




The moderating role of sexual minority status in the associations of the experience and tolerance of shame-related emotions to suicide risk

Adam J. D. Mann  | Andrew J. Kurtz | Matthew T. Tull  | Kim L. Gratz 

Department of Psychology, University of Toledo, Toledo, Ohio, USA

Correspondence

Adam J. D. Mann, Department of Psychology, University of Toledo, 2801 West Bancroft St, Toledo, OH 43606, USA.
Email: adam.mann2@rockets.utoledo.edu

Funding information

Office of Research and Sponsored Projects at the University of Toledo

Abstract

Objective: This study examined the associations of the experience and tolerance of shame-related emotions to suicide risk, as well as the moderating role of sexual minority status.

Methods: Community adults ($N = 360$) were recruited via MTurk and completed self-report questionnaires. Hierarchical regression analyses examined the main and interactive associations of sexual minority status and shame-related variables to suicide risk.

Results: Results revealed significant positive associations between self-disgust and suicide risk for sexual minority and heterosexual participants, although the magnitude was greater for sexual minority participants. Additionally, tolerance of shame was significantly negatively related to suicide risk only among sexual minority participants. Finally, exploratory analyses examining the three-way interaction of self-disgust, shame tolerance, and sexual minority status revealed a significant negative association between shame tolerance and suicide risk only among sexual minority participants with high levels of self-disgust.

Conclusion: Results highlight the relevance of shame-related experiences to suicide risk among sexual minorities.

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2022 The Authors. *Journal of Clinical Psychology* published by Wiley Periodicals LLC.

KEYWORDS

distress tolerance, LGB, self-disgust, sexual minority, shame, suicide

1 | INTRODUCTION

Suicide is a major public health concern, with cross-national lifetime prevalence estimates of 9.2% for suicidal thoughts and 2.7% for suicide attempts among adults (Nock et al., 2008). Although suicide rates have been increasing across all age groups over the past two decades (Hedegaard et al., 2018), there is evidence that suicide disproportionately affects some communities more than others. In particular, individuals identifying as sexual minorities are at increased risk for suicidal ideation, suicide attempts, and death by suicide compared to their heterosexual peers (Gratz et al., 2021; Haas et al., 2011; King et al., 2008; Miranda-Mendizábal et al., 2017; Swannell et al., 2016). For example, sexual minority adults in the United States have been found to be over three times more likely to report a suicide attempt than their heterosexual peers (Bolton & Sareen, 2011). Moreover, a meta-analysis of four studies revealed that individuals who identified as a sexual minority endorsed suicidal ideation and suicidal behavior at an earlier age, had a greater desire to die in their most lethal past suicide attempt, and endorsed a greater likelihood of a future suicide attempt than those who identified as heterosexual (Fox et al., 2018).

Increased suicide risk among sexual minorities has been explained by the minority stress model, which posits that the disproportionate number of adverse mental health outcomes among sexual minorities can be explained by unique stressors associated with their stigmatized sexuality and interactions within a non-supportive social environment (Meyer, 2003). Extending the minority stress model, the psychological mediation framework postulates that there are sexual minority-specific psychological paths that link minority stress and stigma with negative mental health outcomes, including suicidality, among individuals identifying as sexual minorities (Hatzenbuehler, 2009). Although a number of specific psychological pathways have been identified, a common component across multiple pathways is shame-related experiences.

For example, one of the primary processes implicated in negative mental health outcomes among sexual minorities in the psychological mediation framework is negative self-schemas (i.e., stable negative beliefs about and evaluations of the self, which can influence behavior, e.g., that one is defective, inferior, or unlovable; see Beck et al., 1979). Theorized to stem from experiences of minority stress and related stigma (Alessi, 2014; Schwartz et al., 2016), negative self-schemas have been linked to the experience of shame-related emotions (Lazarus et al., 2019; Powell et al., 2015), including the specific emotions of shame and self-disgust (a negative self-conscious emotion considered theoretically identical to the self-conscious emotion of shame; Power & Dalgleish, 2015). These shame-related emotions, in turn, have been theoretically and empirically linked to a variety of negative mental health outcomes among sexual minorities, including suicide risk (Igartua et al., 2009; Mereish et al., 2019; Mereish & Poteat, 2015; Puckett et al., 2017). Additionally, beyond simply the experience of shame-related emotions, the psychological mediation framework suggests that difficulties tolerating these emotions may be relevant to suicide risk among individuals whose experiences with stigma and related stressors intensify shame (thereby making it more difficult to tolerate; see Hatzenbuehler, 2009). Indeed, clinical researchers have long suggested that the ability to tolerate emotions is related to but distinct from the experience of emotions per se, and contributes unique variance to psychological outcomes (Cougler et al., 2013; Vujanovic et al., 2013). Thus, although the experience of shame-related emotions is expected to increase suicide risk among sexual minorities, difficulties tolerating these emotions would also be expected to increase suicide risk in this population.

Consistent with this emphasis on shame-related experiences, the experience of shame-related emotions has been found to be significantly associated with increased suicide risk and suicidal ideation among adults in general (Brake et al., 2017; Chu et al., 2013; Cunningham et al., 2019; Schienle et al., 2020; Szanto et al., 1996). Likewise, shame has been found to mediate the relation between heterosexist victimization (a sexual minority-based stressor) and suicide risk

among sexual minorities in particular (Mereish et al., 2019). Importantly, though, despite theory suggesting that shame-related emotions may be particularly relevant to and heightened among individuals with stigmatized identities (due to the impact of sociocultural factors such as stigma and homophobia on self-appraisals and related emotions; Oaten et al., 2011; Powell et al., 2015), no research has directly examined whether the strength of the association between shame-related emotions and suicide risk differs as a function of sexual minority status as theorized. Moreover, although no research has examined the relation of the tolerance of shame-related emotions in particular to suicide risk among sexual minority or general adult populations, the inability to tolerate emotional distress in general has been implicated as a key risk factor for suicidal desire in the context of the interpersonal theory of suicide (Anestis et al., 2011; Law et al., 2015) and positively associated with suicidal ideation within both nonclinical and clinical adult populations (Anestis & Joiner, 2012; Capron et al., 2013; Zvolensky et al., 2010). Further, difficulties tolerating emotional distress in general have been found to account for the relation between sexual orientation-related discrimination and other mental health difficulties among sexual minority adults (Reitzel et al., 2017).

