization (Y) differs on the basis of sexual minority status (Z). Help-seeking (X) will be centered prior to computing the interaction term. The model (Figure 2.2) will also include gender as a moderating variable in order to see how the effect of help-seeking on re-victimization varies both by gender and sexual orientation.

2.5.3 A Priori Power Analysis. An a priori power analysis was conducted in order to determine whether the proposed analyses would be adequately powered to identify the effects of interest if they did exist. The power analysis was conducted with the software G*Power (release 3.1.9.2; Faul, Erdfelder, Lang, & Buchner, 2009). These analyses were conducted in relation to the interaction term associated with the linear regression of Aim Four. This was used as an estimate of the lower bound of power requirements since that model would require the most power to detect an effect. Furthermore, this model includes fewer participants than others given that only freshmen, sophomores, and juniors who were victimized in 2011 are included. Given my research questions, it appears that there would be adequate power ($1 - \beta$) to detect medium

effects ($f \geq 0.25$) with approximately $N = 269$ participants. The study does not appear to be adequately powered to identify small effects ($f \leq 0.1$), which would require $N = 1{,}634$ participants, it would be adequately powered to identify a slightly larger effect of $f = 0.16$, which would require $N = 644$ participants.

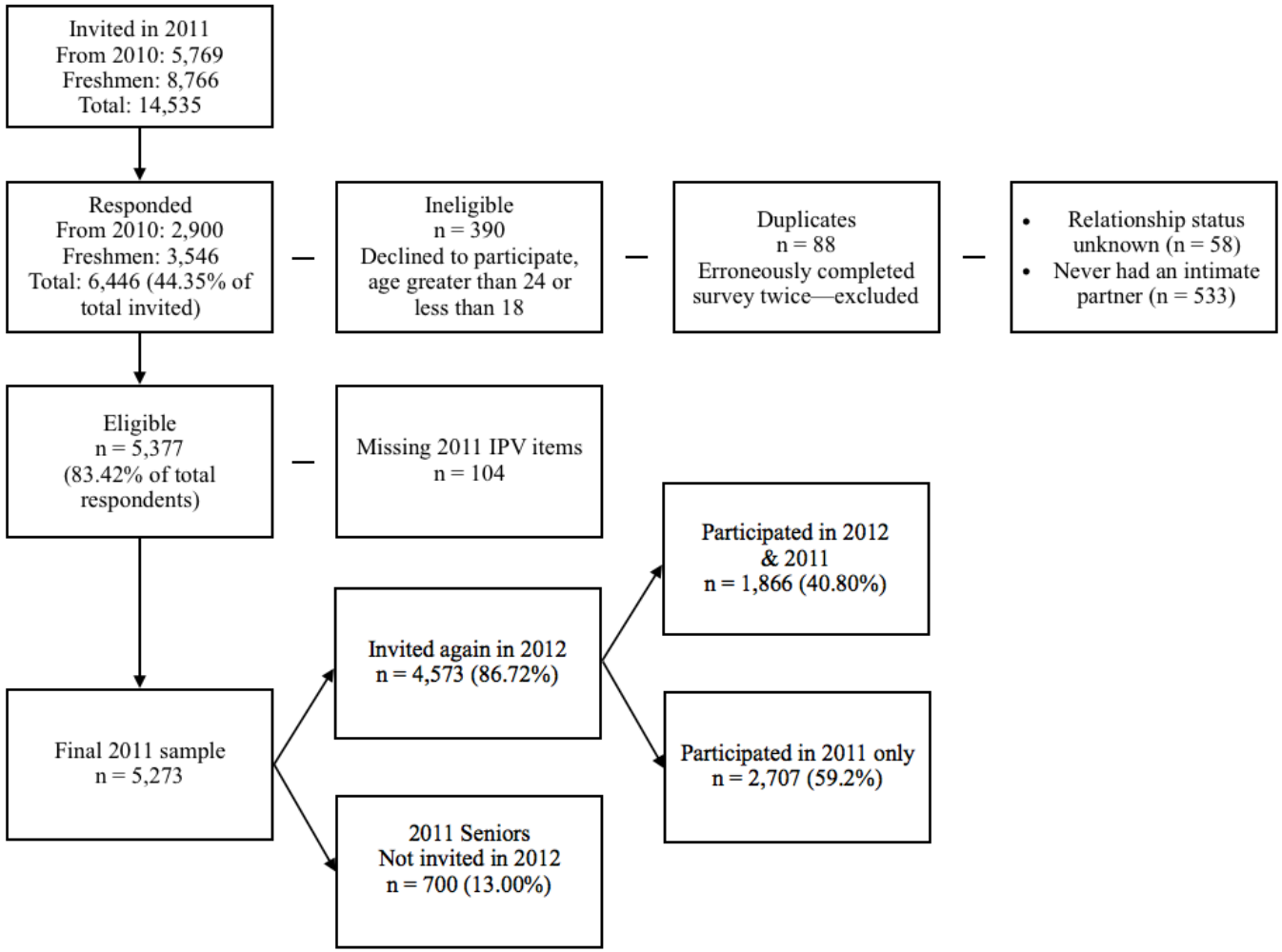

Figure 2.1. Sample construction & participation rates.

Table 2.1
Rates of item-level missing data on demographic variables

	n missing	*n* valid	% missing
Sexual orientation	49	5,224	0.9%
Age	0	5,273	0.0%
Gender	28	5,245	0.5%
Race/Ethnicity	37	5,236	0.7%
Parent education	17	5,256	0.3%

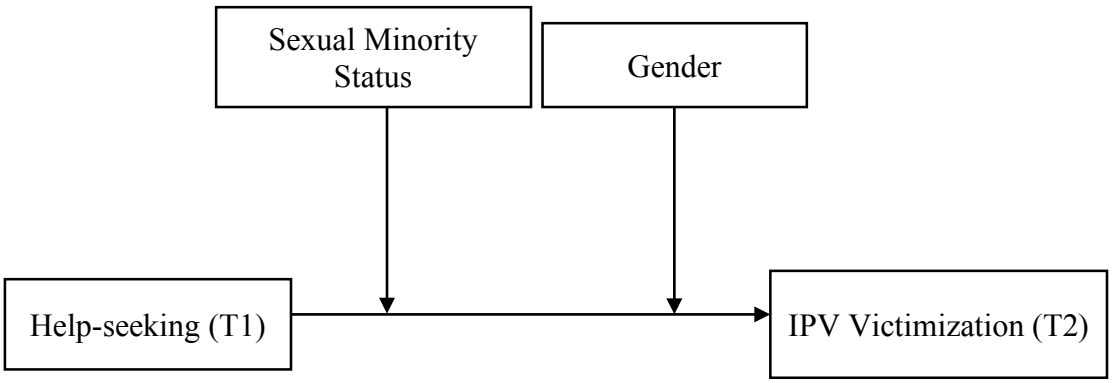

Figure 2.2. Regression model for Aim Four.

CHAPTER 3

RESULTS

3.1 Demographics

