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Suicide Ideation among Southern U.S. Sexual Minority College Students

Caitlin Wolford-Clevenger, MS¹, Keri A. Frantell, MA, MS¹, Meagan J. Brem, MA¹, Alisa Garner¹, Autumn Rae Florimbio, MA¹, Hannah Grigorian¹, Ryan C. Shorey, PhD², and Gregory L. Stuart, PhD¹

¹University of Tennessee-Knoxville, Department of Psychology, Knoxville, TN

²University of Wisconsin-Milwaukee, Department of Psychology, Milwaukee, WI

Abstract

Sexual minority individuals are at higher risk for suicide ideation compared with heterosexual individuals. We tested whether the interpersonal-psychological theory of suicide explains increased suicide ideation among sexual minority college students living in the southeastern region of the United States. The cross-sectional study assessed correlates of suicide ideation in a convenience sample ($n = 82$) of sexual minority college students. Perceived burdensomeness and thwarted belongingness correlated with suicide ideation. However, only perceived burdensomeness correlated with suicide ideation while controlling for depressive symptoms. Pending replication, perceived burdensomeness may be a target for suicide prevention and intervention among sexual minority college students.

Keywords

suicide; perceived burdensomeness; LGB; same-sex; lesbian; gay; bisexual; interpersonal needs

Suicide Ideation among Sexual Minority College Students in the South

Individuals identifying as lesbian, gay, bisexual, or another minority sexual orientation are at twice the risk for suicide compared with heterosexual individuals (Haas et al., 2010). These high prevalence rates highlight the crucial need to identify risk factors for suicide ideation among sexual minority individuals to improve prevention and intervention programs for this population.

Minority stress may explain, in part, elevated rates of suicide ideation among sexual minority individuals relative to heterosexual populations (Haas et al., 2010). Minority stress includes violence, discrimination, prejudice, and stigma experienced by sexual minority persons as chronic psychosocial stressors (Meyer, 2003). Minority stress also involves internal stressors, such as internalized heterosexism, concealment of one's identity, or expectations of rejection based on one's identity. Indeed, external stressors such as violence victimization, discrimination, and low social support associate with suicide ideation within this population (Irwin & Austin, 2013; Liu & Mustanski, 2012; Matarazzo et al., 2014; Mereish, O'Cleirigh, & Bradford, 2014). Further, these external stressors impact internal

stressors, thus increasing suicide ideation. For example, an unsupportive social environment may increase internalized heterosexism and related risk for suicide ideation (Katz-Wise, Rosario, & Tsappis, 2016; Plöderl et al., 2014; Ryan, Russell, Huebner, Diaz, & Sanchez, 2010). Much has been gained from studies exploring the relation between minority stress and suicide ideation; however, a conceptual link is missing regarding how such stress may increase suicide ideation. An empirically-supported model for suicide that explains the proximal causes of suicide ideation among sexual minority individuals will advance our understanding, and prevention, of increased risk within this population.

The interpersonal-psychological theory of suicide may help explain increased risk for suicide ideation among sexual minority individuals, as it proposes proximal causes of suicide ideation that may be related to minority stress (Joiner, 2005; Van Orden et al., 2010). The theory proposes that suicide ideation results from hopelessness about the permanence of states of perceived burdensomeness (i.e., self-loathing, low reciprocal care) and thwarted belongingness (i.e., social disconnection). The theory proposes that factors such as having limited social support, interpersonal conflict/loss, abuse, and socioeconomic stressors (e.g., homelessness, unemployment) may impact thwarted belongingness and perceived burdensomeness (Van Orden et al., 2010). Given sexual minority individuals' risk for minority stress experiences of discrimination, stigma, rejection, and violence, it is conceivable that this population would be predisposed to feelings of social disconnection and burdensomeness. Additionally, internal minority stressors such as internalized heterosexism, concealment of identity, and expectations of rejection may contribute to overall feeling of self-loathing and social liability involved in perceived burdensomeness. Therefore, sexual minority individuals' risk for suicide ideation may be due to their predisposition towards these interpersonal feeling states of thwarted belongingness and perceived burdensomeness.

