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Sexual Self-Concept Ambiguity and the Interpersonal Theory of Suicide Risk

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Abstract

Mechanisms (i.e., thwarted belongingness, perceived burdensomeness, hopelessness) derived from the interpersonal theory of suicide which are hypothesized to account for the relation between sexual orientation self-concept ambiguity and active suicide ideation were examined. Participants included 349 women, among whom 42% currently self-ascribed a non-exclusively heterosexual sexual identity. Among women reporting higher levels of sexual self-concept ambiguity, greater risk for active suicide ideation is found when perceptions of burden and feelings of thwarted belonging co-occur with feelings of hopelessness. Results support relevant theory useful for understanding suicide risk among sexual minority women who acknowledge ambiguity with regard to their sexual orientation.

Previous research has indicated that sexual minority youth are more likely to report suicide ideation compared to their heterosexual peers (see Marshal et al., 2011, for review; Stone et al., 2014). Similarly, studies have found that the odds of considering suicide were significantly higher among lesbian, gay, and bisexual (LGB) adults compared to heterosexual adults (Haas et al., 2011; Woodward, Pantalone, & Bradford, 2013). Notably, previous work also suggests that individuals who are questioning or unsure of their sexual orientation, in particular, are at increased risk for having suicidal thoughts. For instance, Espelage, Aragon, Birkett, and Koenig (2008) found questioning youth reported significantly greater teasing, drug use, depressive symptoms, and thoughts of suicide than either their heterosexual or LGB peers. To date, little research has examined theory-based explanations for suicide ideation and behavior among individuals who express ambiguity or uncertainty about their sexual orientation, yet this group may be particularly vulnerable to suicide-related outcomes due to relevant interpersonal difficulties (e.g., lacking a connection with either heterosexual or sexual minority peers; believing one is a liability on loved ones).

Perceptions of Burdensomeness, Thwarted Belonging, and Suicidal Ideation

In order to identify mechanisms that account for why sexual orientation self-concept ambiguity (SSA), herein defined as inconsistent or conflicting beliefs regarding one's own sexual orientation (Talley & Littlefield, 2014), may be associated with heightened risk of suicidal ideation, we will focus on constructs outlined in the interpersonal theory of suicide (IPTS; Joiner, 2005). In recent years, empirical tests of the IPTS have dominated the suicidology literature, largely providing support for the tenets of this theory (see Van Orden et al., 2010, for review). The IPTS asserts that individuals who perceive themselves to be a burden on others (perceived burdensomeness) and do not feel a sense of connection to others (thwarted belonging) may be more likely to report thoughts of suicide. Van Orden et al. (2010) suggested that a sense of loneliness and the absence of reciprocal care are reflective of greater feelings of thwarted belongingness. This suggests that feelings of thwarted belongingness are indicated by individuals' reports of feeling lonely and that they do not have gratifying relationships with others who care for them. Higher levels of loneliness and absence of reciprocal care are thought to be reflected by observable experiences, such as family conflict, living alone, and social withdrawal. Indicators of perceived burdensomeness include a sense of liability and self-hatred, suggesting that perceptions of being a burden on others are reflected by individuals' reports that they feel like a liability on others and express self-hatred for being a burden on others.

Joiner (2005) suggested that the experience of perceived burdensomeness or thwarted belonging would lead to passive thoughts of suicide or death ideation, while the combined experience of thwarted belonging and perceived burdensomeness would lead to active suicide ideation. In an attempt to expand the conceptualization of the IPTS, Van Orden et al. (2010) suggested that hopelessness may be necessary for the development of suicide ideation among individuals who perceive themselves to be a burden and experience a thwarted sense of belonging. Put another way, a sense of hopelessness about whether perceptions of being a burden and a thwarted sense of belonging will change in the future is necessary for an individual to develop active thoughts of suicide and desire for suicide (Van Orden et al., 2010).