The sample (N = 5,224) was comprised of 4,424 Caucasian students (84.7%), 15 American Indian or Alaska Native students (0.3%), 163 Asian students (3.1%), 339 African American students (6.5%), 79 Latino/a students (1.5%), and two Native Hawaiian or other Pacific Islander students (<0.0%). One hundred eighty-five (3.5%) identified as "other or multiracial" and seventeen (0.3%) chose not to answer the item assessing race (see Section 2.4 for complete information on missing data). The average age was 19.58 (*SE* = 1.32; Minimum = 18; Maximum = 24), 65.3% of participants (*n* = 3,411) were female, and 12.3% (n = 643) were sexual minorities. A greater proportion of the women identified as sexual minorities (13.9%) than men (9.7%). Descriptive statistics of key study variables are displayed in Table 3.1 and correlations between key study variables are displayed in Table 3.2.

The IPV variables were positively skewed at both T1 (3.98) and T2 (4.74). This appears to be due to the large proportion of the sample who endorsed no IPV victimization. Visual inspection of the distribution by sexual orientation revealed that the aforementioned distribution characteristics did not differ between these subgroups. This type of distribution is not surprising given that, overall, the frequency of violence is low and violence estimates are not normally-distributed (e.g., Black et al., 2011). Because the aforementioned covariates were not significantly correlated at a bivariate level with the

independent or dependent variables used in my main analyses, they were not retained as covariates.

3.2 Aim One

The focus of aim one was to compare the rate of re-victimization between heterosexual and sexual minority victims of IPV. In order to contextualize my analyses on re-victimization and sexual orientation, I first I first explored T1 victimization rates and sexual orientation. Descriptives on the frequency of victimization for heterosexual and sexual minority participants at T1 are displayed in Table 3.3.

