

## Mental Health in Violent Crime Victims: Does Sexual Orientation Matter?

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**Abstract** The present study investigates victim sexual orientation in a sample of 641 violent crime victims seeking emergency medical treatment at a public-sector hospital. Victim sexual orientation was examined as it: (a) varies by type of violent crime and demographic characteristics, (b) directly relates to psychological symptoms, and (c) moderates the relationship between victim and crime characteristics (i.e., victim gender, victim trauma history, and type of crime) and psychological symptoms (i.e., symptoms of acute stress, depression, panic, and general anxiety). Results showed that lesbian, gay, bisexual, and transgender (LGBT) victims were more likely to be victims of sexual assault. Heterosexual victims were more likely to be victims of general assault and shootings. LGBT victims demonstrated significantly higher levels of acute stress and general anxiety. Moreover, victim sexual orientation moderated the association of type of crime with experience of panic symptoms. Also, victim sexual orientation moderated the relation of victim trauma history and general anxiety symptoms. Results are discussed in relation to victimization prevalence rates, sexual prejudice theory, and assessment and treatment of violent crime victims.

**Keywords** Sexual orientation · LGBT victim · Violent crime · Anxiety · Sexual assault

Sexual orientation is an increasingly important characteristic receiving recent empirical attention in the victimology literature (e.g., Cramer, Chandler, & Wakeman, 2010; Rayburn, Mendoza, & Davison, 2003). The salience of sexual orientation appears to be due to both increasing rates of victimization among, and poor psychological outcomes for, lesbian, gay, bisexual, and transgender (LGBT) crime victims. The cumulative effect of increasing rates and research culminated in recent social psychological theory (e.g., Herek, Gillis, & Cogan, 2009; Hyman, 2009) and policy change (e.g., passage of the Matthew Shepard and James Byrd, Jr. Hate Crimes Prevention Act; Human Rights Campaign, 2009).

From a theoretical standpoint, sexual minority victimization experiences are hypothesized to be a function of society-induced stigma through person–environment interaction (Herek et al., 2009). Briefly, Herek’s collective work (e.g., Herek 2007, 2009; Herek et al., 2009) frames the experience of sexual stigma (i.e., anti-LGBT stigma) as a result of socially constructed definitions of acceptable and moral sexual orientations. Stigma is continually reinforced through subtle and overt means such as anti-LGBT legislation (e.g., “Don’t Ask, Don’t Tell”) and violence (e.g., hate- or bias-motivated crimes), as well as altered behavior on the part of LGBT individuals in order to avoid being targets of discrimination. Potential results of self- and other-generated stigma include poor psychological health (Herek et al., 2009).

Perhaps as a direct response to societal stigma, recent federal legislation has provided more protection for LGBT victims of hate crimes. For instance, sexual orientation was added to the list of demographic characteristics protected under the federal definition of a hate crime (HRC, 2009). Generally, offenders convicted of a hate crime are subject to an increased sentence under state or federal sentencing

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guidelines (Department of Justice, 1994). Passage of the Matthew Shepard and James Byrd, Jr. Hate Crimes Prevention Act in 2009 also provided resources to local jurisdictions to prosecute anti-LGBT hate crimes (HRC, 2009). Despite these policy advances, LGBT victims of crimes that are not classified as hate crimes are subject to the same limited rights and resources as any other victim. However, unlike heterosexual crime victims, in the instance of non-hate crimes, LGBT victims may still feel enacted stigma. In short, for LGBT individuals, psychological experience of any victimization may fall under Herek et al.'s framework, legislation does not afford such victims expanded rights or resources. Thus, the psychological health of a LGBT crime victim may be particularly at risk for distress as a result of combination of a lack of perceived protection in instances of general victimization and heightened awareness of stigma.

In light of the importance of LGBT victimization painted by recent legislative and theoretical work, the present study extends extant literature on LGBT crime victims' mental health. This is accomplished by examining type of victimization and clinical characteristics of LGBT violent crime victims when compared to heterosexual counterparts. Moreover, victim sexual orientation is investigated as a moderator of the relationship between victim and crime characteristics with psychological outcomes. As a starting point, we review rates and clinical impact among LGBT crime victims.

### **LGBT Victims: Rates of Victimization and Psychological Outcomes**

Anti-LGBT crimes have increased over the last decade, with particular increases in both sexual assault and murder (NCAVP, 2009). Likewise, a high degree (16.7 percent) of all bias-motivated crimes in 2008 was based on sexual orientation (FBI, 2009b). This number escalates (17.7 percent) among hate crimes (i.e., crimes motivated by actual or perceived group membership). The majority of total and physical bias- and hate-motivated LGBT victims were gay males (FBI, 2009b; Herek, 2009). A great deal of literature has specifically addressed rates of violent victimization within LGB samples only. This literature generally lacks direct comparisons to heterosexual victims. Compared to population rates, physical assault rates are generally high (11–20 percent) among school-aged LGB individuals (D'Augelli, Grossman, & Starks, 2006; D'Augelli, Pilkington, & Hershberger, 2002; Pilkington & D'Augelli, 2006). Sexual assault is only slightly more common (9–22 percent) in this age group (D'Augelli et al., 2006). Trends of interpersonal violence toward LGB persons are comparable in a young adult

(D'Augelli, 1992) and older adult (D'Augelli & Grossman, 2001) samples. Overall, LGB adults are more likely to experience interpersonal violence than heterosexual counterparts (Roberts, Austin, Corliss, Vandermorris, & Koenen, 2010).