Ploderl et al. (2014) examined the IPTS constructs in a Bavarian sample with sexual minority and heterosexual participants. The results of the study suggested that suicide ideation was most strongly associated with hopelessness and depression, followed by perceived burdensomeness and thwarted belongingness. A cluster analysis suggested that among both sexual minority participants and heterosexual participants (examined separately), suicide ideation clustered most strongly with hopelessness, perceived burdensomeness, and depression, but not thwarted belongingness. These findings are consistent with the IPTS; however, the consistency of clusters between the groups of participants limits any conclusions regarding whether apparent inconsistencies within one's sexual orientation self-concept may contribute to perceptions of burdensomeness, thwarted belonging, and active thoughts of suicide.

Defining Sexual Self-Concept Ambiguity

Winter (1988) characterized individuals' sexual self-concept as their evaluation of their own sexual feelings and actions. By extension, an individual's sexual orientation self-concept can be described as a person's own evaluation of their sexual orientation. Importantly, individuals' sexual orientation self-concept is believed to be informed by various aspects of their sexuality, including their sexual attraction, behavior, and identity (Laumann, Gagnon, Michael, & Michaels, 1994). Talley and Littlefield (2014) define SSA as "inconsistent or conflicting beliefs regarding ... sexual orientation self-concept," further noting that individuals with heightened SSA, who acknowledge a lack of clarity regarding their sexual orientation, may, at times, identify as heterosexual.

The construct of SSA dovetails with Diamond's characterization of women's sexuality as being relatively more fluid or "plastic" (p. 75; Diamond, 2012) compared to men's sexuality. As Diamond notes, women commonly report variation and dynamic changes in their sexual desire, attraction, and behavior over time—often informed and precipitated by changes in relationship partners and emotional attachments. Consistent with these normative, empirically-supported experiences reflecting greater fluidity among women's sexual self-concepts, Arseneau, Grzanka, Miles, and Fassinger (2013) highlight that some individuals endorse constructionist beliefs regarding sexual orientation, whereby they view sexual orientation as derived from their current, historical, and culturally informed self-perceptions regarding their sexuality. By contrast, Arseneau and colleagues note that other individuals may endorse beliefs about sexual orientation that are essentialist in nature, viewing sexual orientation as an immutable and stable social category across time. Women, more so than men, have historically viewed sexual orientation as more informed by choice or circumstance (Golden, 1996; Whisman, 1996) perhaps, in part, as a consequence of their greater acknowledgement of and experiences with same-sex sexuality.

Women with nonexclusive patterns of attraction (i.e., bisexual) are likely to have the greatest propensity to report changes in or ambiguity with regard to sexual orientation dimensions (Diamond, 2012). Specifically, as they move in and out of relationships and their degree of same-sex and opposite-sex attraction potentially fluctuates, contradictions in sexual identity, attraction, and behavior may become apparent in developmental or transitory periods. During these periods, attempts to accurately represent and resolve fluctuations in sexual experiences and desires are confronted. Consistent with this assertion, unpublished data show that the highest levels of SSA are reported by women who currently self-ascribe bisexual identities (i.e., ranging from primarily heterosexual to primarily gay/lesbian), compared to those who identify as exclusively heterosexual and exclusively gay/lesbian. It is our belief that acknowledging ambiguity regarding one's sexual orientation self-concept, in particular, may result in a host of negative interpersonal and psychological outcomes, including thoughts of suicide.

The presumed intrinsic, stable, and binary nature of sexual orientation that persists in larger society (among some heterosexual and gay/lesbian populations) may be an important contributor to mental health disparities among women who are attracted to both men and women or who report fluidity with regard to their sexual orientation over the life course.

Much empirical work suggests that bisexual individuals who endorse nonexclusive patterns of attraction are often marginalized by both heterosexual and gay/lesbian communities. Indeed, some women may maintain a bisexual identity despite entering a committed relationship with a man due to anticipated rejection from both heterosexual and sexual minority peers (Diamond, 2003; Israel & Mohr, 2004; Lehavot, Balsam, & Ibrahim-Wells, 2009; Ochs, 1996; Tabatabai & Linders, 2011). The ubiquitous marginalization of bisexuality has manifested with corresponding health disparities in which bisexual women are shown to be at greater risk for lifetime substance use and mood and anxiety-related pathologies (Bostwick, Boyd, Hughes, & McCabe, 2010; McCabe, Hughes, Bostwick, West, & Boyd, 2009) compared to both their lesbian and heterosexual peers. More germane to the current study, in the National Epidemiologic Survey on Alcohol and Related Conditions Wave 2 data set, Bolton and Sareen (2011) found that adult women who identified as bisexual were six times more likely than heterosexual-identified women and twice as likely as lesbian-identified women to report a suicide attempt in their lifetime.