At T1, 16.6% of all sexual minorities reported IPV victimization as compared to 10.0% of heterosexuals. Results from a logistic regression (Table 3.4) indicate that sexual minorities were 1.80 times more likely to be victims of IPV than their heterosexual counterparts ($OR = 1.80\ [1.44, 2.27], p < .05$). Additionally, as displayed in Table 3.5, the average level of IPV severity was significantly higher for sexual minority students ($M = 0.27,\ SD = 0.71$) than for heterosexual students ($M = 0.15, SD = 0.51; b_1 = 0.12, SE = .02, p < .05$).

After familiarizing myself with the association between T1 IPV victimization and sexual orientation, I proceeded to address the main focus of Aim One by assessing the relation between sexual orientation and re-victimization. These analyses included freshmen, sophomores, and juniors who reported at least one form of victimization at T1 and were considered re-victimized if they also endorsed at least one form of victimization at T2. As displayed in Table 3.6, 30.1% of heterosexual and 43.5% of sexual minority students who were victimized at T1 were also victimized at T2. The total re-victimization rate—combining sexual minority and heterosexual students—is 32.0%.

Given that T1 IPV severity is associated with T2 IPV severity (Table 3.2), and since sexual minorities in this sample reported a higher prevalence of IPV than their heterosexual counterparts, I sought to evaluate to what extent the finding of increased re-victimization rates reported by sexual minorities was driven by disparate rates in severity of IPV. To that end, I conducted a regression with freshmen, sophomore, and juniors who endorsed T1 IPV. The regression is represented by the equation

$$Re\text{-}victimization = b_0 + b_1 SM + b_2 IPV + b_3 SM * IPV + e$$

wherein SM = sexual orientation (0 = heterosexual, 1 = sexual minority), IPV = intimate partner violence at T1 (mean-centered), and SM * IPV=the product of the two. Re-victimization, the outcome, is equal to T2 IPV and is operationalized as re-victimization since only participants who endorsed at least one form of IPV at T1 are included. The rationale for coding the variables this way was to ensure that the resulting parameters would best address my research questions.

The results are displayed in Table 3.7 and will now be examined beginning with the parameter estimates corresponding to sexual orientation. The value of b_1 represents the estimated increase in re-victimization for sexual minorities who reported the average level of T1 IPV severity. This means that if we were to choose one heterosexual participant and one sexual minority participant who both reported the average level of T1 IPV victimization (among participants who were victimized at T1), the model's best estimation is that the sexual minority's T2 IPV score would be 0.46 units higher than the heterosexual's score. The parameter estimate associated with the interaction term ($b_3 =$ .84; *SE* = 0.31, $p < .05$) confirms that being a sexual minority is associated with a statistically significant increase in the risk for re-victimization resulting from IPV at T1.

3.3 Aim Two

My second aim was to determine whether sexual minority students who are victims of intimate partner violence seek help less frequently than heterosexual victims. Descriptive statistics on help-seeking at T1, separated by gender in Table 3.8 and combined in Table 3.9, were conducted with *n* = 514 participants who were victims of physical IPV at T1 and who had no missing responses to the help-seeking items. In order to assess the significance of any differences in help-seeking rates by sexual orientation, Pearson's chi-square was calculated for the combined rates in Table 3.8. The null hypothesis for these tests was that sexual orientation and help-seeking rates are independent. Several of the tests did not meet the assumption of chi square that no cells have an expected count of less than five; these results are not displayed in the tables.

The results indicate that 27.4% of all victims of physical IPV at T1 sought at least one form of help at T1. Contrary to my hypothesis that a smaller proportion of sexual minorities would seek help as compared to heterosexual victims of IPV, a significantly greater proportion of sexual minority victims (35.4%) sought at least one form of help, as compared to heterosexual victims (25.3%; $\chi^2(1)=4.61$, $p < .05$). This finding reflects that sexual minority victims were 1.69 (OR) times more likely to seek help than heterosexual victims. A significantly greater proportion of sexual minorities also reported seeking help from informal (32.7%) and formal (24.8%) sources than heterosexuals (informal 22.9%; formal 10.2%; $\chi^2_{informal}(1)=4.21$, $p < .05$; $\chi^2_{formal} = 15.15, p < 15.15$). Sexual minorities were 1.66 times more likely to seek help from informal sources and 2.92 times more likely to seek help from formal sources as compared to heterosexuals. Specific formal sources of support that were sought more often by sexual

minorities include online sources (4.6% of heterosexuals vs. 11.1% of sexual minorities; $\chi^2(1) = 6.21$, $p < .05$) and mental health care providers (6.0% of heterosexuals vs. 12.1% of sexual minorities; $\chi^2(1) = 4.45$, $p < .05$).