High rates of sexual minority victimization have coincided with a growing literature highlighting negative psychological outcomes for these victims (e.g., Cheng, 2004; Herek, 2007; Herek, Gillis, & Cogan, 2002). Collective findings by Herek and his colleagues (Herek, 2007; Herek, Gillis, & Cogan, 1999; Herek, Cogan, Gillis, & Glunt, 1997) indicate that, as with other populations, sexual minority victims are at increased risk for depression, anxiety, post-traumatic stress, anger, general stress and fear of future harm compared to non-victimized LGB counterparts. Further evidence by D'Augelli and colleagues (D'Augelli & Grossman, 2001; D'Augelli et al., 2002; D'Augelli, 2006) suggests high rates of PTSD and traumatic stress among LGB victims, as well as poor mental health indicators of low self-esteem, loneliness, and suicidal ideation due to internalized homophobia in LGB older adults. The limited data available comparing gay male to heterosexual male crime victims shows gay male adults aged 18–24 to suffer higher levels of suicidal ideation and depressive cognitions than heterosexual counterparts (Nicholas & Howard, 1998). Interestingly, most theories explicating elevated rates of psychological distress in LGBT individuals implicate the experience of stigma, internalized homophobia, or heterosexism as causal or contributory factors (e.g., Herek et al., 2009; Hyman, 2009; Kaiser, Vick, & Major, 2006).

### **Sexual Orientation as a Moderator of Psychological Outcomes**

Three known risk factors for negative psychological outcomes among crime victims are victim gender, victim trauma history, and type of crime experienced. Existing data suggest that females are more likely to be victims of interpersonal or sexual crimes (e.g., Felix & McMahon, 2007; FBI, 2009a) and to experience higher rates of negative clinical outcomes such as PTSD or depression (e.g., Koss, Bailey, Yuan, Herrera, & Lichter, 2003) than male counterparts. One's prior exposure to traumatic events is also positively correlated with clinical syndromes such as depression, post-traumatic stress, and anxiety (Irish, Ostrowski, Fallon, Spoonster, van Dulmen, et al., 2008; Kilpatrick, Ruggiero, Acierno, Saunders, Resnick, & Best, 2003; Marmion & Lundberg-Love, 2008). Number of previous traumas has been noted as a particularly important predictor of development of post-trauma symptoms (Irish et al., 2008).

The relation between crime type and negative clinical symptoms is somewhat more obfuscated. There is a general positive link between violent crime victimization and psychological symptoms (see Hanson, Kilpatrick, Falsetti, & Resnick, 1995 for review). However, distinguishing types of violent crime as they relate to clinical symptoms can inform assessment and treatment of targeted symptoms.

## The Present Study

Current knowledge on rates and characteristics of LGBT victimization is limited in several ways. First, there is a lack of direct comparison of victimization with heterosexual crime victims. Second, when examining types of crime, domestic violence is often absent from such literature. We include this in our analysis of type of victimization and sexual orientation. Third, little is known in way of other demographic disparities between LGBT and heterosexual victims.

*Research Question 1* How do LGBT victims differ from heterosexual counterparts in terms of types of crime and demographic characteristics?

*Research Question 2* How does victim sexual orientation relate to trauma-associated clinical symptoms (i.e., acute stress, depression, panic, and general anxiety) after victimization? The present study builds on existing data by examining main effects of sexual orientation on a range of trauma-related clinical symptoms, including depressive, general anxiety, panic, and acute stress symptoms.

*Research Question 3* How does victim sexual orientation moderate the relations between victim and crime characteristics (i.e., victim gender, type of crime, and victim trauma history) and the above clinical symptoms? Given ample evidence that gender, trauma history, and crime type are well established risk factors for traumatic symptoms, a next logical step is to examine how sexual orientation moderates these relations. The present study broadly defines clinical symptoms as symptoms of acute stress, depression, panic, and general anxiety.

## Method

### Procedure

Eligible participants were those who suffered a violent crime and subsequently sought emergency medical treatment from San Francisco General Hospital, a level-1 trauma center. These crime victims were originally recruited for potential participation in a demonstration project through the Trauma Recovery Center (TRC) in San

Francisco, California. Eligible victims included adults who were aged 18 or older, English-speaking, and not currently receiving mental health treatment. A full description of selection criteria for the demonstration project is documented in previous literature (see Alvidrez et al., 2008; Boccellari et al., 2007). The present study utilizes only cross-sectional baseline data from this project.