To extend the extant literature on the role of shame-related experiences in suicide risk among both sexual minority and heterosexual adults, the current study examined the moderating role of sexual minority status in the associations of both the experience and tolerance of shame-related emotions to suicide risk (operationalized as a continuous variable ranging in intensity and severity from no suicidal thoughts or impulses to increasingly severe and frequent suicidal thoughts and plans). Given past research linking shame-related emotions to suicidal ideation and suicide risk among general adult populations (Brake et al., 2017; Cunningham et al., 2019; Schienle et al., 2020), we hypothesized that both the experience and tolerance of shame-related emotions, including the experience of the specific shame-related emotion of self-disgust and the tolerance of both negative self-conscious emotions in general and the specific emotion of shame, would be positively associated with suicide risk among both sexual minority and heterosexual participants. However, given theory and research linking the experience and tolerance of shame to both minority stress and related stigma and suicide risk among sexual minorities (Allen & Oleson, 1999; Hatzenbuehler, 2009; Mereish et al., 2019; Mereish & Poteat, 2015; Meyer, 2003), we also hypothesized that sexual minority status would moderate the relations of these factors to suicide risk, such that self-disgust and the tolerance of shame-related emotions would be more strongly associated with suicide risk among sexual minority adults. Given that the experience and tolerance of shame-related emotions in particular was expected to be uniquely related to suicide risk above and beyond an individual's general emotional vulnerability (i.e., the intensity, reactivity, and duration of emotions in general), emotional vulnerability was included in models as a covariate to isolate the unique relations of the experience and tolerance of the specific emotions of interest to suicide risk (separate from an individual's propensity toward intense and reactive emotions in general).

2 | METHODS

2.1 | Participants

Participants were drawn from a sample of 515 adults from the community who completed online measures through an internet-based platform, Amazon's Mechanical Turk (MTurk.com). Data provided by MTurk-recruited participants have been found to be as reliable as data collected through more traditional methods (Buhrmester et al., 2011). Likewise, MTurk-recruited participants have been found to perform better on attention check items than college student samples (Hauser & Schwarz, 2015) and comparably to participants completing the same tasks in a laboratory setting (Casler et al., 2013). Studies also show that MTurk samples have the advantage of being more diverse than other internet-recruited or college student samples (Buhrmester et al., 2011; Casler et al., 2013), as well as reporting more clinical symptoms (e.g., depression, anxiety) than both nonclinical samples recruited through other means (Arditte et al., 2016) and the general population (Shapiro et al., 2013). For the present study, inclusion criteria included (1) 18 years of age or older, (2) United States resident, (3) fluent English speaker, (4) $\geq 95\%$ approval

rating as an MTurk worker, and (5) valid responses on questionnaires (i.e., accurate completion of multiple attention check items and reasonable completion times across all measures).

From the larger sample of participants, 150 were excluded for invalid data (see Section 2.3), and five participants were excluded for not completing one or more of the primary measures of interest (i.e., four participants were missing all data on one or more measures and one participant was missing >40% of items on two measures), resulting in a final sample of 360 participants. These participants (59.4% female) ranged in age from 21 to 72 years ($M_{\text{age}} = 38.83 \pm 11.52$). With regard to sexual minority status, 8.9% ($n = 32$) of participants identified as a sexual minority (gay = 5, lesbian = 4, bisexual = 22, questioning = 1). Most participants identified as White (81.9%), followed by Native-American (9.7%), Asian/Asian American (5.0%), Black/African American (1.9%), and Latinx (1.7%). With regard to educational attainment, 12.7% had completed high school or received a general equivalency degree, 30.8% had attended some college or technical school, 40.5% had graduated from college, and 14.7% had advanced graduate/professional degrees. Most participants were employed full-time (72.8%) and reported an annual household income of more than \$40,000 (66.7%).

2.2 | Measures

2.2.1 | Self-disgust

The Self-Disgust Scale (SDS; Overton et al., 2008) was used to assess the shame-related emotion of self-disgust. The SDS consists of 18 items, including six filler items that do not contribute to the scale score (e.g., "I enjoy the company of others") and 12 items that assess disgust with one's actions (e.g., "I often do things I find revolting") and oneself (e.g., "I find myself repulsive"). Respondents indicate their corresponding level of agreement on a 7-point Likert-type scale (1 = "Strongly agree" to 7 = "Strongly disagree"). Nine items are reverse-coded, and scores are then summed across the 12 items assessing self-disgust. Higher scores are indicative of greater levels of self-disgust. Past research with the SDS has demonstrated the scale's high content and concurrent validity, as well as test-retest reliability (Overton et al., 2008). Internal consistency in the present sample was acceptable ($\alpha = 0.93$).

2.2.2 | Tolerance of emotions

The Tolerance of Negative Affective States Scale (TNAS; Bernstein & Brantz, 2013) was used to measure tolerance of specific shame-related emotional states. The TNAS consists of 25 specific affective states to which respondents indicate their degree of tolerance on a 5-point Likert-type scale (1 = "Very Intolerant" to 5 = "Very Tolerant"). These items are grouped to form subscales assessing tolerance of Fear-Distress, Sadness-Depression, Anger, Disgust, Anxious-Apprehension, and Negative Social Emotions (which encompasses the negative self-conscious emotions of regret, guilt, shame, and embarrassment). Given the emphasis of this study on shame-related emotions, the subscale assessing Negative Social Emotions was deemed most relevant. In addition, given the particular relevance of shame to suicide risk, the single item from the Negative Social Emotions subscale that assesses tolerance of shame was also examined in analyses. The TNAS has demonstrated good discriminant and convergent validity, including significant correlations with depressive symptoms (Bernstein & Brantz, 2013; Lass & Winer, 2020). Internal consistency of the Negative Social Emotions subscale was acceptable ($\alpha = 0.88$).