Sexual Self-Concept Ambiguity and Suicide Ideation

To date, studies have not examined the effect of SSA on suicide outcomes specifically, nor on the constructs included in the IPTS. However, studies have examined suicide-related psychological outcomes for individuals who acknowledge inconsistent or conflicting beliefs regarding their sexual orientation. Recent findings (Stone et al., 2014) from analyses utilizing the Youth Risk Behavior Surveillance System surveys show that female youth who identify as bisexual and would be purported to have higher levels of SSA, endorse higher rates of active suicide ideation compared to both heterosexual- and lesbian-identified female youth. Similarly, Stone et al. (2014) found that female youth who reported both male and female sexual contact reported higher rates of active suicide ideation compared to their peers who reported only same-sex or opposite-sex sexual contact. As additional evidence, studies also suggest that adults who are questioning their sexual identity are vulnerable to experiencing anxiety, depressive symptoms, substance abuse, and suicidal behavior (Ciro et al., 2005; Poteat, Aragon, Espelage, & Koenig, 2009; Woodward et al., 2013). It is important to note that same-sex attractions and sexual contact, per se, which comprise important facets of sexual orientation (Laumann et al., 1994) and are often reported prior to self-ascribed changes in sexual identity (Savin-Williams & Diamond, 2000), have also been associated with higher risk for suicide attempts among sexual minority adolescents and young adults (Wichstrøm & Hegna, 2003).

Conceptual Model

Wichstrøm and Hegna (2003) posited that individuals who are nonexclusive, questioning, or unsure of their sexual orientation may be at greater risk for suicidal behavior due to increased emotional distress and identity confusion that results from greater awareness of homoerotic attractions, negative disclosure experiences, and encounters with victimization (see also Hershberger, Pilkington, & D'Augelli, 1997). SSA is likely to be elevated among sexual minority women who experience fluidity with regard to their sexual orientation facets, reflecting attempts to accurately represent and resolve common fluctuations in consideration of one's sexual orientation self-concept over time (Diamond, 2008, 2012).

Although this literature has not examined SSA specifically, the psychological impact of having ambiguity regarding one's sexual self-concept may contribute to a greater sense of liability on others and self-hatred for creating liability (i.e., perceived burdensomeness). As such, the association between SSA and suicide ideation may be accounted for or mediated by greater perceptions of burdensomeness on others. Further, associations between SSA and active suicide ideation via perceived burdensomeness may be stronger among women who also report heightened levels of thwarted belongingness given compounded difficulties (e.g., feelings of being different from others, lacking connections and a sense of support from others, and low self-esteem) that are associated with attempts to reconcile apparent contradictions in sexual orientation facets (i.e., identity, behavior, attraction) so as to accurately represent and resolve normative fluctuations in sexual experiences and desires.

The purpose of this study was to examine the role of the IPTS constructs in explaining variability in suicide ideation in a combined sample of college student and community-recruited women. Notably, in this initial study incorporating the IPTS to explain potential associations between SSA and suicide ideation, we recruited a sample comprised of only women. Given that the SSA construct has been investigated exclusively within women (Talley, Brown, Stevens, Talley & Littlefield, 2014), and that there are known gender differences in rates of suicidal behavior (e.g., De Graaf, Sandfort, & ten Have, 2006; Kessler, Borges, & Walters, 1999) as well as evidence of differential suicide risk factors by gender (e.g., Casey et al., 2006; Stephenson, 2006), we were able to limit sex-specific sources of variability within this preliminary investigation. Within this sample, 42% of participants currently endorsed a sexual minority (i.e., non-exclusively heterosexual) sexual identity or questioning their sexual identity.