### Participants

A total of 655 violent crime victims were assessed for medical health and psychiatric functioning post-victimization. Only the 641 participants with data on demographic and clinical variables of interest were used in analyses. Table 1 summarizes demographic information for the overall sample in this study, and by victim sexual orientation.

### Measures

**Demographic Information.** During the baseline interview, participants were asked about their age, gender, sexual orientation, ethnicity, monthly income, and education level. Sexual orientation was dichotomized into heterosexual and LGBT groups to balance sample size concerns with examination of group differences.

**Type of Crime.** The type of violent crime experienced by participants was classified in one of six categories during data collection: Domestic violence, sexual assault, shooting, stabbing, physical assault, and vehicular assault. If the crime was perpetrated by a current or former intimate partner, it was classified as domestic violence regardless of mechanism of violence (e.g., physical assault, stabbing, etc.).

All six categories (i.e., sexual assault, domestic violence, physical assault, shooting, stabbing, and vehicular assault) were used in the conceptualization of crime type where descriptive statistics or frequencies were appropriate analytic procedures (i.e., analysis of Research Question 1). Description of sexual orientation by crime type elaborates on current knowledge of whether LGBT victims differ in frequency of type of crime victimization.

When crime type was used as an independent variable in the evaluation of sexual orientation as a moderator of clinical symptoms (i.e., multivariate analyses for Research Questions 2 and 3), it becomes necessary to reclassify or combine the six crime types. Statistical, legal, and intervention literature all inform the rationale for the need and method of reclassification. From a statistical standpoint, a minimum of five participants would be necessary in each cell for a univariate or multivariate (e.g., ANOVA, regression) procedure to be conducted (DeCoster, 2006).

**Table 1** Demographic information by sexual orientation of victim

| Demographic variable          | Total sample               | Heterosexual victims       | LGBT victims               | Heterosexual vs. LGBT comparison |
|-------------------------------|----------------------------|----------------------------|----------------------------|----------------------------------|
| Gender                        |                            |                            |                            | $\chi^2 = 5.15^*$                |
| Male                          | 405 (63.3%)                | 370 (64.8%)                | 35 (50.7%)                 |                                  |
| Female                        | 236 (36.7%)                | 202 (35.2%)                | 34 (49.3%)                 |                                  |
| Missing                       | 0                          | 0                          | 0                          |                                  |
| Ethnicity                     |                            |                            |                            | $\chi^2 = 18.05^*$               |
| European American             | 154 (24.1%)                | 124 (21.7%)                | 30 (43.5%)                 |                                  |
| African American              | 297 (46.4%)                | 276 (48.3%)                | 21 (30.4%)                 |                                  |
| Hispanic/Latin American       | 81 (12.7%)                 | 74 (13.0%)                 | 7 (10.1%)                  |                                  |
| Native American/Eskimo        | 10 (1.6%)                  | 8 (1.4%)                   | 2 (2.9%)                   |                                  |
| Asian American                | 26 (4.1%)                  | 24 (4.2%)                  | 2 (2.9%)                   |                                  |
| Mixed                         | 62 (9.7%)                  | 56 (9.8%)                  | 6 (8.7%)                   |                                  |
| Other                         | 9 (1.4%)                   | 8 (1.4%)                   | 1 (1.4%)                   |                                  |
| Declined to state             | 1 (0.1%)                   | 1 (0.1%)                   | 0 (0.0%)                   |                                  |
| Missing                       | 1                          | 1                          | 0                          |                                  |
| Physical abuse history        |                            |                            |                            | $\chi^2 = 8.02^*$                |
| No                            | 389 (60.8%)                | 358 (62.7%)                | 31 (45.0%)                 |                                  |
| Yes                           | 251 (39.2%)                | 213 (37.3%)                | 38 (55.0%)                 |                                  |
| Missing                       | 1                          | 1                          | 0                          |                                  |
| Sexual abuse history          |                            |                            |                            | $\chi^2 = 23.24^{***}$           |
| No                            | 470 (73.4%)                | 436 (76.3%)                | 34 (49.3%)                 |                                  |
| Yes                           | 170 (26.6%)                | 135 (23.7%)                | 35 (50.7%)                 |                                  |
| Missing                       | 1                          | 1                          | 0                          |                                  |
| Type of crime                 |                            |                            |                            | $\chi^2 = 27.67^{***}$           |
| Sexual assault                | 130 (20.3%)                | 86 (15.1%)                 | 24 (34.8%)                 |                                  |
| Domestic Violence             | 83 (12.9%)                 | 74 (13.0%)                 | 9 (13.0%)                  |                                  |
| Shooting                      | 97 (15.1%)                 | 97 (17.0%)                 | 0                          |                                  |
| Stabbing                      | 89 (13.9%)                 | 82 (14.4%)                 | 7 (10.1%)                  |                                  |
| Physical assault              | 238 (37.1%)                | 210 (36.8%)                | 28 (40.6%)                 |                                  |
| Vehicular assault             | 23 (3.5%)                  | 22 (3.9%)                  | 1 (1.4%)                   |                                  |
| Missing                       | 1                          | 1                          | 0                          |                                  |
| Type of crime (reclassified)  |                            |                            |                            | $\chi^2 = 11.46^{***}$           |
| General assault               | 447 (69.8%)                | 411 (72.0%)                | 36 (52.2%)                 |                                  |
| Relational assault            | 193 (30.2%)                | 160 (28.0%)                | 33 (47.8%)                 |                                  |
| Missing                       | 1                          | 1                          | 0                          |                                  |
| Mean age (years)              | 39.50 ( <i>SD</i> = 11.3)  | 35.84 ( <i>SD</i> = 11.5)  | 36.04 ( <i>SD</i> = 9.9)   | $t = -0.14$                      |
| Mean monthly income (dollars) | 1,184 ( <i>SD</i> = 2,786) | 1,094 ( <i>SD</i> = 2,030) | 1,953 ( <i>SD</i> = 6,133) | $t = -2.41^*$                    |
| Mean education (years)        | 12.23 ( <i>SD</i> = 2.5)   | 12.19 ( <i>SD</i> = 2.4)   | 12.59 ( <i>SD</i> = 2.9)   | $t = -1.27$                      |
| Mean lifetime trauma events   | 4.56 ( <i>SD</i> = 2.4)    | 4.46 ( <i>SD</i> = 2.4)    | 5.40 ( <i>SD</i> = 2.6)    | $t = -3.07^{**}$                 |