2.2.3 | Suicide risk

The Depression Symptom Index-Suicide Subscale (DSI-SS; Metalsky & Joiner, 1997) was used to measure current suicide risk. The DSI-SS is a four-item screening measure that assesses the frequency and intensity of suicidal thoughts, plans, and

impulses over the past 2 weeks. Scores on this measure have been found to be positively associated with depression symptoms (Cukrowicz et al., 2011; Joiner et al., 2002) and to be higher among individuals with (vs. without) a history of suicide attempts (Capron et al., 2012). Although early research using this measure suggested that scores of ≥ 3 be considered indicative of high suicide risk (Joiner et al., 2002), a more recent study by von Glischinski et al. (2016) examining the optimal clinical cut-off scores for the DSI-SS within German inpatient, outpatient, and population-based samples reported an optimal cut-off score of ≥ 2 for population-based samples. For the present study, a continuous variable assessing the severity of current suicide risk was calculated by summing all four items ($\alpha = 0.92$).

2.2.4 | Emotional vulnerability

The General Emotion Dysregulation Measure (GEDM; Newhill et al., 2010, 2004) was used to assess the individual's overall emotional vulnerability. The GEDM consists of 13 items that assess three aspects of general emotional vulnerability, including emotional sensitivity (e.g., "I see myself as more sensitive to emotions than other people"), emotional intensity (e.g., "My emotional responses to events in my life tend to be high"), and slow return to baseline (e.g., "When I get emotional, it's a long time before I feel normal again"). Respondents indicate their level of agreement with each of the 13 items on a 5-point Likert-type scale (1 = "Strongly disagree" to 5 "Strongly agree"). Higher scores are indicative of greater emotional vulnerability. The GEDM has demonstrated high test-retest reliability and good convergent validity with measures of affect intensity, negative affect, and interpersonal difficulties (Marwaha et al., 2014; Newhill et al., 2010, 2004). Given that emotional vulnerability in general has been linked to suicide risk (Bowen et al., 2015; Castro et al., 2018; Links et al., 2008; Lynch et al., 2004), the GEDM was examined as a potential covariate to isolate the unique relations of the experience and tolerance of the shame-related emotions in particular to suicide risk (separate from an individual's general propensity toward emotional vulnerability). Internal consistency in the present sample was acceptable ($\alpha = 0.91$).

2.3 | Procedure

All procedures received approval from the institution's Institutional Review Board (approved protocol number: 202803-UT). After providing informed consent, participants were required to accurately respond to a Completely Automatic Public Turing test to Tell Computers and Humans Apart (CAPTCHA). This test was conducted to ensure that questionnaires were not being completed by bots (computer programs that perform automated tasks). On the consent form, participants were also informed that "...we have put in place a number of safeguards to ensure that participants provide valid and accurate data for this study. If we have strong reason to believe your data are invalid, your responses will not be approved or paid and your data will be discarded." Data were collected in blocks of nine participants and all data, including attention check items, were reviewed by researchers to ensure that data were valid before compensation was provided. Attention check items consisted of multiple free-response items (e.g., "describe what you see in front of you"), a math problem (e.g., "what is 12 minus 8?"), and repeated questions. All data were also reviewed for duplicate respondents and problematic geocodes (i.e., geographical coordinates used to identify participants outside of the United States and/or in locations determined to be "bot farms" within the MTurk community; see Kennedy et al., 2020). Data were also visually inspected to identify random responding or response sets. Participants who completed the study and were determined to have valid responses were reimbursed \$3.00.

2.4 | Analysis plan

Given the extremely low rate of missing data across all measures (0.006% of all available data), mean imputation was used to address missing data. Descriptive statistics for the primary variables of interest were

computed. Pearson product-moment correlations were conducted to evaluate zero-order associations among variables. To identify covariates for primary analyses, a series of Pearson product-moment and independent *t*-tests were conducted to examine associations of demographic variables (age, sex, past year income [$0 \leq \$50,000/\text{year}$, $1 \geq \$50,000/\text{year}$], education [0 = some college education or less, 1 = college graduate or more], racial/ethnic background [0 = racial/ethnic minority, 1 = White]) and emotional vulnerability to suicide risk. Variables demonstrating a significant association with suicide risk were included as covariates in primary analyses. Next, a series of hierarchical linear regression analyses were conducted examining the main and interactive associations of sexual minority status and the experience or tolerance of shame-related emotions (i.e., self-disgust, tolerance of negative social emotions, or tolerance of shame) with suicide risk. Identified covariates were entered in the first step of each model. Sexual minority status and one of the self-disgust or tolerance of shame variables (mean-centered) were entered in the second step of each model, followed by the product of these variables in the third step. The PROCESS macro version 3.5 for SPSS (Hayes, 2018) was used to probe significant interactions by examining simple slopes representing the association between the experience or tolerance of shame-related emotions (plotted at standard values of -1 SD, mean, $+1$ SD) and suicide risk as a function of sexual minority status.

3 | RESULTS

3.1 | Preliminary analyses

Most associations between the independent variables and suicide risk did not deviate from linearity ($F_s < 1.89$, $p_s > 0.130$). The only exception was the association between self-disgust and suicide risk ($F = 1.89$, $p < 0.001$); however, this association also had a significant linear component ($F = 93.09$, $p < 0.001$). Boxplots were used to identify outliers for all variables except suicide risk (given that boxplots may over-identify outliers for variables that are naturally skewed in the real world [Hubert & Vandervieren, 2008], such as suicide risk [Tomitaka et al., 2018]). Thus, given that some extreme values would be expected within the general population and visual examination of the distribution of suicide risk scores in this sample identified only two participants at the high end of the scale, suicide risk outliers were not corrected (Frost, 2020).¹ Boxplots identified no outliers for any independent variable.

Descriptive data on and correlations among the primary variables of interest are presented in Table 1. Using a cut-off score of ≥ 3 on the DSI-SS (Joiner et al., 2002), 14.7% ($n = 53$) of participants were classified as having high suicide risk; using the cut-off score of ≥ 2 for population-based samples identified by von Glischinski et al. (2016), 16.7% ($n = 60$) of participants were classified as having high suicide risk. Sexual minority participants reported significantly higher suicide risk (mean = 1.59, $SD = 2.95$, DSI-SS scores range from 0 to 12) than heterosexual participants (mean = 0.80, $SD = 1.94$, DSI-SS scores range from 0 to 11), $t(358) = 2.11$, $p = 0.036$, with 25% of sexual minority participants ($n = 8$) having a DSI-SS score of ≥ 3 (25% using a cut-off score of ≥ 2), compared to 13.7% ($n = 45$) of heterosexual participants (or 15.9% [$n = 52$] using a cut-off score of ≥ 2).