Indeed, studies have partially supported this hypothesis. Among individuals primarily of Hispanic descent, perceived burdensomeness, but not thwarted belongingness, partially explained the increased suicide ideation among sexual minority individuals compared to heterosexual individuals (Hill & Pettit, 2012). These results were replicated among heterosexual and sexual minority women (Silva, Chu, Monahan, & Joiner, 2015). Similarly, among South Koreans, the association between perceived burdensomeness and suicide ideation, but not between thwarted belongingness and suicide ideation, was stronger among lesbian and gay individuals compared to heterosexual individuals (Kim & Yang, 2015). Finally, among sexual minority individuals living in the northeast, southwest, and west coast (Baams, Grossman, & Russell, 2015), and other regions of the United States (Woodward, Wingate, Gray, & Pantalone, 2014), perceived burdensomeness, but not thwarted belongingness, was associated with increased suicide ideation. However, no studies to our knowledge specifically examined whether thwarted belongingness and perceived burdensomeness relate to suicide ideation among sexual minority individuals living in the southern region of the United States.

Investigating this question in individuals living in the southern United States is important, as studies have demonstrated that sexual minority individuals living in this region have unique challenges compared with individuals living in other regions. First, research has suggested

that the generally conservative political and religious ideologies (e.g., anti-gay marriage beliefs and political campaigns) and high heterosexism in the South can create a difficult environment for sexual minority individuals (Barth & Overby, 2003; Finlay & Walther, 2003; Herek, 2002). Indeed, sexual minority individuals living in the south experience greater discrimination compared to peers living in other areas of the United States (Swank, Frost, & Fahs, 2012). Furthermore, sexual minority individuals may have less access to or satisfaction with sexual minority communities within the South—communities that buffer the negative impact of minority stress experiences on well-being (Puckett, Levitt, Horne, & Hayes-Skelton, 2015). Given these challenges, sexual minority individuals living in the South may be vulnerable to experiences of thwarted belongingness and perceived burdensomeness, and thus suicide ideation. However, no studies have tested this hypothesis.

In addition to examining the interpersonal-psychological theory of suicide in sexual minority individuals, we explored potential differences in thwarted belongingness, perceived burdensomeness, and suicide ideation within sexual minority groups. This was primarily driven by the idea that bisexual individuals may face greater challenges connecting with the sexual minority community than their lesbian/gay peers (Balsam & Mohr, 2007) and experience discrimination from both their heterosexual and lesbian/gay peers (Mulick & Wright, 2002). Research suggested that the unique minority stress of bisexual individuals may predispose them to greater mental health symptoms, such as anxiety and depression (Bostwick et al., 2014; Jorm, Korten, Rodgers, Jacomb, & Christensen, 2002; Silva et al., 2015), compared with lesbian and gay individuals. Furthermore, bisexual individuals reported higher rates of suicide ideation than lesbian and gay individuals (Shearer et al., 2016; Silva et al., 2015). Bisexual individuals may be more prone to experiences of perceived burdensomeness and thwarted belongingness due to the unique minority stressors they face, thus increasing their risk for suicide ideation. In some studies, bisexual individuals reported greater perceived burdensomeness, but not thwarted belongingness, than their lesbian/gay peers (Baams et al., 2015; Silva et al., 2015). However, no studies examined differences in these constructs among lesbian/gay, bisexual, and other, less studied, sexual orientations such as pansexual and questioning identities. Additional tests of this question may help clarify how risk for suicide ideation may vary within the sexual minority community.

Thus, we hypothesized that thwarted belongingness and perceived burdensomeness would positively associate with suicide ideation, but that only perceived burdensomeness would remain associated with suicide ideation with thwarted belongingness and depressive symptoms in the same model. Second, given that the literature is in its infancy and with little focus on other sexual orientations such as pansexual or questioning individuals, we aimed to explore whether thwarted belongingness, perceived burdensomeness, and suicide ideation differed across sexual orientation identities.