$N = 641$ ; test statistics compare heterosexual victims to LGBT victims

\*  $p \leq .05$ , \*\*  $p \leq .01$ , \*\*\*  $p \leq .001$

Examination of two cells of crime type for LGBT individuals in the shooting ( $n = 0$ ) and vehicular assault ( $n = 1$ ) categories displays failure to meet this criteria. Therefore, reclassification of crime type was necessary for multivariate analyses.

We allowed legal and psychological literature to guide the method reclassification of crime type. Given, not all

instances of sexual assault are perpetrated by intimate partners. However, a bevy of literature suggests that combining these subtypes is logical. For instance, there is definitional overlap between sexual assault and domestic violence in that approximately 41–76 percent of sexual assault/rape perpetrators are intimate partners, depending on the time period of data analysis (Kilpatrick, Resnick,

Saunders, & Best, 1998; NVC, 1993). Indeed, literature cautions readers to dispel the misconception that most sexual assaults are perpetrated by strangers (Grothues & Marmion, 2006). Conceptually, domestic violence and sexual assault both fall under a broader umbrella of “relational violence” and often involve common themes of intimate interpersonal control (Grothues & Marmion, 2006). Perhaps as a result of the commonalities between sexual assault and domestic violence, law enforcement (e.g., Chen & Ullman, 2010; Felson & Pare, 2005) and victim services (e.g., Macy, Giattina, Parish, & Crosby, 2010; Martin, Coyne-Beasley, Hoehn, Matthew, Runyan, et al., 2009; Zweig & Burt, 2007) often pair sexual assault and domestic violence together as well.

In accordance with these bodies of literature, we combined sexual assault and domestic violence under the category *relational assault*. Relational assault includes those with an intimate partner or of a sexual nature, namely domestic violence and sexual assault. The label *general assault* will be used throughout the rest of this article to denote a combination of crime subtypes falling outside the relational nature. General assault refers to a group of additional violent assaults, including shooting, stabbing, physical assault, and vehicular assault.

**Trauma History.** Participants’ lifetime traumatic history was tabulated using a component of the Posttraumatic Diagnostic Scale (Foa, Cashman, Jaycox, & Perry, 1997). The scale assesses a maximum of 12 types of trauma including adulthood experiences of natural disasters, accidents, life-threatening illness/sudden death, and physical and sexual assault. The scale also incorporates childhood physical and sexual abuse during childhood. The present study used a total corrected count that did not include the current violent crime. Also, the physical and sexual assault items served as control variables in our analyses.

**Clinical Symptoms.** Clinical variables were assessed using two types of self-report instruments during the baseline interview. General traumatic stress symptoms were measured using the Acute Stress Disorder Scale (ASDS; Bryant, Moulds, & Guthrie, 2000). It contains 21 items, each measured on a 5-point Likert scale, asking participants the degree to which they experienced each symptom over the last month. The present study used the ASDS total score (i.e., sum of all 21 items). Cronbach’s alpha for the total score was .91 for this sample.

Depressive symptoms, general anxiety, and panic symptoms were assessed using the Patient Health Questionnaire (PHQ; Spitzer, Kroenke, & Williams, 1999). PHQ subscales exist for levels of depression (nine items), general anxiety (seven items), and panic (20 items), among other diagnostic syndromes. Participants in the present

study rated their depressive symptoms over the last 2 weeks, panic symptoms over the last 4 weeks, and general anxiety symptoms over the last 4 weeks. Total scores were used in the present study to capture severity of depressive, general anxiety, and panic symptomatology. Cronbach’s alpha for these subscales were as follows in the present sample: Depression ( $\alpha = .87$ ), panic ( $\alpha = .73$ ), and general anxiety ( $\alpha = .86$ ).