3.4 Aim Three

In order to determine whether help-seeking was protective against re-victimization, a multiple linear regression was conducted, with freshmen, sophomores, and seniors who were victims in 2011, in which help-seeking was assessed as a possible moderator of the relation between T1 IPV and T2 IPV. Help-seeking and T1 IPV were both mean-centered to reduce nonessential multicollinearity. As displayed in Table 3.10, the relation between T1 IPV and help-seeking did not vary conditionally on the value of help-seeking ($B_{interaction} = -.02, SE = .05, Z = -0.51, p > .05$).

3.5 Aim Four

Finally, I proposed in Aim Four to conduct analyses in the event that help-seeking was identified as a meaningful predictor of re-victimization in order to determine whether the effect of help-seeking on re-victimization differed on the basis of sexual orientation and sex. However, as described above, no evidence was observed in support of a meaningful relation between help-seeking and re-victimization in this sample. Thus, the analyses proposed under the fourth aim were not carried out.

Table 3.1
Descriptive statistics for key study variables

	N	Minimum	Maximum	*M*	*SD*	Skew	Kurtosis
Age	5,224	18	24	19.58	1.32	0.89	0.34
Parent education	5,217	0	7	4.73	1.64	-1.06	0.75
T1 IPV	5,224	0	4	0.16	0.54	3.98	17.37
T2 IPV	1,717	0	4	0.11	0.42	4.74	26.11

Note. T1 IPV = physical intimate partner violence victimization at time one; T2 IPV = physical intimate partner violence victimization at time two (one year after T1).

Table 3.2
Pearson correlations between key study variables

	Age	Parent education	T1 IPV	T2 IPV
Age	1.00			
Parent education	-.04	1.00		
T1 IPV	.01	.00	1.00	
T2 IPV	.03	-.02	.32*	1.00

Note. * $p < .05$; T1 IPV = physical intimate partner violence victimization at time one; T2 IPV = physical intimate partner violence victimization at time two (one year after T1); bootstrapped bias-corrected C.I.s not reported because bias for all relations $\leq |.00|$.

Table 3.3
T1 victimization rates by sexual orientation

	Male *n* (%)			Female *n* (%)			Male & Female *n* (%)		
	HET	SM	Total	HET	SM	Total	HET	SM	Grand total
Not victim	1,465 (89.4%)	148 (84.6%)	1,613 (89.0%)	2,660 (90.4%)	388 (82.9%)	3,048 (89.4%)	4,125 (90.0%)	536 (83.4%)	4,661 (89.2%)
Victim	173 (10.6%)	27 (15.4%)	200 (11.0%)	283 (9.6%)	80 (17.1%)	367 (10.6%)	456 (10.0%)	107 (16.6%)	563 (10.8%)
Sum							4,581 (87.7%)	643 (12.3%)	5,224 (100.0%)

*Note. P*ercentages are within sexual orientation; T1 = Time point one (Fall 2011); HET = heterosexual; SM = sexual minority.

Table 3.4
Logistic regression: Sexual orientation & T1 IPV

Predictor	*B*	*SE*	exp *B*
Constant	-1.91	0.06	0.15*
Sexual orientation	0.59* [.35, .81]	0.12	1.81* (1.44, 2.27)

Note. *$p < .05$; Model $\chi^2(1) = 23.40$*; T1 = Time point one intimate partner violence (0 = no victimization, 1 = victimization); Sexual orientation variable is coded so 0 = heterosexual and 1 = sexual minority; [bootstrapped confidence intervals of exp*B*]; (non-bootstrapped intervals of *B*).

Table 3.5
Linear regression: Sexual orientation & T1 IPV severity

Predictor	*b*	*SE*	*C.I.*
Constant	0.15*	0.01	.13, .17
Sexual orientation	0.12*	0.02	.08, .16

Note. *$p < .05$; Model $F(1, 5222) = 27.51 *$; T1 = Time point one; Sexual orientation variable is coded so 0 = heterosexual and 1 = sexual minority; dependent variable = time one intimate partner violence severity; bootstrapped C.I..