Method

Procedure

The present study's research questions were examined using a subset of archival data collected during Fall 2014 to Spring 2017 from students attending a southeastern university.

The institutional review board approved procedures for a cross-sectional, survey methodological study on violence among individuals in dating relationships. In exchange for partial course credit, 1,589 undergraduate students participated in the online study. Participants were eligible for this study if they were over age 18 and were in a current dating relationship for at least one month. Participants gave informed consent electronically. Participant data were anonymous. For the purposes of the present research questions, we only used data for sexual minority students from this existing dataset. Thus, the current sample is a subset of sexual minority students from the aforementioned dataset. Of the larger sample, 82 participants identified as lesbian, gay, bisexual, or “other” sexual orientation and were included in the present analysis. An analysis of the relations between interpersonal needs and suicide ideation has been published using 155 participants from the larger dataset (Wolford-Clevenger, Elmquist, Brem, Zapor, & Stuart, 2016); this previous analysis only consisted of five sexual minority participants, who are also included in the present analysis.

Participants’ average age was 19.56 ($SD = 3.20$). The sample consisted of primarily women (79.3%, $n = 65$). One participant reported a gender identity other than man or woman. The distribution of sexual orientation identities was as follows: bisexual ($n = 44$, 52.4%; $n = 11$, 26% currently in a same-sex relationship), lesbian or gay ($n = 27$, 33%), and other sexual orientation (e.g., questioning, queer, pansexual, asexual, sexually fluid; $n = 12$, 14.6%). A minority of participants reported living with their partner ($n = 9$, 11%). The majority of the sample identified as White ($n = 59$, 72%), followed by Black ($n = 9$, 11%), Native American ($n = 3$, 4%), Asian American ($n = 3$, 4%), Middle Eastern or Indian American ($n = 2$, 2%), and as other race ($n = 3$, 4%). Few participants ($n = 3$) did not report their ethnic/racial identity. Few participants reported a Hispanic or Latino ethnic background ($n = 3$, 4%). A majority of the sample ($n = 57$, 69.5%) reported a family income less than \$100,000. Most participants were first year students ($n = 54$, 65.9%) and reported a religious affiliation ($n = 46$, 56.1%).

Measures

The Center for Epidemiological Studies-Depression Scale (CES-D) is 20 depressive symptoms over the previous week (Radloff, 1977) answered on a 4-point scale from 0 = *rarely/none of the time* to 3 = *most/all of the time*, with total scores ranging from 0 to 60. A cut score of 16 or higher indicates risk for clinical depression (Radloff, 1977). The CES-D is reliable and valid across race, age, and sex (Radloff, 1977). The CES-D demonstrated excellent internal consistency in prior samples of sexual minority individuals (Frost & Myer, 2012; Woodward et al., 2014) and in the present samples ($\alpha = .92$).

The Interpersonal Needs Questionnaire (INQ) assessed “recent” feelings of thwarted belongingness and perceived burdensomeness (Van Orden, Cukrowicz, Witte, & Joiner 2012). The INQ consists of nine items assessing thwarted belongingness and six items assessing perceived burdensomeness on a 7-point Likert scale ranging from 1 = *not at all true for me* to 7 = *very true for me*. Total scores range from 1 to 63 for thwarted belongingness and 1 to 42 for perceived burdensomeness. This measure demonstrated reliability and validity in undergraduate samples (Van Orden et al., 2012). Additionally, internal consistencies of the subscales of perceived burdensomeness and thwarted

belongingness were good in a prior sample of majority White, sexual minority individuals (Woodward et al., 2014) and in the current study ($\alpha = .96$ and $.87$, respectively).