For this study, we tested a moderated-mediation model to examine active thoughts of suicide. We hypothesized that the effect of SSA on suicide ideation would be mediated by perceived burdensomeness, such that any observed association between SSA and suicide ideation would be present because individuals with SSA feel a greater sense of being a burden on others, which is theorized to predict thoughts of suicide. Further, we hypothesized that this mediated effect would be greater for women with a higher sense of thwarted belongingness. Put another way, we hypothesized that risk of suicide ideation would be higher for women reporting elevated levels of SSA and that this association would be best explained both by heightened levels of feeling that they are a burden on others as well as a greater sense of thwarted connection with others. To more fully examine the prediction of Van Orden et al. (2010) that hopelessness is necessary for the development of active suicide ideation among those with greater levels of perceived burdensomeness and thwarted belonging, we examined this model separately for women who reported no feelings of hopelessness and those who indicated at least some sense of hopelessness about the future.

METHODS

Participants

The current work utilized data from a larger study examining associations among women's sexual self-concepts and their alcohol consumption behaviors (e.g., Talley et al., 2014). The current sample consisted of 349 women, ranging in age from 18 to 30 ($M = 20.93$, $SD =$

2.92). Approximately 84% of participants identified as White or Caucasian, 10.8% as Black or African American, 4.8% as Asian, and 4.6% as Hispanic or Latina. Approximately 58% of the women ($n = 203$) currently identified as heterosexual. Sexual minority identity categories ($n = 147$) included exclusively lesbian or gay (7.4%, $n = 26$), primarily lesbian or gay (2.8%, $n = 10$), equally lesbian and heterosexual (6.3%, $n = 22$; i.e., bisexual), primarily heterosexual (20.2%, $n = 71$), questioning/unlabeled (2.0%, $n = 7$), queer (2.6%, $n = 9$), and “other” (0.6%, $n = 2$; i.e., “heterosomething,” “pansexual”). One woman who indicated no current sexual identity was excluded from analyses. In response to an open-ended item that asked, “Please list any chronic physical or mental health conditions that you have been diagnosed with by a doctor or other health care professional,” the current sample self-reported a relatively high rate of mood (17%; i.e., depression, bipolar, dysthymia) and anxiety (14%; i.e., generalized anxiety, social anxiety, obsessive-compulsive, agoraphobia, posttraumatic stress) disorders. Given the prevalence of mood and anxiety disorders spontaneously reported in response to this open-ended item, there is evidence for nontrivial risk for psychopathology in the current sample.

Procedure

Community and student participants were recruited into the study from the fall of 2010 to the spring of 2013. Psychology students at a large midwestern university were invited to complete a brief phone screener survey to be eligible to enroll in a study examining “female sexuality and alcohol use.” Community participants were recruited through campuswide e-mail notices, advertisements in local newspapers, posted flyers in local businesses, and snowball sampling techniques. Individuals indicating interest in the online survey were administered a brief telephone screening to determine eligibility. Eligible persons (1) identified as female, (2) were between the ages of 18 and 30, (3) English-speaking, and (4) reported consuming at least one alcoholic beverage in the previous 3 months. Notably, individuals who indicated some degree of same-sex sexuality in their lifetime were oversampled in both the student and community samples. Specifically, we invited all females who indicated that they had ever identified as “non-exclusively heterosexual,” ever acknowledged any degree of same-sex attraction, or ever acknowledged any same-sex sexual behavior during the phone screener to participate; whereas only approximately one in eight women who reported being exclusively heterosexual, but were otherwise eligible, were randomly selected to participate. Eligible participants were e-mailed a link to a confidential, password-protected online survey, which contained an embedded random-code identifier for reimbursement purposes and allowed for electronic consent prior to survey completion. Eligible community participants received a \$25 gift certificate to Amazon.com in exchange for completing the survey study. Students received course credit in return for their participation. All relevant federal and institutional research ethical standards were met with regard to the treatment of participants.

Measures

The Sexual Self-Concept Ambiguity scale was adapted from an existing measure of self-concept clarity (Campbell et al., 1996) to assess the extent to which a person’s beliefs about their own sexual orientation are inconsistent, unreliable, or incoherent. The scale shows robust reliability ($\alpha = .95$). Statements were rated on a 1 (*strongly disagree*) to 4 (*strongly*

agree) Likert-type scale. An example item is “Sometimes I feel that my sexual orientation is not really what it appears to be.”