As for analyses focused on the identification of covariates for primary analyses, age was negatively significantly associated with suicide risk, $r = -0.18$, $p = 0.001$. Participants reporting an annual income of $< \$50,000$ reported greater suicide risk than those with an annual income of $\geq \$50,000$, $t(358) = 2.11$, $p = 0.036$. Participants without a college degree reported greater suicide risk than those with a college degree or higher, $t(358) = 2.15$, $p = 0.032$. Emotional vulnerability was significantly positively associated with suicide risk, $r = 0.35$, $p < 0.001$. No other associations of potential covariates with suicide risk were significant, $p_s > 0.05$.² Consequently, age, past-year income, education, and emotional vulnerability were included in primary analyses as covariates.

TABLE 1 Descriptive statistics for and correlations among the primary variables of interest ($N = 360$)

	1	2	3	4
1. Self-disgust	-	-0.29*	-0.22**	0.43**
2. Tolerance of negative social emotions		-	0.86**	-0.04
3. Tolerance of shame			-	-0.06
4. Suicide risk				-
Mean	34.34	16.81	2.73	0.87
SD	17.23	5.64	1.18	2.05

Note: * $p < 0.001$; ** $p < 0.01$.

3.2 | Primary analyses

Results of the hierarchical linear regression analyses examining the main and interactive associations of sexual minority status and the experience or tolerance of shame-related emotions (i.e., self-disgust, tolerance of negative social emotions, or tolerance of shame) with suicide risk are presented in Table 2. Cook's distance values across all analyses were less than 0.50. Variation inflation factor values across all analyses were less than 1.56.

Although neither sexual minority status nor the two tolerance of shame-related emotion variables (i.e., negative social emotions in general or shame in particular) were significantly uniquely associated with suicide risk above and beyond the covariates, the experience of self-disgust was significantly positively associated with suicide risk above and beyond the covariates (see Table 2). In addition, and consistent with hypotheses, results revealed a significant interaction between self-disgust and sexual minority status, $b = -0.092$, $SE = 0.021$, $p < 0.001$, 95% confidence interval (CI) $(-0.133, -0.052)$. Evaluation of simple slopes indicated significant positive associations between self-disgust and suicide risk for both participants identifying as a sexual minority ($b = 0.125$, $SE = 0.020$, $p < 0.001$, 95% CI: $[0.085, 0.165]$) and those identifying as heterosexual ($b = 0.033$, $SE = 0.007$, $p < 0.001$, 95% CI: $[0.019, 0.046]$; see Figure 1). Notably, however, the magnitude of this association was greater for participants identifying as a sexual minority. Results also revealed a significant interaction between sexual minority status and tolerance of shame in particular, $b = 0.831$, $SE = 0.313$, $p = 0.008$, 95% CI $(0.216, 0.447)$. Consistent with hypotheses, evaluation of simple slopes indicated that there was a significant negative association between tolerance of shame and suicide risk among participants who identified as a sexual minority ($b = -0.751$, $SE = 0.301$, $p = 0.013$, 95% CI: $[-1.342, -0.160]$), but not among participants identifying as heterosexual ($b = 0.081$, $SE = 0.090$, $p = 0.368$, 95% CI: $[-0.095, 0.257]$; see Figure 2). Notably, however, this interaction was specific to the tolerance of shame in particular, and was not found for the tolerance of negative social emotions (encompassing several negative self-conscious emotions) in general ($b = 0.069$, $SE = 0.065$, $p = 0.290$, 95% CI: $[-0.059, 0.196]$; see Figure 3).

3.3 | Post-hoc analyses

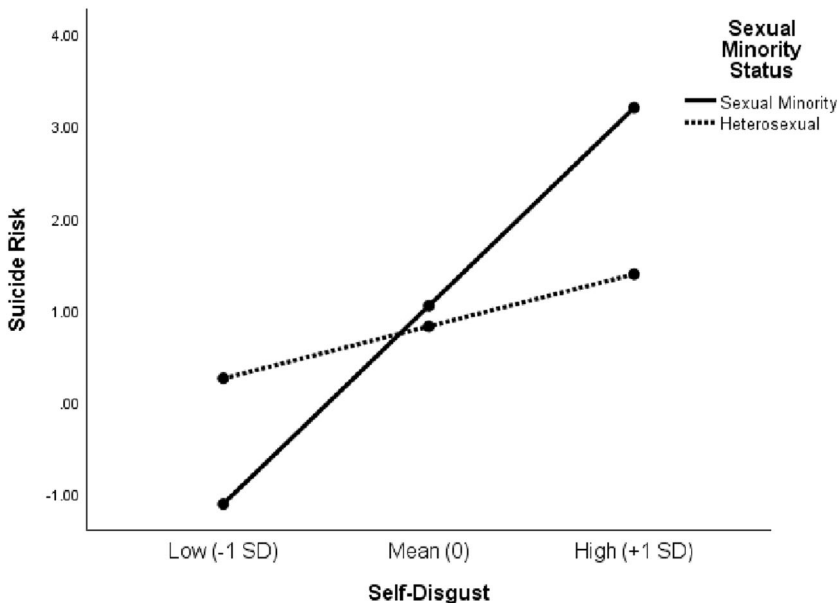
Although the experience and tolerance of shame-related emotions are distinct constructs that were expected to be independently associated with suicide risk, it is also possible that these factors may interact to influence suicide risk. Specifically, although both the experience of heightened levels of shame and difficulties tolerating shame would be expected to increase suicide risk, the ability to tolerate shame may be more relevant to suicide risk among individuals with heightened experiences of shame (and less relevant for individuals who rarely experience shame). That is, one's ability to tolerate a particular emotion would be expected to be relevant to negative psychological outcomes only to such an extent that the emotion was experienced. Thus, to test this model, we conducted a

TABLE 2 Main and interactive associations of shame-related variables and sexual minority status to suicide risk