Table 3.6
Re-victimization rates by gender & sexual orientation

	Male *n* (%)			Female *n* (%)			Male & Female *n* (%)		
	HET	SM	Total	HET	SM	Total	HET	SM	Grand total
Not re-victimized	38 (71.7%)	3 (50.0%)	41 (69.5%)	64 (68.8%)	10 (58.8%)	74 (67.3%)	102 (69.9%)	13 56.5%)	115 (68.0%)
Re-victimized	15 (28.3%)	3 (50.0%)	18 (30.5%)	29 (31.2%)	7 (41.2%)	36 (32.7%)	44 (30.1%)	11 (43.5%)	54 (32.0%)

Note. HET = Heterosexual; SM = Sexual minority; these include only participants who endorsed victimization at time 1 and who had no missing items on time 1 or time 2 victimization items.

Table 3.7
Sexual orientation as a predictor of re-victimization

Independent variable	β	*SE*	*Z*	C.I.
Constant [b_0]	.45	.07	6.85*	
Sexual orientation [b_1]	.46	.21	2.36*	0.08, 0.90
T1 IPV [b_2]	.09	.09	1.04	-0.08, 0.26
Interaction [b_3]	.84	.31	2.75*	0.24, 1.24

Note. $*= p < .05$; Wald test (2) = 6.79*; R^2 = 0.18; *n* = 486 sophomores, juniors, & seniors who endorsed victimization in 2011; dependent variable = victimization in 2012; T1 IPV = Mean-centered physical intimate partner violence victimization at time point one; Interaction = Sexual orientation * T1 IPV; sexual orientation variable coded 0 = heterosexual, 1 = sexual minority.

Table 3.8
Help-seeking rates by gender & sexual orientation

	Male *n* (%)		Female *n (%)*	
Form of help-seeking	HET (*n* = 155)	SM (*n* = 26)	HET (*n* = 260)	SM (*n* = 73)
Any	22 (14.3%)	6 (23.1%)	83 (31.9%)	30 (41.1%)
Informal	19 (12.3%)	5 (19.2%)	77 (29.6%)	28 (38.4%)
Friend	17 (11.0%)	5 (19.2%)	75 (28.8%)	27 (37.0%)
Family	8 (5.2%)	4 (15.4%)	34 (13.1%)	13 (17.8%)
Formal	9 (5.8%)	5 (19.2%)	34 (13.0%)	20 (27.4%)
Resident advisor	1 (0.6%)	1 (3.8%)	5 (1.9%)	2 (2.7%)
Victim advocate	2 (1.3%)	-	5 (1.9%)	2 (2.7%)
Online	3 (1.9%)	1 (3.8%)	16 (6.2%)	10 (13.7%)
Mental health care	6 (3.9%)	3 (11.5%)	19 (7.3%)	9 (12.3%)
Campus health center	3 (1.9%)	4 (15.4%)	7 (2.7%)	1 (1.4%)
Campus victim center	2 (1.3%)	2 (7.7%)	5 (1.9%)	1 (1.4%)
Off-campus medical	2 (1.3%)	-	8 (3.1%)	5 (6.8%)
Victim hotline	2 (1.3%)	1 (3.8%)	2 (0.8%)	-
Police	-	-	8 (3.1%)	4 (5.5%)

Note. Percentages are within sexual orientation; HET = heterosexual; SM = sexual minority; these were calculated only with participants who were victimized at T1 and who had no missing help-seeking items.

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Table 3.9
Help-seeking rates by sexual orientation

Form of help-seeking	HET (n = 420)	SM (n = 101)	χ^2	Total (N = 521)
Any	105 (25.3%)	36 (36.4%)	4.61*	141 (27.4%)
Informal	96 (23.1%)	33 (33.3%)	4.26*	129 (25.1%)
Friend	92 (22.2%)	32 (32.3%)	4.50*	124 (24.1%)
Family	42 (10.1%)	17 (17.2%)	3.91*	59 (11.5%)
Formal	43 (10.4%)	25 (25.3%)	15.15*	68 (13.2%)
Resident advisor	6 (1.4%)	3 (3.0%)	-	9 (1.8%)
Victim advocate	7 (1.7%)	2 (2.0%)	-	9 (1.8%)
Online	19 (4.6%)	11 (11.1%)	6.21*	30 (5.8%)
Mental health care	25 (6.0%)	12 (12.1%)	4.45*	37 (7.2%)
Campus health center	10 (2.4%)	5 (5.1%)	-	15 (2.9%)
Campus victim center	7 (1.7%)	3 (3.0%)	-	10 (1.9%)
Off-campus medical	10 (2.4%)	5 (5.1%)	-	15 (2.9%)
Victim hotline	4 (1.0%)	1 (1.0%)	-	5 (1.0%)
Police	8 (1.9%)	4 (4.0%)	-	12 (2.3%)

Note. Chi-square results with "-" indicates that result not reported due to violation of assumption (one or more expected cell size was less than 5); all Chi-square tests have 1 degree of freedom; * = significant difference between heterosexual and sexual minority help-seeking rates ($p < .05$); these were calculated only with participants who were victimized at T1 and who had no missing help-seeking items.