The Hopelessness Depression Symptom Questionnaire-Suicidality Subscale (HDSQ-SS) assessed suicide ideation over the past two weeks (Metalsky & Joiner, 1997) with four items about frequency, planning, controllability, and impulsive quality of suicide ideation on a 4-point rating scale, ranging from 0–3, with total scores ranging from 0 to 12. The subscale was reliable and valid in a prior sample of undergraduate students (Metalsky & Joiner, 1997). The subscale had excellent internal consistency in a prior sample of majority White, sexual minority individuals (Woodward et al., 2014) and in the present study ($\alpha = .90$).

Results

Almost half ($n = 37$, 47%) of the sample reported experiencing some level of suicide ideation in the past two weeks. The mean of 39.31 on the CES-D suggests that, on average, participants reported clinically significant levels of depressive symptoms. A Cohen's d of 1.84 indicated that the mean of 30.35 on thwarted belongingness in the present sample was higher than the mean of 10.63 demonstrated in a previous undergraduate sample (Cero et al., 2015). A Cohen's d of 1.73 indicated that the mean of 13.79 on perceived burdensomeness in the present sample was higher than the mean of 2.06 demonstrated in a previous undergraduate sample (Cero et al., 2015). Finally, a Cohen's d of 0.72 indicated that the mean of on suicide ideation in the present sample was higher than the mean in a sample of undergraduate students (Metalsky & Joiner, 1997). See Table 1 for descriptive statistics and correlations among the primary study variables.

Both thwarted belongingness and perceived burdensomeness were positively associated with suicide ideation at the bivariate level. We conducted a multiple linear regression with suicide ideation as the criterion variable and thwarted belongingness, perceived burdensomeness, and depressive symptoms as the predictor variables. Perceived burdensomeness was the sole significant correlate of suicide ideation (See Table 2).

For the exploratory aim, we conducted three one-way analysis of variance (ANOVA) models, each with sexual orientation as the fixed factor, and thwarted belongingness, perceived burdensomeness, and suicide ideation as the dependent variables. It is important to note that the degrees of freedom were lower in the ANOVAs as some participants had missing data on some measures. The ANOVA assumption of normally distributed residuals for each model was not met. Log-transformation improved but did not meet the normality assumption. ANOVA is robust to violations of normal distribution (Schmider, Ziegler, Danay, Beyer, & Bühner, 2010), so we report the ANOVAs with the original variables.

Individuals identifying as bisexual reported greater thwarted belongingness ($M = 33.82$, $SD = 12.84$) than individuals identifying as lesbian/gay ($M = 25.30$, $SD = 10.43$, Cohen's $d = 0.72$), $F(2, 74) = 4.18$, $p = .02$. Likewise, individuals identifying as bisexual reported greater perceived burdensomeness ($M = 16.15$, $SD = 9.58$) than individuals identifying as lesbian/gay ($M = 10.52$, $SD = 6.10$, $p = .01$; Cohen's $d = 0.70$), $F(2, 76) = 3.62$, $p = .03$. Individuals identifying as "other" sexual orientations did not differ significantly from the other two

groups in thwarted belongingness or perceived burdensomeness. The ANOVA with suicide ideation as the dependent variable was not significant, $F(2,75) = 0.81, p = .45$).

Discussion

The present study revealed a distressed sample compared with past studies of undergraduate students. The present sample reported higher levels of depressive symptoms and perceived burdensomeness than demonstrated in a previous undergraduate sample (Cero et al., 2015). Additionally, almost half of these southern U.S. sexual minority students reported suicide ideation. The mean of suicide ideation was also higher than that reported previously in samples of undergraduate students (Metalsky & Joiner, 1997).

The interpersonal-psychological theory of suicide may partially explain the relative high mean and prevalence of suicide ideation in this population. Perceived burdensomeness and thwarted belongingness correlated with suicide ideation. However, only perceived burdensomeness correlated with suicide ideation while controlling for depressive symptoms. These findings show that, like their peers in other regions of the U.S., southern U.S. sexual minority students are vulnerable to suicide ideation, with perceived burdensomeness appearing to be an indicator of such risk (Baams et al., 2015; Hill & Pettit, 2012; Woodward et al., 2014). Finally, bisexual individuals reported higher levels of thwarted belongingness and perceived burdensomeness, but not suicide ideation, than individuals with a same-sex or another sexual orientation. This finding parallels past work (Baams et al., 2015; Silva et al., 2015), and suggests that bisexual individuals may face unique stressors that impact their feelings of worth and connectedness (Balsam & Mohr, 2007; Mulick & Wright, 2002).