## Results

RQ 1: How do LGBT victims differ from heterosexual counterparts in terms of types of crime and demographic characteristics?

Table 1 summarizes results of demographic and crime comparisons by victim sexual orientation ( $N = 641$ ). Overall, significant demographic differences were found by victim sexual orientation. LGBT victims were relatively equivalent by gender, whereas heterosexual victims were predominantly male. Ethnically, LGBT victims were more likely to be European American, and heterosexual victims displayed higher frequencies of being African American and Hispanic/Latin American. LGBT victims possessed higher mean monthly income, as well as greater rates of total, physical, and sexual trauma history, as compared to heterosexual victims. Age and education level were equivalent by victim sexual orientation.

Regarding type of victimization, a chi-square analysis was conducted to evaluate the specific types of crime victimization. Results yielded significant differences in crime type distribution by victim sexual orientation. Heterosexual victims fell into the following categories in descending order: physical assault, shooting, sexual assault, stabbing, domestic violence, vehicular assault, and one missing. LGBT victims reported crime type in descending order as: physical assault, sexual assault, domestic violence, stabbing, vehicular assault, and shooting. By percentage within groups, LGBT victims were 2.3 times more likely to be victims of sexual assault than heterosexual victims. Percentages of victimization within groups also showed that, compared to LGBT victims, heterosexual victims were much more likely to be victims of shootings (there were no LGBT shooting victims).

A second chi-square analysis was conducted for the same constructs, except using the reclassified definition of crime type (i.e., relational versus general assault; see Table 1). Within the LGBT subgroup, type of victimization was relatively equal. However, the ratio of victimization for heterosexual victims was nearly 3:1 with the majority being victims of general assault.

RQ2: How does victim sexual orientation relate to trauma-associated clinical symptoms (i.e., acute stress,

depression, panic, and general anxiety) after victimization?

RQ3: How does victim sexual orientation moderate the relations between common victimization risk factors (i.e., victim gender, type of crime, and victim trauma history) and the above clinical symptoms?

Multivariate regression analyses were conducted to answer research questions two and three to take into account correlated dependent measures (Cohen, Cohen, West & Aiken, 2003). This approach also allows for evaluation of main and moderating effects in the presence of numerous control variables while decreasing concerns regarding Type I error (see Cohen et al., 2003). Only participants with complete data on all variables of interest were used ( $n = 627$ ). Independent variables were victim sexual orientation (heterosexual versus LGBT), victim gender, victim trauma history, and type of crime (relational versus general). Control variables were victim age, ethnicity, income, education, and history of previous physical and sexual assault (i.e., yes or no; see Hyman, 2009 for importance of assault history). Dependent measures were the total score for acute stress on the ASDS, as well as total scores on the PHQ for depression, panic, and general anxiety symptoms. Overall model effect sizes for each dependent measure were assessed using  $R^2$ , while the magnitude of specific independent, control, and moderator variables were assessed using partial eta squared. Partial eta squared values are only reported for significant effects. Where reported, confidence intervals denote a 95 percent range.

Table 2 summarizes the results of this analysis. Overall models were significant for all four dependent measures: acute stress ( $F [19, 608] = 7.22, p < .001, R^2 = .18, CI = .13$  to  $.23$ ), depression ( $F [19, 608] = 7.11, p < .001, R^2 = .18, CI = .13$  to  $.23$ ), panic ( $F [19, 608] = 8.43, p < .001, R^2 = .21, CI = .15$  to  $.26$ ), and general anxiety ( $F [19, 608] = 7.41, p < .001, R^2 = .19, CI = .13$  to  $.24$ ). To clarify research question two, main effects of sexual orientation on the four dependent measures can be assessed. Results indicate that victim sexual orientation was associated with both acute stress and general anxiety symptoms. Specifically, LGBT victims reported significantly higher acute stress symptoms ( $M = 62.68, SD = 14.61, d = .45, CI = -2.99$  to  $1.87$ ) and more anxiety symptoms ( $M = 16.34, SD = 3.59, d = .44, CI = -.41$  to  $.74$ ) than heterosexual victims ( $M = 55.07, SD = 17.05; M = 14.76, SD = 4.32$ , respectively).