Table 3.10
Help-seeking as a predictor of re-victimization

Independent variable	β	*SE b*	*Z*	C.I.
Constant	.48	.07	7.32*	
T1 IPV	.13	.10	1.32	-0.6, 0.32
Help-seeking	.09	.05	1.66	-0.2, 0.19
Interaction	-.02	.05	-0.51	-0.12, 0.07

Note. Wald test (2) = 5.55, $p > .05$; $R^2 = 0.06$; dependent variable = intimate partner violence victimization at time point two; $n = 494$ participants who endorsed victimization at time point one; * $p < .05$; T1 IPV = Mean-centered physical intimate partner violence victimization at time point one;
Interaction = Help-seeking (centered) * T1 IPV (centered).

CHAPTER 4

DISCUSSION

Mounting evidence indicates that intimate partner violence among sexual minorities is a substantial public health concern yet the literature in this area is still nascent. The purpose of this study was to expand upon the existing knowledge on intimate partner violence among sexual minorities by comparing rates of re-victimization between sexual minority and heterosexual subgroups of university students. Additionally, I sought to compare rates of help-seeking between these groups and to determine whether the effect of help-seeking differed on the basis of sexual orientation.

These findings are among the first to show that college student sexual minorities are at even greater risk for intimate partner violence victimization than their heterosexual peers. Furthermore, using a longitudinal design I established that in this sample sexual minority student victims of intimate partner violence are more likely to be re-victimized approximately one year later than their heterosexual peers. Approximately one in every three heterosexual victims of IPV was re-victimized as compared to one in every for sexual minority victims. This added risk for re-victimization faced by sexual minorities means that the negative consequences associated with violence victimization, including detriments to mental and physical health, are more likely to be compounded in this population by continued violence.

My second area of focus was on evaluating possible disparities in the rate at which sexual minority victims of intimate partner violence access help from sources such

as family and friends, law enforcement, and mental health professionals. Approximately one out of every three victims of IPV in the current study sought any kind of help. Informal help, sought by 25.1% of victims, was more commonly endorsed than formal help, which was sought by 13.2% of the sample. It is difficult to make comparisons across studies given variance in methodological approaches (e.g., measurement, recruitment). However, these results are consistent with the only prior study on the help-seeking behavior of sexual minority college student victims of intimate partner violence. Sylaska and Edwards (2015) found that 35% of participants disclosed at least one person, most commonly a friend.

Contrary to my expectations, sexual minority victims of IPV consistently endorsed seeking help at a higher-rate than heterosexual victims, with 25.3% of heterosexuals and 36.4% of sexual minorities reported seeking at least one form of help. Sexual minority victims were significantly more likely than heterosexual victims to seek formal help, particularly from online resources and mental health care providers. This may indicate that it would be especially helpful for agencies, violence-related or otherwise, who serve LGBT communities to curate online resources. This avenue of accessing help may circumvent the stigma associated with seeking help-in person since it is anonymous.

Given that help-seeking is associated with violence severity, and given that in the current study the IPV reported by sexual minorities was significantly more severe than that of heterosexuals, it is possible that a difference in IPV severity is driving that result. This is a remaining gap in the literature that was beyond the scope of the current study and that future research should address. Future research would also benefit from the

development of a standardized help-seeking instrument designed for IPV victims. Given that in Aim Three no relationship was detected between help-seeking and re-victimization, it was not sensible to attempt to determine if the relationship is moderated by sexual minority status and/or gender (as planned in Aim Four).

Several important limitations of the study bear mentioning. Overall, measurement of the constructs of interests was a notable limitation. Due to space constraints on the survey, sexual orientation was measured with a single item, which is not in line with best practices. Future studies are encouraged to use the best practices for measuring sexual orientation described by Badgett & Goldberg (2009), which entail measuring the attraction, behavior, and identity components. Additionally, IPV was not measured using a standardized measure in its entirety. In the future, when possible, studies should include a standardized abbreviated measure of IPV that has been shown to be reliable and valid instead of items that were selected and combined in an unsystematic way.