Although both thwarted belongingness and perceived burdensomeness associated with suicide ideation, perceived burdensomeness emerged as the sole correlate when controlling for depressive symptoms. Sexual minority individuals may be vulnerable to perceived burdensomeness through minority stress effects on self-perception, as has been demonstrated in a transgender sample (Testa et al., 2017). For example, sexual minority individuals may internalize experiences of stigma and discrimination, thus generating feelings of burdensomeness; however, we did not test for this in the present study. The present finding suggested that for sexual minority individuals living in the South, perceived burdensomeness may carry more weight in its contribution to suicide ideation; however, studies examining the temporal relations are needed to confirm this. This finding mirrors a pattern in the literature, building evidence that perceived burdensomeness may be a more salient correlate of suicide ideation than thwarted belongingness (Baams et al., 2015; Cero, Zuromski, Witte, Ribeiro, & Joiner, 2015; Chu et al., 2017; Hill & Pettit, 2012; Kim & Yang, 2015; Silva et al., 2015; Woodward et al., 2014). However, these relations of perceived burdensomeness and thwarted belongingness on suicide ideation may differ across sample characteristics (e.g., age, race/ethnicity, cohort, experiences of minority stress; Cero et al., 2015). Furthermore, perceived burdensomeness may explain the relations between minority stress and suicidal ideation. These questions highlight the importance of considering intersecting identities and how they affect suicide ideation. Future work is needed to explore these potential moderators and mediators in relation to suicide ideation in sexual minority individuals.

The present findings also revealed that thwarted belongingness and perceived burdensomeness were higher among bisexual individuals compared to individuals reporting same-sex or another sexual orientation, but were no different between same-sex and other sexual orientations. These findings both replicated and failed to replicate past work. First, these findings were consistent with prior literature demonstrating that bisexual individuals have greater feelings of perceived burdensomeness than their lesbian/gay peers (Baams et al., 2015; Silva et al., 2015). This supported the notion that bisexual individuals may face unique minority experiences (e.g., double discrimination), which may in turn increase feelings of self-rejection and perceived burdensomeness (Balsam & Mohr, 2007; Mulick & Wright, 2002). Unlike previous null findings (Baams et al., 2015; Silva et al., 2015), the present study revealed that bisexual individuals reported greater thwarted belongingness than lesbian/gay individuals. Bisexual individuals may experience greater feelings of disconnection due to experiences of rejection in both heterosexual and sexual minority communities (Israel & Mohr, 2004; Mulick & Wright, 2002). More specific to this sample, given the limited community resources in the South for sexual minority individuals, bisexual individuals may have even greater difficulty finding support groups in this region, thus increasing their risk for thwarted belongingness (Swank et al., 2012); however, future work is needed to test this hypothesis.

Although bisexual participants reported greater thwarted belongingness and perceived burdensomeness, they did not differ in suicide ideation from lesbian/gay participants—contradicting previous research (Shearer et al., 2016; Silva et al., 2015). Given the small sample size of the current study, caution is warranted in interpreting this result. Relatedly, individuals identifying with an “other” (e.g., pansexual) sexual orientation did not differ from bisexual or lesbian/gay individuals in thwarted belongingness, perceived burdensomeness, or suicide ideation. This may be due to the small sample size and the heterogeneous nature of this group as it included such identities as pansexual, questioning, sexually fluid, and asexual orientations. Not only are some of these identities potentially defined differently for each participant, combining these identities likely lost any potential differences between these orientations and bisexual and same-sex orientations. Future research with larger, more diverse samples of sexual minority individuals living in South may clarify these findings, helping us to understand unique risk for suicide ideation among people of various sexual orientations.