A single item was used from the Hopkins Symptom Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) to assess current likelihood of active suicide ideation. This item was dichotomized and indicated whether the participant reported being bothered, to any degree, by “thoughts about ending your life” in the past 2 weeks. Fifteen percent of the current sample reported nonzero levels of active suicide ideation in the past 2 weeks.

Although a recent measure was published (Van Orden, Cukrowicz, Witte, & Joiner, 2012) that purports to assess the constructs of thwarted belongingness and perceived burdensomeness, the current data were collected prior to its widespread availability. As such, we constructed two latent variables to reflect the separate constructs of thwarted belongingness and perceived burdensomeness. Proxy manifest (measurable) indicators were identified for each respective construct using a published conceptual model of the IPTS (Van Orden et al., 2010).

Perceived burdensomeness is defined by Van Orden et al. (2010, p. 12) as perceptions that one is “expendable” to close others, including “beliefs that the self is so flawed as to be a liability on others and affectively-laden cognitions of self-hatred.” Proxy manifest indicators used to construct the current latent variable reflecting perceived burdensomeness included the following: (1) average scores from the 10-item Self-esteem Scale (Rosenberg, 1965); (2) recent feelings of worthlessness and blame (i.e., “feelings of worthlessness,” “blaming yourself for things”; Derogatis et al., 1974); and (3) four negative affect items from the Positive and Negative Affective Schedule (i.e., “Ashamed,” “Guilty,” “Irritable,” “Hostile”; Watson, Clark, & Tellegen, 1988).

Thwarted belongingness is defined by Van Orden et al. (2010, p. 10) as “feelings of loneliness and the absence of reciprocal-caring relationships.” Proxy observable indicators used to construct the current latent variable reflecting thwarted belongingness included the following: (1) recent feelings of loneliness (i.e., “feeling lonely”; Derogatis et al., 1974); (2) number of close male and female relationships (i.e., “How many close (fe)male relatives/friends do you have currently?”); (3) feelings of distress or worry arising from recent problems with friendships (“e.g., experience a loss of friends, change in friends”; Berman, Montgomery, & Kurtines, 2004); (4) three items from the Social Interaction Anxiety Scale (i.e., “I find difficulty mixing comfortably with the people I work with,” “When mixing socially, I am uncomfortable,” “I am at ease meeting people at parties, etc.” [reverse-scored]; Mattick & Clarke, 1998); and (5) a reverse-scored item from the social anxiety subscale of the Self-Consciousness Scale (i.e., “I don’t find it hard to talk to strangers”; Fenigstein, Scheier, & Buss, 1975).

Feelings of hopelessness about the future were assessed with a single-item indicator from the Hopkins Symptom Checklist (Derogatis et al., 1974). A dichotomous variable was constructed to differentiate participants with no feelings of hopelessness about the future ($n = 173$) from those who indicated any level of hopelessness about the future ($n = 168$).

Analytic Procedures

All structural equation models used maximum likelihood estimation with robust standard errors (MLR) in Mplus version 6.11 (Muthén & Muthén, 1998–2010). Initially, a measurement model with three latent variables (i.e., SSA, thwarted belongingness, perceived burdensomeness) was fit to the data. Next, a structural model was estimated (see Figure 1), which examined moderated-mediation hypotheses. Because the structural model incorporated known classes (based on self-reported hopelessness) and latent variable interactions, a random-effects mixture model was estimated (algorithm = integration). Given these estimation procedures, Mplus provides no standardized effects or standard model fit indices. To test whether the mediated effect of SSA on active suicide ideation via perceived burdensomeness differed at various levels of thwarted belongingness (i.e., to test for conditional indirect effects, sometimes referred to as moderated mediation; Baron & Kenny, 1986), we used the procedure outlined in Preacher, Rucker, and Hayes (2007). In cases where interaction effects were detected, we further explored simple effects for continuous, latent variables at values corresponding to ± 1 SD.