The second major limitation of the study was the high rate of attrition between T1 and T2 among IPV victims. I attempted to address this limitation by using the most robust statistical methods possible, including the use of FIML with robust standard errors in all longitudinal analyses. However, it is important that these results be interpreted with caution until additional studies can be conducted in order to determine whether these findings are replicated. It is notable that although the confidence intervals and standard error estimates were wide, as expected given the rate of missing data, several results appeared fairly robust. For example, sexual orientation was consistently associated with increased estimated rates of re-victimization, even in the presence of conservative standard errors. These results may also have been influenced by low power in analyses

with small cell sizes (e.g., sexual minority victims of IPV). Thus it is important future work continues to explore the impact of help-seeking on re-victimization with improved methods.

More specifically, I recommend that future studies on help-seeking measure, in addition to whether the victim reports seeking help, whether the help received was positive. Without this second component, readers do not know what services victims ended up receiving. This is problematic because of research showing that seeking help from friends/family who respond negatively can actually be harmful (Sylaska & Edwards, 2014). Future studies should incorporate measures without this lack of specificity. This would allow for more firm and specific conclusions to be made on the effect of help-seeking on rates of re-victimization. For example, if sexual minority victims more frequently receive unhelpful responses from sources of support, this may help explain variance in the relation between help-seeking and re-victimization between sexual minority and heterosexual victims. I also suggest that future studies include information about the gender of the perpetrator. Although meaningful conclusions can certainly still be made without this information, it would be beneficial to include it in future studies since people who do not report being attracted to members of the same sex may still have sexual experiences with them. Comprehensively measuring gender identity would also be an improvement, and I recommend that interest readers review the recommendations made in a Williams Institute Report on best practices for assessing transgender and gender minority identities (The GenIUSS Group, 2014). Finally, longitudinal studies that incorporate planned missing data should be considered in order

to more firmly establish the missing data mechanism and to prevent the loss of power and increased bias in analyses (see Enders, 2010).

This study sheds light on several aspects of IPV among sexual minorities. The most interesting and concerning finding, from my perspective, is the finding that sexual minority status is associated with increased risk for re-victimization even while controlling for T1 IPV severity. This is the first study that has ever evaluated these associations in this population. An important implication of this finding is that while sexual minorities did experience more severe IPV than heterosexuals in this sample, IPV severity at T1 does not explain the whole picture. Rather, there are other factors associated with being a sexual minority—factors that were not explored in the current study—that are associated with being a sexual minority that influence risk for re-victimization. One factor that was assessed as a potential explanation was help-seeking did not emerge as a meaningful explanatory association.

I find myself echoing the calls to action made by those researchers who first called attention to violence in same-sex relationships, such as Renzetti (1992). There is a pressing need for more IPV research and preventive efforts in this population. An important avenue to that end can be conceptualized as continuing efforts to discern what *does* explain this variance by sexual orientation. This need is consistent with the recommendations of the authors of a recent Institute of Medicine report (2011) on health disparities among sexual minorities. The authors identified further research on IPV as being an important part of efforts to address health disparities in this population. I suggest that we need to continue work to move further upstream to understand what leads to

violence in same-sex relationships in order to prevent it and the subsequent health disparities that result.

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APPENDIX A – PHYSICAL ASSAULT SUBSCALE

Physical Assault Subscale
Original CTS2 Items
8. My partner threw something at me that could hurt. [Retained]
10. My partner twisted my arm or hair.
18. My partner pushed or shoved me. [Retained]
46. My partner grabbed me.
54. My partner slapped me.
22. My partner used a knife or gun on me. [Retained]
28. My partner punched or hit me with something that could hurt. [Retained]
34. My partner choked me.
38. My partner slammed me against a wall.
44. My partner beat me up. [Retained]
62. My partner burned or scalded me on purpose.
74. My partner kicked me.

Revised CTS2 Items (used in the proposed study)
1. My partner pushed or shoved me. [Same as CTS2 item 18]
2. My partner threw something at me that could hurt. [Same as CTS2 item 8]
3. My partner punched or beat me up. [Combination of CTS2 items 28 and 44]
4. My partner used a knife, gun or something that could hurt on me. [Same but slightly different wording than CTS2 item 22]

APPENDIX B – COMPLETE SURVEY IITEMS

Page 1 - Question 1 - Yes or No [Mandatory]

Do you want to complete the survey now?

- ○ Yes
- ○ No [Screen Out]

Page 2 - Question 2 - Choice - One Answer (Drop Down) [Mandatory]

How old are you?