Other main effects of victim gender, victim trauma history, type of crime, ethnicity, and education are worth noting. Victim gender was significantly related to symptoms of acute stress, depression, and general anxiety. Females reported higher levels of acute stress ( $M = 63.06, SD = 14.70, d = .70, CI = -1.20$  to  $2.35$ ), depression ( $M = 23.04, SD = 6.60, d = .57, CI = -.28$  to  $1.25$ ), and general anxiety ( $M = 16.51, SD = 3.80, d = .61, CI = .11$  to  $1.03$ ) than male counterparts ( $M = 51.77, SD = 16.82; M = 19.15, SD = 6.91; M = 14.02, SD = 4.28$ , respectively). Victim past trauma history was positively associated with acute stress ( $\beta = .97, CI = -.53$  to  $2.47$ ), depression ( $\beta = .35, CI = -.27$  to

**Table 2** Multivariate regression model of independent variables on clinical symptoms

|                              | Acute stress symptoms |                | Depression symptoms |            | Panic symptoms  |                | Anxiety symptoms |                |
|------------------------------|-----------------------|----------------|---------------------|------------|-----------------|----------------|------------------|----------------|
|                              | <i>F</i>              | $\eta_p^2$     | <i>F</i>            | $\eta_p^2$ | <i>F</i>        | $\eta_p^2$     | <i>F</i>         | $\eta_p^2$     |
| <i>Independent variables</i> |                       |                |                     |            |                 |                |                  |                |
| Sexual orientation           | <b>3.75*</b>          | <b>&lt;.01</b> | 3.23                | –          | 0.28            | –              | <b>6.95**</b>    | <b>.01</b>     |
| Gender                       | <b>6.32**</b>         | <b>.01</b>     | <b>8.10**</b>       | <b>.01</b> | 2.33            | –              | <b>9.22**</b>    | <b>.01</b>     |
| SO × Gender                  | 1.52                  | –              | 0.23                | –          | 2.98            | –              | 0.02             | –              |
| Trauma history               | <b>9.75**</b>         | <b>.02</b>     | <b>9.84**</b>       | <b>.02</b> | <b>30.83***</b> | <b>.05</b>     | <b>9.28**</b>    | <b>.01</b>     |
| SO × Trauma history          | 1.14                  | –              | 1.91                | –          | 0.01            | –              | <b>5.30*</b>     | <b>&lt;.01</b> |
| Crime type                   | 0.16                  | –              | 0.03                | –          | 2.43            | –              | 0.46             | –              |
| SO × Crime type              | 0.32                  | –              | 0.04                | –          | <b>4.19*</b>    | <b>&lt;.01</b> | 0.03             | –              |
| Age                          | 2.83                  | –              | 0.13                | –          | 0.18            | –              | 1.76             | –              |
| Physical abuse history       | 3.28                  | –              | 0.19                | –          | 1.97            | –              | 0.47             | –              |
| Sexual abuse history         | 0.33                  | –              | 1.16                | –          | 0.21            | –              | 0.26             | –              |
| Ethnicity                    | 1.22                  | –              | 0.94                | –          | <b>2.03*</b>    | <b>.02</b>     | 1.36             | –              |
| Income                       | 2.15                  | –              | 2.79                | –          | 0.91            | –              | 3.07             | –              |
| Education                    | 1.57                  | –              | 0.49                | –          | <b>4.14*</b>    | <b>&lt;.01</b> | 0.02             | –              |

Note: SO = sexual orientation;  $\eta_p^2$  = partial eta-squared value; bold values represent significant predictor variable

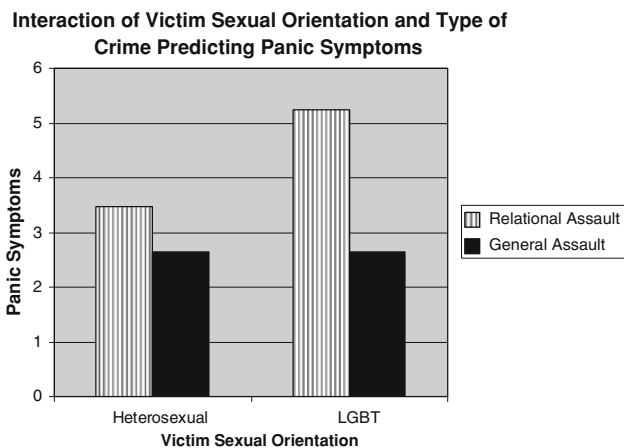
\*  $p \leq .05$ ; \*\*  $p \leq .01$ ; \*\*\*  $p \leq .001$

.97), panic ( $\beta = .56$ , CI = .22 to .90), and general anxiety symptoms ( $\beta = .11$ , CI =  $-.27$  to .49). Crime type was significantly related to panic symptoms, such that victims of relational assault ( $M = 3.84$ ,  $SD = 4.07$ ,  $d = .43$ , CI =  $-.15$  to .78) reported significantly higher degrees of panic symptoms than victims of general assault ( $M = 2.18$ ,  $SD = 3.72$ ). Education was significantly positively related with panic symptoms ( $\beta = .12$ , CI = .004 to .24). Finally, levels of panic symptoms by ethnicity emerged as follows from highest to lowest: Native American/Eskimo ( $M = 5.78$ ,  $SD = 4.41$ ), Other ( $M = 4.56$ ,  $SD = 4.04$ ), Mixed ( $M = 3.29$ ,  $SD = 4.30$ ), European American ( $M = 3.25$ ,  $SD = 3.90$ ), Asian American ( $M = 3.05$ ,  $SD = 3.99$ ), Hispanic/Latino American ( $M = 2.63$ ,  $SD = 4.14$ ), and African American ( $M = 2.06$ ,  $SD = 3.61$ ).