RESULTS

First, a measurement model was used to determine whether the selected proxy indicator variables provided good fit to the latent variable model. A confirmatory factor model was shown to fit the data well, $\chi^2(246) = 486.60$, $p < .001$, RMSEA = .05, (95% C.I.: .05, .00), CFI = 0.93, TLI = 0.92, SRMR = .06. Thus, we proceeded to examine the structural model to address our primary study hypotheses.

As shown in Figure 1, the structural model supported our primary hypotheses. Latent variables representing perceived burdensomeness and thwarted belongingness were moderately correlated ($b = .57$, $SE = .10$, $p < .001$), but not so highly as to suggest that these constructs were isomorphic. There was a significant latent variable interaction between the constructs of perceived burdensomeness and thwarted belongingness in predicting the likelihood of participants' recent suicide ideation. Consistent with the IPTS (Joiner, 2005; Van Orden et al., 2010), probes of this interaction showed the greatest risk for recent suicide ideation among participants who reported high (+1 SD) levels of perceived burdensomeness and thwarted belongingness. Notably, there was also a strong simple association between feelings of perceived burdensomeness and likelihood for recent suicide ideation ($b = 1.18$, $SE = .33$, $p < .001$). The simple association between feelings of thwarted belongingness and risk for suicide ideation was only marginal in the current sample ($b = .58$, $SE = .34$, $p = .09$).

Important for the current hypotheses, the results showed that higher levels of SSA were directly related to higher levels of thwarted belongingness ($b = .43$, $SE = .09$, $p < .001$) and perceived burdensomeness ($b = .45$, $SE = .08$, $p < .001$). There was no direct relation between SSA and risk for suicide ideation in the overall model ($b = .004$, $SE = .20$, $p = .99$), which suggested potential indirect effects via thwarted belongingness and perceived burdensomeness. The indirect effect from SSA to risk for suicide ideation via perceived burdensomeness was found to differ depending on levels of thwarted belongingness. Specifically, for those at one standard deviation below the mean on thwarted belongingness (indirect effect = .98, $SE = .28$, $p < .001$), the association from SSA to higher suicide

ideation via feelings of perceived burdensomeness was large and significant. For those at one standard deviation above the mean on thwarted belongingness (indirect effect = .65, $SE = .17$, $p < .001$), the indirect effect still showed that SSA related to higher suicide ideation via feelings of perceived burdensomeness, but the magnitude of the indirect effect was blunted, most likely due to the shared overlapping variance between perceived burdensomeness and thwarted belongingness. These findings suggest that, in the current sample, feelings of perceived burdensomeness accounted for a large proportion of the variance between SSA and risk for suicide ideation among women, regardless of levels of thwarted belongingness.

It is important to note that either perceived burdensomeness or thwarted belongingness could have been chosen as the moderator; in supplemental analyses, the indirect effect from SSA to risk for suicide ideation via thwarted belongingness was only found among participants with high levels of perceived burdensomeness (indirect effect = .41, $SE = .22$, $p = .06$). Thus, feelings of thwarted belongingness partially accounted for the association between SSA and risk for suicide ideation, but primarily among those women who reported relatively higher levels of perceived burdensomeness.

The final hypothesis, as detailed by the IPTS (Van Orden et al., 2010), argued that interactive effects of thwarted belongingness and perceived burdensomeness would primarily be problematic for individuals who viewed their current feelings of thwarted belongingness and perceived burdensomeness as hopeless and unlikely to change in the future. Thus, a multigroup model was constructed to examine whether the aforementioned effects were primarily driven by participants who reported recent feelings of hopelessness. As shown in Figure 2, for individuals who reported zero (“not at all”) levels of hopelessness in the past 2 weeks, there was a small simple association between SSA and thwarted belongingness. Among women who reported some level of hopelessness in the recent past (i.e., at least “a little bit”), the previously discussed moderated-mediation model was replicated. Figure 3 shows the latent variable interaction between thwarted belongingness and perceived burdensomeness among women reporting hopelessness. As predicted, the highest risk for active suicide ideation was found among women who reported elevated levels of both thwarted belongingness and perceived burdensomeness in conjunction with a greater sense of hopelessness regarding the future. Moreover, among these women who express elevated hopelessness, the log odds for active suicide ideation when levels of thwarted belongingness and perceived burdensomeness are relatively high (+1 SD) is greater ($Y = 1.20$, $SE = .83$, $p = .07$, one-tailed; see Figure 3) than the expected log odds when levels of perceived burdensomeness are relatively high but thwarted belongingness is not. As before, there was a strong simple association shown for perceived burdensomeness and risk for suicide ideation in the subsample of women reporting hopelessness.