- ○ 17 or younger [Screen Out]
- ○ 18
- ○ 19
- ○ 20
- ○ 21
- ○ 22
- ○ 23
- ○ 24
- ○ 25 or older [Screen Out]

Page 2 - Question 3 - Choice - One Answer (Bullets)

What is your year in school?

- ○ Freshman
- ○ Sophomore
- ○ Junior
- ○ Senior
- ○ Other, please specify

Page 2 - Question 4 - Choice - One Answer (Bullets)

What is your sex?

- ○ Male
- ○ Female

Page 2 - Question 5 - Choice - Multiple Answers (Bullets)

How would you describe yourself? Check all that apply.

- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Black or African American
- ☐ Hispanic or Latino/Latina
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ White
- ☐ Other, please specify

Page 2 - Question 6 - Choice - One Answer (Bullets)

What is the highest level of schooling your mother or father has completed (select whichever is higher)?

- ❍ Some elementary, middle, or high school
- ❍ High school graduate
- ❍ GED
- ❍ Vocational school
- ❍ Some college
- ❍ College graduate
- ❍ Master's degree
- ❍ Doctorate
- ❍ Professional degree such as MD, JD, Nursing

Page 3 - Question 7 - Choice - One Answer (Bullets)

People are different in their sexual attraction to other people. Which best describes you?

- ❍ Only attracted to females
- ❍ Mostly attracted to females
- ❍ Equally attracted to females and males
- ❍ Mostly attracted to males
- ❍ Only attracted to males
- ❍ Not sure

Page 3 - Question 8 - Choice - One Answer (Bullets) [Mandatory]

Which of the following best describes your dating status? By "dating", we mean anything from a casual to a committed relationship, including all of the following: Hooking up with someone, doing something sexual with someone, having an open relationship in which you are also dating other people, going out on dates with someone, being in a committed relationship with a boyfriend or girlfriend, living with a boyfriend or girlfriend.

- ❍ Casual dating, not in a committed relationship [Skip to 25]
- ❍ Doing something sexual with someone, not in a committed relationship [Skip to 25]
- ❍ Not currently dating, but I have dated since the beginning of the Fall 2010 semester [Skip to 25]
- ❍ Not currently dating, but I have in the past (before the beginning of the Fall 2010 semester) [Skip to 25]
- ❍ I am in a committed relationship with my boyfriend or girlfriend, not living together [Skip to 25]
- ❍ Living with my boyfriend or girlfriend, or married [Skip to 25]
- ❍ None of the above

Page 36 - Question 49 - Rating Scale - One Answer (Horizontal) [Mandatory]

My partner pushed or shoved me.

0 times	1 time [Skip to 46]	2 times [Skip to 46]	3-5 times [Skip to 46]	6-9 times [Skip to 46]	10 or more times [Skip to 46]	Yes, but not since the beginning of the 2010 Fall term [Skip to 46]	Choose not to answer
❍ 0	❍ 1	❍ 2	❍ 3	❍ 4	❍ 5	❍ 6	❍ 7

Page 37 - Question 50 - Rating Scale - One Answer (Horizontal) [Mandatory]

My partner threw something at me that could hurt.

0 times	1 time [Skip to 47]	2 times [Skip to 47]	3-5 times [Skip to 47]	6-9 times [Skip to 47]	10 or more times [Skip to 47]	Yes, but not since the beginning of the 2010 Fall term [Skip to 47]	Choose not to answer
❍ 0	❍ 1	❍ 2	❍ 3	❍ 4	❍ 5	❍ 6	❍ 7

Page 38 - Question 51 - Rating Scale - One Answer (Horizontal) [Mandatory]

My partner punched or beat me up.

0 times	1 time [Skip to 48]	2 times [Skip to 48]	3-5 times [Skip to 48]	6-9 times [Skip to 48]	10 or more times [Skip to 48]	Yes, but not since the beginning of the 2010 Fall term [Skip to 48]	Choose not to answer
❍ 0	❍ 1	❍ 2	❍ 3	❍ 4	❍ 5	❍ 6	❍ 7

Page 39 - Question 52 - Rating Scale - One Answer (Horizontal) [Mandatory]

My partner used a knife, gun or something that could hurt on me.

0 times	1 time [Skip to 49]	2 times [Skip to 49]	3-5 times [Skip to 49]	6-9 times [Skip to 49]	10 or more times [Skip to 49]	Yes, but not since the beginning of the 2010 Fall term [Skip to 49]	Choose not to answer
❍ 0	❍ 1	❍ 2	❍ 3	❍ 4	❍ 5	❍ 6	❍ 7