The present study had some notable limitations that warrant caution in drawing conclusions about their clinical implications. First, the sample was a small, convenience sample, and there were data missing on measures that further reduced the sample size for the analyses. Studies with larger, more diverse, samples may yield different results. Relatedly, all participants were in a dating relationship. Being in a dating relationship may protect against unmet interpersonal needs and related risk for suicide ideation (Soons & Liefbroer, 2008). Alternatively, being in a same-sex relationship might increase one’s visibility as a sexual minority, related risk for discrimination, rejection, and violence, and thus suicide risk. However, in the present study, half the sample identified as bisexual, with 74% ($n = 33$) of those individuals being in a different-sex relationship. Therefore, the sexual identities of bisexual individuals in the present study may have been less visible and vulnerable to some external aspects of minority stress. This is further complicated by the fact that our study did

not assess participants' level of disclosure or "outness" regarding their sexual orientation. Future work should examine the moderating effects of relationship status and sexual orientation disclosure on the relation between unmet interpersonal needs and suicide ideation. Second, the study was cross-sectional and focused primarily on unmet interpersonal needs and suicide ideation. Longitudinal studies that include minority stress variables and other interpersonal psychological theory constructs (e.g., capability for suicide, suicide attempts) are critical to advance this literature. Third, the measures used in the present study assessed these constructs over differing timelines (e.g., "recent" burdensomeness, suicide ideation over past two weeks). Studies that assess these experiences concurrently in real or near-time through ecological momentary assessment will provide a robust test of the theory. Finally, although there may be important information to be gained from examining differences within sexual minority groups, this also carries the potential for stereotyping or inaccurately generalizing experiences/risk to certain minority groups. Identities are complex, with intersections among identities (e.g., race/ethnicity, gender, age), and unique individual experiences make these simple conclusions likely inaccurate. Thus, the differences described in the present study should be interpreted and applied with caution.

The present findings highlight preliminary clinical implications for providers working with sexual minority patients, pending replication of these findings. First, although thwarted belongingness was not uniquely associated with suicide ideation, its bivariate association with suicide ideation suggests such feelings may indicate an individual is experiencing suicidal thoughts. Perceived burdensomeness, however, may signal to the provider a greater likelihood the patient is at risk for suicide ideation. Overall prevention efforts may need to focus on reducing perceived burdensomeness among sexual minority individuals (Hill & Pettit, 2012). With replication of the present findings, increased efforts may be needed to increase belongingness and self-worth/acceptance among bisexual individuals.

This test of the interpersonal-psychological theory of suicide in a sample of sexual minority college students living in the southern region of the United States highlighted the potential for perceived burdensomeness as a risk factor for suicide ideation. Furthermore, bisexual individuals may be at greater risk for experiencing thwarted belongingness and perceived burdensomeness compared with individuals of different minority sexual orientations. These findings highlight the need, and provide impetus, for continued testing of theories of suicide within sexual minority populations.

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Table 1.

Bivariate Correlations and Descriptive Statistics for Primary Variables

	1	2	3	4
1. Suicide Ideation	-	-	-	-
2. Thwarted Belongingness	.45**	-	-	-
3. Perceived Burdensomeness	.55**	.72**	-	-
4. Depressive Symptoms	.39**	.54**	.59**	-
<i>Mean</i> (<i>SD</i>)	1.71 (2.25)	30.35 (11.89)	13.79 (8.55)	39.31 (12.23)
Range	8	47	34	49

Note: *SD* = Standard Deviation;

**
 $p < .01$ (two-tailed).

Table 2.

Regression Results Predicting Suicide Ideation

Variable	β	SE	t
Depressive Symptoms	0.12	0.02	0.86
Thwarted Belongingness	0.08	0.03	0.54
Perceived Burdensomeness	0.38	0.04	2.48*

Note:

* $p < .05$; Overall model fit was significant, explaining 27% of the variance in suicide ideation; $F(2,64) = 7.83$, $p < .001$.