	Self-disgust			Tolerance of negative social emotions			Tolerance of shame		
	<i>b</i>	SE	<i>p</i>	<i>b</i>	SE	<i>p</i>	<i>b</i>	SE	<i>p</i>
Step 1	$\Delta R^2 = 0.15^{**}$			$\Delta R^2 = 0.15^{**}$			$\Delta R^2 = 0.15^{**}$		
Age	-0.020	0.009	0.025	-0.020	0.009	0.025	-0.020	0.009	0.025
Income	-0.214	0.209	0.308	-0.214	0.209	0.308	-0.214	0.209	0.308
Education	-0.306	0.208	0.142	-0.306	0.208	0.142	-0.306	0.208	0.142
Emotion vulnerability	0.047	0.008	0.001	0.047	0.008	0.001	0.047	0.008	0.001
Step 2	$\Delta R^2 = 0.08^{**}$			$\Delta R^2 = 0.004$			$\Delta R^2 = 0.003$		
Shame variable	0.040	0.007	0.001	0.013	0.018	0.490	0.015	0.087	0.867
Sexual minority	-0.460	0.346	0.185	-0.379	0.361	0.294	-0.378	0.361	0.297
Step 3	$\Delta R^2 = 0.04^{**}$			$\Delta R^2 = 0.003$			$\Delta R^2 = 0.02^*$		
Interaction	-0.092	0.020	0.001	0.069	0.065	0.290	0.831	0.313	0.008

Note: Income = annual household income (0 ≤ \$50,000/year, 1 ≥ \$50,000/year); education = highest level of education obtained (0 = some college education or less, 1 = college graduate or more). Shame variable = relevant shame-related predictor of interest, including self-disgust, tolerance of negative social emotions, or tolerance of shame. All shame-related variables were mean-centered. Sexual minority = sexual minority status (0 = sexual minority, 1 = heterosexual). Interaction = interaction term of the shame-related predictor of interest (i.e., self-disgust, tolerance of negative social emotions, or tolerance of shame) and sexual minority status.

$p = 0.001$ refers to $p < 0.001$; * $p \leq 0.01$; ** $p \leq 0.001$.

**FIGURE 1** Interaction of self disgust and sexual minority status in relation to suicide risk

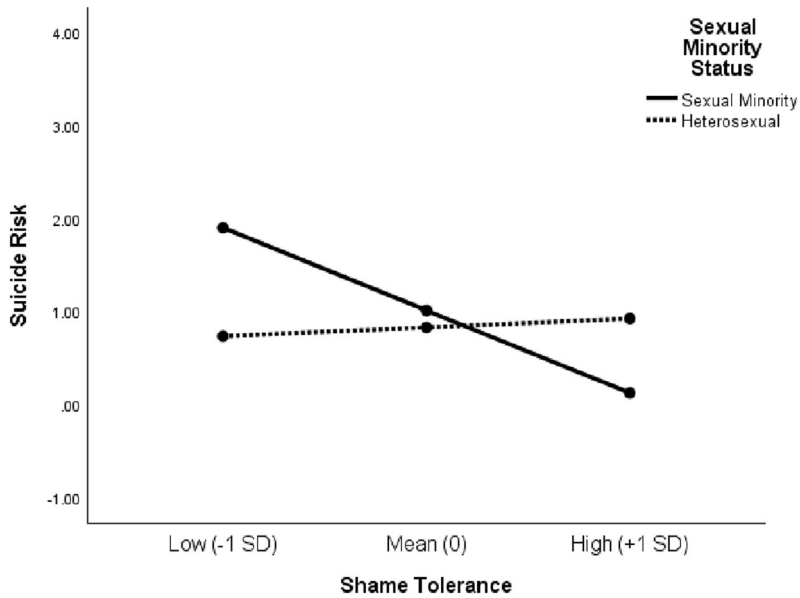


FIGURE 2 Interaction of tolerance of shame and sexual minority status in relation to suicide risk

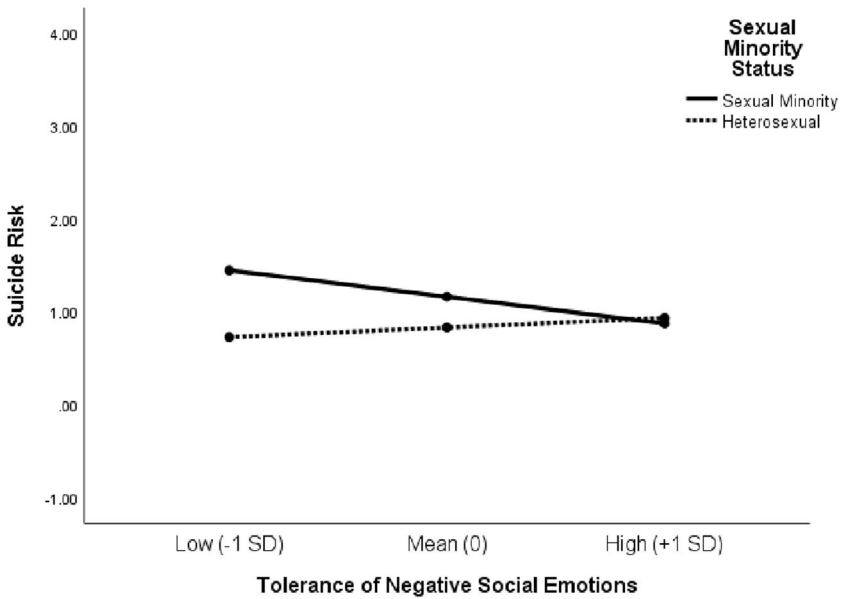


FIGURE 3 Interaction of tolerance of negative social emotions and sexual minority status in relation

hierarchical linear regression analysis examining the moderating roles of both sexual minority status and self-disgust in the relation between shame tolerance and suicide risk. The PROCESS macro version 3.5 for SPSS (Model 3; Hayes, 2018) was used to probe significant interactions by examining the relations between the tolerance of shame (plotted at standard values of -1 SD, mean, +1 SD) and suicide risk as a function of both self-disgust (plotted at standard values of -1 SD, mean, +1 SD) and sexual minority status (sexual minority vs. heterosexual).