DISCUSSION

The current study is the first to examine the role of SSA in explaining variability in active suicide ideation using theoretically-grounded IPTS constructs in a combined sample of college student and community-recruited women. Results showed a clear relation between higher levels of SSA and elevated feelings of perceived burdensomeness and thwarted

belongingness. As predicted by IPTS theory, the greatest likelihood of active suicide ideation was found among women who reported elevated levels of both perceived burdensomeness and thwarted belongingness. Simple associations suggested that heightened feelings of perceived burdensomeness accounted for a larger proportion of the variance between SSA and risk for suicide ideation, relative to greater perceptions of thwarted belongingness. Also consistent with theory, follow-up multigroup analyses suggested the hypothesized associations applied primarily to women who indicated a sense of hopelessness about the future.

The current results are consistent with work by Ploderl et al. (2014) showing that, among sexual minority individuals, suicide ideation was strongly associated with feelings of perceived burdensomeness, hopelessness, and to a lesser extent, thwarted belongingness. These results not only provide proof of concept for the IPTS (Van Orden et al., 2010) in this population, but also provide an explanation of *why* sexual minority women, particularly questioning or bisexual women (i.e., given higher levels of SSA in unpublished data), are at increased risk for suicide ideation. Specifically, women who report heightened SSA are more likely to perceive themselves to be a burden on others and are also likely to feel a sense of isolation from others.

LIMITATIONS AND FUTURE DIRECTIONS

One limitation of the current study is that, unfortunately, a formal measure (i.e., Interpersonal Needs Questionnaire; Van Orden et al., 2012) assessing IPTS constructs related to suicide ideation was unavailable at the time these data were collected. Thus, proxy causal indicator variables reflecting theorized components of thwarted belongingness and perceived burdensomeness derived from the IPTS literature were used in the current latent variable analyses. We note that Van Orden et al. (2010, p. 581) explicitly represent the constructs of thwarted belongingness and perceived burdensomeness as respective “hierarchical latent variables [that] ‘cause’ the lower level latent variables (as well as observable variables) they are connected to,” (p. 581), consistent with *effect indicator models* (Bollen & Lennox, 1991). Van Orden and colleagues also highlight that the IPTS delineates risk factors (“emergent variables,”) that are purported to produce greater feelings of thwarted belonging and perceived burdensomeness, consistent with *causal indicator models* (Bollen & Lennox, 1991). In the current work, we used proxy variables as indicators in latent variable specifications yet realize that some of these variables, in various contexts, may be alternatively viewed as risk factors (e.g., lower numbers of close friendships) for these constructs. Future research would benefit from clear and thoughtful specification of which corollaries of suicide risk are hypothesized to be risk factors, as opposed to observable indicators of thwarted belonging or perceived burdensomeness. Nevertheless, we view the use of proxy variables as a strength of the current study, as findings provide support for relations among theoretical constructs proposed by IPTS (Joiner, 2005; Van Orden et al., 2010) independent of a psychometrically-validated scale purporting to measure these constructs specifically. Future research should attempt to replicate these findings using psychometrically-validated scales developed specifically to assess current feelings of perceived burdensomeness and thwarted belonging.

The current study examined active suicide ideation in a sample of young adult women, but the findings do not speak to risk for suicidal behaviors and attempts among female sexual minorities. Given increased rates of suicide attempts, including medically serious attempts, among sexual minority and sexual questioning individuals (Stone et al., 2014), future research should also examine whether mechanisms theorized by IPTS (i.e., fearlessness about death and increased pain tolerance) to contribute to risk for suicide attempts may account for these known disparities.