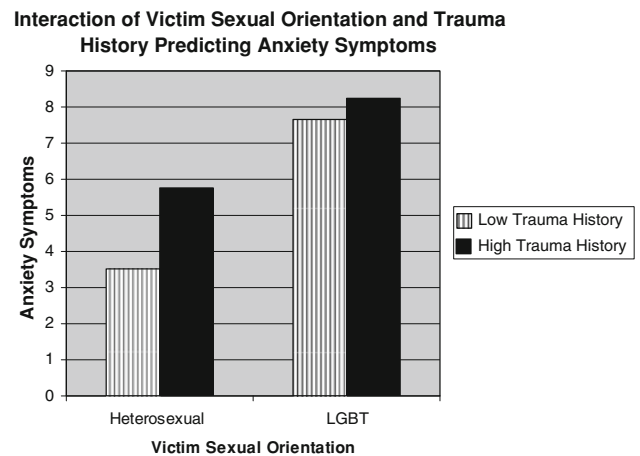
To examine the moderating role of victim sexual orientation on other independent variables, the following interaction terms were included in the multivariate regression analysis: victim sexual orientation  $\times$  victim gender, victim sexual orientation  $\times$  victim trauma history, and victim sexual orientation  $\times$  crime type. Only significant moderation effects are reported here (see Table 2 for all results).

Victim sexual orientation moderated the relationship between crime type and panic symptoms ( $\beta = -2.28$ , CI =  $-4.46$  to  $-.09$ , see Fig. 1). Overall, relational assault victims experienced more panic symptoms than general assault victims. Moreover, LGBT victims of relational assaults experienced the most panic symptoms compared to all other subgroups.

Finally, victim sexual orientation moderated the relationship between trauma history and general anxiety symptoms ( $\beta = .46$ , CI = .07 to .85, see Fig. 2). LGBT victims reported greater anxiety symptoms overall when compared to heterosexual victims. This disparity is



**Fig. 1** Interaction of victim sexual orientation and type of crime predicting panic symptoms. *LGBT* lesbian, gay, bisexual, and transgender



**Fig. 2** Interaction of victim sexual orientation and trauma history predicting anxiety symptoms. *Note:* High and Low Trauma Histories are defined by  $\pm 2$  standard deviations from the mean; *LGBT* lesbian, gay, bisexual, and transgender

clarified in that LGBT victims with low and high trauma histories experience relatively equivalent levels of anxiety symptoms. However, low trauma heterosexual victims experienced notably less anxiety symptoms than high trauma heterosexual counterparts.

### Discussion

The present study was designed to identify victimization and demographic patterns among LGBT and heterosexual violent crime victims seeking emergency medical care. LGBT victims showed higher rates of sexual assault compared to heterosexual counterparts, a finding consistent with previous research highlighting generally high degrees of sexual assault victimization in LGB samples (e.g., D’Augelli et al., 2006). Of further importance is that heterosexual victims were more likely to be victims of shootings and general assault, thereby demonstrating important differences between the specific types of crimes these respective populations are at greatest risk of suffering.

Prominent demographic disparities emerged between LGBT and heterosexual victims. Noteworthy differences were that heterosexual victims were more likely to be male and of ethnic minority status, whereas LGBT victims had a greater presence of European Americans and even distribution by gender. Present hate crime and victim literature (e.g., Cheng, 2004; Cramer et al., 2010; Herek, 2009) tend to focus on a single minority group at a time. Provided the differences in how victim sexual orientation and ethnicity interface, there is apparent need for systematic examination of how subtypes of minority victims (e.g., African American LGBT versus heterosexual) experience stigma and

clinical symptoms. Also warranting attention is the higher frequency of trauma and abuse histories in LGBT victims. This finding is not entirely surprisingly given consistent findings of generally high rates of victimization for LGBT individuals (e.g., Pilkington & D'Augelli, 2006; Roberts et al., 2010). The knowledge that LGBT persons suffer more traumas reaffirms a need for careful assessment and intervention tailored toward such victims' experiences in order to mitigate poor psychological trajectories.

The second aim of the present study was to analyze sexual orientation as a direct and moderating variable on victim acute stress, depression, panic, and general anxiety. Although previous literature portrays a bevy of psychiatric concerns for bias and hate crime victims (e.g., D'Augelli, 2006; Herek, 2007; Herek et al., 1999), present findings extended this body of work in that victim sexual orientation shows a direct and indirect link to anxiety-related symptoms in a sample of violent crime victims. In way of direct associations, sexual minority victims were more susceptible to experiencing acute stress and general anxiety.

Various explanations exist for the role of sexual orientation in the experience of increased anxiety-related symptoms for violent crime victims. For example, Hyman (2009) discusses a person–environment model causing poor mental health in lesbian women. Specifically, she postulates that individual and cultural heterosexism inculcates negative self-views for lesbian women. Internalized homophobia then yields negative mental health outcomes such as stress and anxiety.