Results supported the proposed interactive model. Specifically, a significant three-way interaction was found for suicide risk ($b = 0.033$, $SE = 0.016$, $p = 0.038$, 95% CI: [0.002, 0.064]; see Figure 4), such that there was a significant negative association between shame tolerance and suicide risk only among sexual minority participants with high levels of self-disgust ($b = -0.863$, $SE = 0.435$, $p = 0.048$, 95% CI: [-1.719, -0.006]), but not mean ($b = -0.317$, $SE = 0.306$, $p = 0.301$, 95% CI: [-0.920, 0.285]) or low ($b = 0.228$, $SE = 0.362$, $p = 0.530$, 95% CI: [-0.484, 0.940]) levels of self-disgust. Shame tolerance was not significantly associated with suicide risk among participants identifying as heterosexual at low ($b = 0.111$, $SE = 0.108$, $p = 0.304$, 95% CI: [-0.101, 0.323]), mean ($b = 0.129$, $SE = 0.085$, $p = 0.131$, 95% CI: [-0.039, 0.297]), or high ($b = 0.148$, $SE = 0.123$, $p = 0.231$, 95% CI: [-0.095, 0.390]) levels of self-disgust.

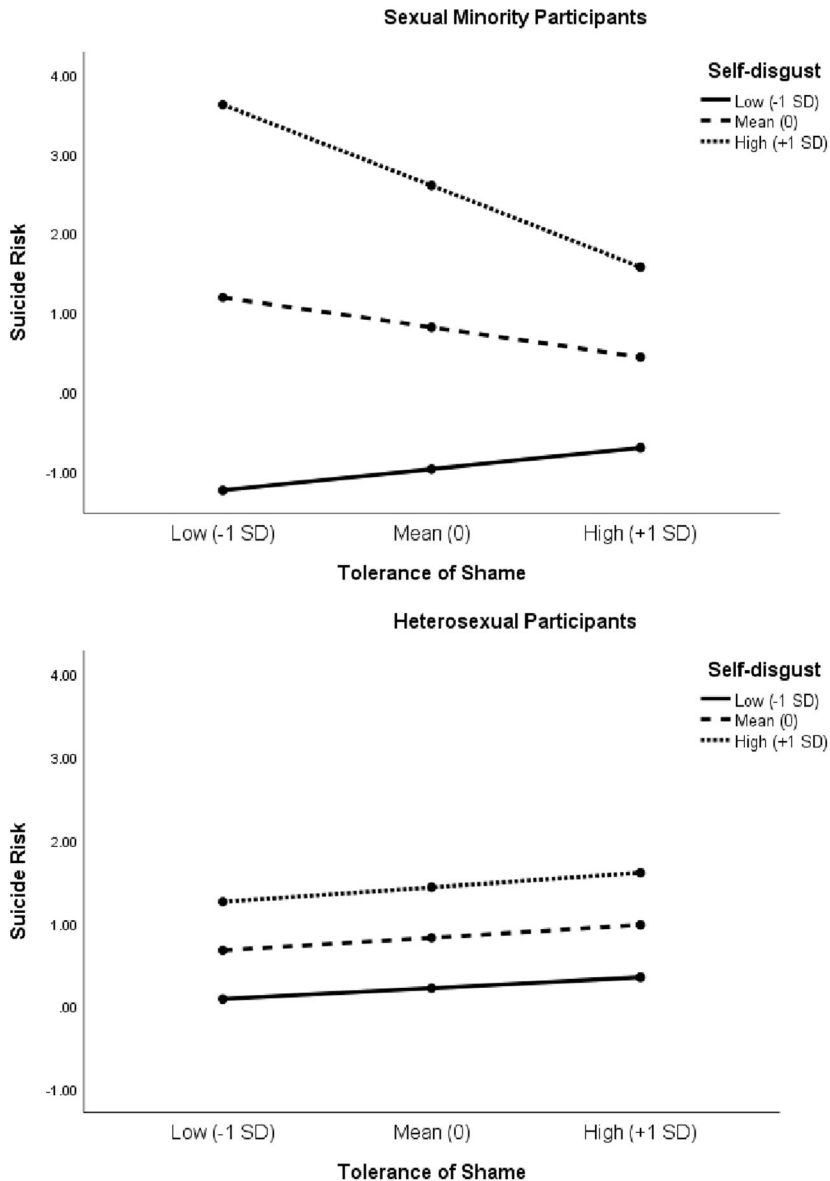


FIGURE 4 Interaction of tolerance of shame, self-disgust, and sexual minority status in relation to suicide risk

4 | DISCUSSION

Research indicates elevated suicide risk among individuals who identify as sexual minorities. Although several factors that may account for this elevated risk have been identified, this study explored the relevance of two factors theorized to be pertinent to suicide risk among both adults in general and sexual minority adults in particular: the experience and tolerance of shame-related emotions. As hypothesized, although self-disgust was positively associated with suicide risk for both heterosexual and sexual minority identifying participants, the magnitude of this association was greater among the sexual minority group. Consistent with this finding and providing partial support for study hypotheses, tolerance of the specific emotion of shame was significantly negatively associated with suicide risk among participants identifying as a sexual minority, although not among heterosexual participants as expected. These findings highlight the unique relevance of difficulties tolerating shame to suicide risk among sexual minority versus heterosexual adults.

These results are consistent with past research and theoretical models (i.e., psychological mediation framework and minority stress model) highlighting the relevance of shame-related experiences to suicide risk among sexual minority individuals. For example, the greater association of self-disgust with suicide risk among sexual minority participants is consistent with theory emphasizing the role of minority stress and stigma in negative self-schemas and related emotions among individuals identifying as sexual minorities (Hatzenbuehler, 2009; Mereish & Poteat, 2015). Furthermore, the unique association between suicide risk and difficulties tolerating shame among sexual minority individuals is consistent with the psychological mediation framework, which posits that difficulties tolerating shame-related emotions may be particularly relevant to suicide risk among individuals whose experiences with stigma and related stressors intensify shame (making it more difficult to tolerate; Hatzenbuehler, 2009).

Notably, results of the post-hoc analyses exploring the interaction of the experience and tolerance of shame-related emotions in relation to suicide risk among both sexual minority and heterosexual participants provide further clarification of the relevance of these factors to suicide risk among sexual minorities. Specifically, results highlighted the particular relevance of difficulties tolerating shame to suicide risk among sexual minority participants with high levels of self-disgust. These findings suggest that the ability to tolerate shame may be most relevant to psychological well-being for individuals who are prone to experiencing shame; for individuals who do not experience high levels of shame-related emotions, the ability to tolerate these emotions may be less pertinent to their functioning. These findings further support the notion that shame-related experiences may be particularly relevant to suicide risk among individuals with stigmatized identities, such as those who identify as a sexual minority, whose experiences with minority stress and stigma increase experiences of shame and make these emotions more difficult to tolerate (Hatzenbuehler, 2009; Mereish et al., 2019; Mereish & Poteat, 2015).