Finally, this study sample was comprised of women, ages 18 to 30, who were predominately White or Caucasian, and living in the Midwest, which limits the generalizability of these findings. Nevertheless, we note that our sample reported notable rates of mood and anxiety pathology, suggesting that these findings are relevant to women at heightened risk for suicide ideation and attempts (Sareen, Houlahan, Cox, & Asmundson, 2005). Future research should also examine the relation between SSA and suicide risk with more diverse (e.g., gender, ethnicity, age) and representative samples. For example, because of known disparities in rates of suicide behavior between men and women (e.g., De Graaf et al., 2006; Kessler et al., 1999), evidence of unique risk factors for suicide based on gender (e.g., Casey et al., 2006; Stephenson, 2006), and work suggesting that gay and bisexual adult men and adolescents are at greater risk of enacting suicidal behaviors than their heterosexual peers (King et al., 2008), subsequent work in this area should examine whether the current conceptual model, as well as the theoretical mechanisms implicated herein, is replicated among men who acknowledge inconsistent or conflicting beliefs regarding their sexual orientation.

CONCLUSION AND CLINICAL IMPLICATIONS

These findings have important implications for understanding why individuals who are currently experiencing inconsistency or instability with regard to their sexual orientation self-concept may also be at heightened risk of suicide ideation. Our findings suggest that women who acknowledge greater fluidity or apparent contradictions among sexual orientation dimensions as well as heightened feelings of being a burden to others and a perceived lack of supportive relationships may experience increased thoughts of suicide, particularly when they concurrently endorse a sense of hopelessness about their future. In consideration of these findings, clinical assessment of IPTS constructs may prove to be informative in evaluating suicide risk for this at-risk population. Furthermore, feeling that you are a burden on close others appears to be a key contributor to increased suicide ideation among women who report heightened SSA, suggesting interventions that address perceptions of burden may be especially important for reducing suicide ideation and attempts, in particular among sexual minority women.

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Figure 1.

Primary structural path model for overall sample. *Note.* Unstandardized effects are reported. SSA = sexual self-concept ambiguity items adapted from Campbell et al. (1996); SocInt = items from the Social Interaction Anxiety Scale (Mattick & Clarke, 1998); SocAnx = item from the Self-Consciousness Scale (Fenigstein et al., 1975); IdStress = item from the Identity Distress Scale (Berman et al., 2004); FeelLone/FelWorth/FelBlame = items from the Hopkins Symptom Checklist (Derogatis et al., 1974); FemRel/MalRel = number of close female and male relationships; Self-esteem = composite of the 10-item Self-esteem Scale (Rosenberg, 1965); Shame/Anger = items from the Positive and Negative Affective Schedule (i.e., “Ashamed,” “Guilty,” “Irritable,” “Hostile”; Watson et al., 1988). † $p < .10$, * $p < .05$, *** $p < .001$.

Figure 2.

Primary structural path model for Multigroup analyses. *Note.* Estimates in parentheses are from the subgroup of women ($n = 173$) who reported no feelings of hopelessness in the past 2 weeks. Estimates outside of parentheses are from the subgroup of women ($n = 168$) who reported some level of hopelessness in the past 2 weeks. Unstandardized effects are reported. SSA = sexual self-concept ambiguity items adapted from Campbell et al. (1996); SocInt = items from the Social Interaction Anxiety Scale (Mattick & Clarke, 1998); SocAnx = item from the Self-Consciousness Scale (Fenigstein et al., 1975); IdStress = item from the Identity Distress Scale (Berman et al., 2004); FeelLone/FelWorth/FelBlame = items from the Hopkins Symptom Checklist (Derogatis et al., 1974); FemRel/MalRel = number of close female and male relationships; Self-esteem = composite of the 10-item Self-esteem Scale (Rosenberg, 1965); Shame/Anger = items from the Positive and Negative Affective Schedule (i.e. "Ashamed", "Guilty," "Irritable," "Hostile"; Watson et al., 1988). * $p < .05$, ** $p < .01$, *** $p < .001$.

Figure 3.

Estimated relations between perceived burdensomeness and thwarted belonging in predicting likelihood of active suicide ideation among women reporting a sense of hopelessness about the future ($n = 168$). *Note.* †One-tailed test of difference between point estimates. Estimates for low and high levels were based on ± 1 SD for the respective constructs.