Herek, Cogan and Gills (2009) offer another perspective of environmental and individual experiences that may influence manifestation of anxiety in this group. Specifically, they identify heterosexist cultural influences as a contributing factor. They further outline three types of person-level stigma experienced by sexual minority persons: felt, enacted, and internalized. Enacted stigma may be particularly pertinent to understanding anxiety and LGBT victimization. Enacted stigma involves overt behavioral expressions of bias toward LGBT individuals (e.g., hate crimes, housing discrimination; Herek et al., 2009). Though not hate crimes per se, LGBT victims may experience violent crime as a form of enacted stigma, thereby yielding higher levels of anxiety-spectrum symptoms.

Applied to mental health outcomes of LGBT crime victims, both Hyman's, and Herek and colleagues' perspectives raise the possibility that LGBT victims experience crimes as a sexual identity-related interpersonal trauma. They may subsequently internalize negative self-views and experience psychological symptoms (i.e., anxiety and acute stress). Moreover, experiences of LGBT crime victims may interact with known risk factors linked to victimization to exacerbate anxiety-related symptoms.

Alternatively, mental health may be negatively affected by increased attention to threat by sexual minority persons. Research on social-identity threat has shown that members of stigmatized groups develop belief systems about being devalued, and these expectations cause them to become especially alert or vigilant for signs of devaluation (e.g., Kaiser et al., 2006; Major, Quinton, & McCoy, 2002; Steele, Spencer, & Aronson, 2002). There is a great deal of empirical data showing a bias in attention toward threatening stimuli is associated with, and may maintain, anxiety (see review in Cisler, Bacon, & Williams, 2009). Research further suggests that such attentional biases may *cause* anxiety-spectrum symptoms (MacLeod, Rutherford, Campbell, Ebsworthy, & Holker, 2002; Mathews & MacLeod, 2002). Therefore, because sexual minority persons are members of an oft-stigmatized minority group, they may be particularly vigilant for threat cues, which in turn may produce higher levels of anxiety and negatively impact mental health symptoms. Support for this notion can be seen in our findings that LGBT victims endorsed higher rates of general anxiety and acute stress over the past 4 weeks when compared to heterosexual counterparts.

Victim sexual orientation is a relatively untapped moderating victim characteristic to date. The importance of present findings is therefore magnified by demonstrating the moderating role of sexual orientation with anxiety symptoms. Three trends emerged. First, in relation to victim gender, heterosexual males experienced the least, and male sexual minority victims the most, levels of panic. Concerning type of crime, sexual minority victims of relational assault experienced the greatest amount of panic symptoms. Finally, regarding victim trauma history, LGBT victims experience high degrees of general anxiety irrespective of trauma history, whereas heterosexual victims with little trauma history are buffered against experiencing general anxiety.

By using a sample of crime victims presenting for emergency medical treatment (rather than those already enrolled in treatment), this study can inform initial assessment and mental health intervention in this population. Attention to anxiety-type symptoms is warranted for all sexual minority victims; however, assessment and treatment of these symptoms appears particularly pertinent for male sexual minority victims and LGBT victims of relational assault. Frontline mental and medical health staff such as psychotherapists or emergency department nurses and physicians may draw on these data for chief domains of clinical assessment in sexual minority victims of violent crime.

Law pertaining to sexual orientation and victimization offers protection specific to hate crime victims (HRC, 2009). However, present findings indicate that LGBT victims of violent crimes in general are at an elevated risk for



developing acute stress symptoms, general anxiety symptoms (particularly if they have a history of trauma), and panic symptoms (particularly if they are victims of relational assault). From a policy evaluation perspective, direct comparison of psychological health for hate crime and non-hate crime victims merits attention. Given the possibility that crimes not classified as hate crimes may be experienced as the latter due to internalized stigma, and given the findings that LGB victims experience greater psychological consequences of violent crime in general, there may be a need for extra protection for sexual minority non-hate crime victims.

The present study possesses several strengths worth noting. Our results advance this literature through direct comparison to heterosexual victims. Moreover, a majority of the previous sexual orientation victimization literature pertains specifically to hate crimes. The present study broadened this focus to a general sample of violent crime victims.

Several limitations of this study can inform future work. Although necessary for statistical reasons, our dichotomized definitions of sexual orientation and type of crime necessitate additional research to refine reported associations in this study. Larger samples, and potential oversampling of LGBT victims, may solve these limitations. Also, generalizability of present findings cannot be extended to non-injured crime victims, or to injured crime victims who do not seek emergency medical treatment. Replication of our results would be beneficial in such a sample. Additionally, approximately one quarter (24.1 percent) of the present sample was European American. This portion is significantly less than the estimated 48 percent of violent crime victims who were European American in 2009 (Bureau of Justice Statistics, 2009). Therefore, extrapolation of findings to predominantly European American samples must be made with caution until replication occurs. Finally, the cross-sectional nature of the present study prevents causal assertions germane to victim sexual orientation and the experience of anxiety-type pathology. Future longitudinal research can investigate this question, as well as the potential mediating effects of victim attention to threat and internalized homophobia.

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