Together, findings suggest the potential clinical utility of interventions for suicide risk among sexual minority clients aimed at decreasing negative self-evaluations and self-judgments and increasing shame tolerance. For example, sexual minority clients may benefit from emotion regulation skills that teach individuals how to identify and connect with primary emotions and reduce attachment to secondary emotions that increase suffering (e.g., shame). Acceptance-based behavioral interventions focused on increasing emotional willingness, mindful and nonjudgmental awareness of emotions, and emotional tolerance may also be useful in facilitating the ability to endure unpleasant emotional experiences perceived as aversive or intolerable (Hayes et al., 2011; Linehan, 1993). Given that sexual minorities face unique stressors, clinicians may also benefit from using culturally-sensitive interventions that acknowledge the effects of both structural and internalized stigma on the experience of negative emotions (Skerven et al., 2019). Additionally, as the propensity to experience shame-related emotions may have developed due to repeated and prolonged criticism from others (Powell et al., 2015), clients may benefit from increasing connectedness to the LGBT community, as finding similar others may affirm aspects of their own identity. Finally, these results also have implications for policy. For example, fostering policies that promote acceptance (e.g., marriage equality), protection (e.g., anti-discrimination laws), and celebration (e.g., LGBT history

and pride month) of sexual minority individuals within the community may reduce minority stressors that result in shame-related emotions among this population.

There are several limitations to the current study that should be considered when interpreting the findings. First, sexual minority status was defined using only one measure (i.e., sexual identity). Previous research has demonstrated differences when measuring sexual minority status by identity versus attraction, particularly in the context of suicidal and nonsuicidal self-injury (Mann et al., 2020). Consequently, the results of this study may not generalize to sexual minority groups defined by other constructs (i.e., sexual attraction or sexual behavior). Additionally, although our sample size was sufficient for examining differences in associations of the experience and tolerance of shame-related emotions to suicide risk as a function of sexual minority status, we were not able to investigate differences within the sexual minority group. Given evidence of significant differences in suicidal ideation and behaviors between gay/lesbian and bisexual individuals (Bolton & Sareen, 2011; Swannell et al., 2016), it is possible that the associations of self-disgust and tolerance of shame with suicide risk may also have differed between these two sexual minority groups. Future research should examine the differential relevance of these and other emotional processes to suicide risk within specific sexual minority identity groups as well.

In addition, although both the experience of and difficulties tolerating shame were hypothesized to be particularly relevant to suicide risk among sexual minority participants due to their theorized links to minority stress (Hatzenbuehler, 2009; Mereish et al., 2019; Mereish & Poteat, 2015), this study was not able to examine the associations of these shame-related experiences to specific elements of the minority stress model. Future research should examine the extent to which experiences of minority stress and stigma increase self-disgust and difficulties tolerating shame among sexual minority adults. Likewise, although the model tested in this study was informed by the psychological mediation framework, measures of key components of this framework (including distal stigma-related stressors, social isolation, social norms, and rumination) were not included in the study, precluding examination of the more complex model supported by this framework. Future research would benefit from examining the full psychological mediation framework in relation to suicide risk among sexual minorities, including the extent to which sexual minority stressors and related stigma increase both the experience of shame-related emotions and difficulties tolerating these emotions, and, subsequently, the risk for negative psychological outcomes directly and indirectly related to suicide risk. Furthermore, although findings suggest stronger associations of self-disgust and difficulties tolerating shame to suicide risk among sexual minority versus heterosexual participants, the correlational and cross-sectional nature of the data preclude any conclusions about the precise nature or direction of the associations examined here. Prospective studies are needed to clarify the temporal relations between the experience and tolerance of shame and suicide risk. Another limitation is the exclusive reliance on self-report questionnaire data, which may be influenced by social desirability biases or recall difficulties.

Additionally, although the use of a large community sample may be considered a strength of this study, sample limitations with regard to racial/ethnic diversity (>80% of participants identified as White) may limit the generalizability of our findings to racial/ethnic minorities. In particular, the extent to which findings apply to individuals at the intersection of sexual and racial/ethnic minority status is unclear. Given evidence that individuals who identify as a racial minority experience greater and unique stressors compared to individuals who identify as White (Kessler et al., 1999; Turner & Avison, 2003; Turner & Lloyd, 2004; Williams & Jackson, 2005), the intersection of sexual and racial/ethnic minority status may increase risk for mental health difficulties due to compounded experiences of minority stress and related difficulties. Conversely, recent findings of lower rates of psychiatric disorders among sexual minority individuals who identified as a racial/ethnic minority versus White (Rodriguez-Seijas & Pachankis, 2019) suggest that the intersection of sexual and racial/ethnic minority status in relation to suicide risk may be more complex. Thus, future research examining the emotional factors associated with suicide risk among sexual minorities would benefit from the targeted recruitment of more racially and ethnically diverse participants. Such research would facilitate investigation of whether increased distress associated with possessing more than one stigmatized identity influences associations of both self-disgust and shame tolerance to suicide risk. Finally, although there is evidence that samples collected through MTurk exhibit higher levels of

psychopathology (including forms of psychopathology that would be particularly relevant to suicide risk, such as depression; Arditte et al., 2016; Shapiro et al., 2013) than other convenience or community samples, findings may not generalize to other community or clinical samples. Consequently, replication of results in other samples is needed.

Despite limitations, the results of this study add to the literature on the relation of shame-related experiences to suicide risk among sexual minority adults. In addition to being the first study to demonstrate differences in the associations of shame-related factors and suicide risk as a function of sexual minority status, findings highlighted the unique relevance of difficulties tolerating shame to suicide risk among sexual minorities. Together, these findings suggest the potential utility of interventions aimed at increasing shame tolerance and decreasing self-disgust and other shame-related emotions within this at-risk population.

ACKNOWLEDGMENT

Funding for this study was provided by the Office of Research and Sponsored Projects at the University of Toledo.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

Ethics approval for this study was provided by the University of Toledo Institutional Review Board. All participants provided informed consent before participating in this study.

ORCID

Adam J. D. Mann  <http://orcid.org/0000-0003-2062-3929>

Matthew T. Tull  <https://orcid.org/0000-0002-1382-117X>

Kim L. Gratz  <http://orcid.org/0000-0002-2659-6784>

ENDNOTES

- ¹ The pattern of findings remained the same when these two participants were removed from analyses.
- ² Given that racial/ethnic differences in suicide risk could be obscured when using a dichotomous representation of racial/ethnic background, this potential covariate was also explored as a multilevel variable. Results remained the same; there were no significant differences in suicide risk as a function of racial/ethnic background, $F(5, 354) = 0.85$, $p = 0.516$ (all post-hoc tests comparing suicide risk between specific racial/ethnic groups were nonsignificant, $ps > 0.175$).

PEER REVIEW

The peer review history for this article is available at <https://publons.com/publon/10.1002/jclp.23367>

REFERENCES

- Alessi, E. J. (2014). A framework for incorporating minority stress theory into treatment with sexual minority clients. *Journal of Gay & Lesbian Mental Health*, 18(1), 47–66.
- Allen, D. J., & Oleson, T. (1999). Shame and internalized homophobia in gay men. *Journal of Homosexuality*, 37(3), 33–43. https://doi.org/10.1300/j082v37n03_03
- Anestis, M. D., Bagge, C. L., Tull, M. T., & Joiner, T. E. (2011). Clarifying the role of emotion dysregulation in the interpersonal-psychological theory of suicidal behavior in an undergraduate sample. *Journal of Psychiatric Research*, 45(5), 603–611. <https://doi.org/10.1016/j.jpsychires.2010.10.013>

- Anestis, M. D., & Joiner, T. E. (2012). Behaviorally-indexed distress tolerance and suicidality. *Journal of Psychiatric Research*, 46(6), 703–707. <https://doi.org/10.1016/j.jpsychires.2012.02.015>
- Arditte, K. A., Morabito, D. M., Shaw, A. M., & Timpano, K. R. (2016). Interpersonal risk for suicide in social anxiety: The roles of shame and depression. *Psychiatry Research*, 239, 139–144. <https://doi.org/10.1016/j.psychres.2016.03.017>
- Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). *Cognitive therapy of depression*. Guilford Press.
- Bernstein, A., & Brantz, H. (2013). Tolerance of negative affective states (TNAS): Development and evaluation of a novel construct and measure. *Cognitive Therapy and Research*, 37(3), 421–433. <https://doi.org/10.1007/s10608-012-9471-6>
- Bolton, S. L., & Sareen, J. (2011). Sexual orientation and its relation to mental disorders and suicide attempts: Findings from a nationally representative sample. *The Canadian Journal of Psychiatry*, 56(1), 35–43. <https://doi.org/10.1177/070674371105600107>
- Bowen, R., Balbuena, L., Peters, E. M., Leuschen-Mewis, C., & Baetz, M. (2015). The relationship between mood instability and suicidal thoughts. *Archives of Suicide Research*, 19(2), 161–171. <https://doi.org/10.1080/13811118.2015.1004474>
- Brake, C. A., Rojas, S. M., Badour, C. L., Dutton, C. E., & Feldner, M. T. (2017). Self-disgust as a potential mechanism underlying the association between PTSD and suicide risk. *Journal of Anxiety Disorders*, 47, 1–9. <https://doi.org/10.1016/j.janxdis.2017.01.003>
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk. *Perspectives on Psychological Science*, 6(1), 3–5. <https://doi.org/10.1177/1745691610393980>
- Capron, D. W., Fitch, K., Medley, A., Blagg, C., Mallott, M., & Joiner, T. (2012). Role of anxiety sensitivity subfactors in suicidal ideation and suicide attempt history. *Depression and Anxiety*, 29(3), 195–201. <https://doi.org/10.1002/da.20871>
- Capron, D. W., Norr, A. M., Macatee, R. J., & Schmidt, N. B. (2013). Distress tolerance and anxiety sensitivity cognitive concerns: Testing the incremental contributions of affect dysregulation constructs on suicidal ideation and suicide attempt. *Behavior Therapy*, 44(3), 349–358. <https://doi.org/10.1016/j.beth.2012.12.002>
- Casler, K., Bickel, L., & Hackett, E. (2013). Separate but equal? A comparison of participants and data gathered via Amazon's MTurk, social media, and face-to-face behavioral testing. *Computers in Human Behavior*, 29, 2156–2160. <https://doi.org/10.1016/j.chb.2013.05.009>
- Castro, S. C. C., Baroni, G. V., Martins, W. A., Palmieri, A. L. F., & Bisol, L. W. (2018). Suicide risk, temperament traits, and sleep quality in patients with refractory epilepsy. *Epilepsy & Behavior*, 80, 254–258. <https://doi.org/10.1016/j.yebeh.2018.01.022>
- Chu, C., Buchman-Schmitt, J. M., Michaels, M. S., Ribeiro, J. D., & Joiner, T. (2013). Discussing disgust: The role of disgust with life in suicide. *International Journal of Cognitive Therapy*, 6(3), 235–247. <https://doi.org/10.1521/ijct.2013.6.3.235>
- Cogle, J. R., Bernstein, A., Zvolensky, M. J., Vujanovic, A. A., & Macatee, R. J. (2013). Validation of self-report measures of emotional and physical distress tolerance. *Journal of Psychopathology and Behavioral Assessment*, 35(1), 76–84.
- Cukrowicz, K. C., Schlegel, E. F., Smith, P. N., Jacobs, M. P., Orden, K. A. V., Paukert, A. L., Pettit, J. W., & Joiner, T. E. (2011). Suicide ideation among college students evidencing subclinical depression. *Journal of American College Health*, 59(7), 575–581. <https://doi.org/10.1080/07448481.2010.483710>
- Cunningham, K. C., Losavio, S. T., Dennis, P. A., Farmer, C., Clancy, C. P., Hertzberg, M. A., Kimbrel, N. A., Calhoun, P. S., & Beckham, J. C. (2019). Shame as a mediator between posttraumatic stress disorder symptoms and suicidal ideation among veterans. *Journal of Affective Disorders*, 243, 216–219. <https://doi.org/10.1016/j.jad.2018.09.040>
- Fox, K. R., Hooley, J. M., Smith, D. M., Ribeiro, J. D., Huang, X., Nock, M. K., & Franklin, J. C. (2018). Self-injurious thoughts and behaviors may be more common and severe among people identifying as a sexual minority. *Behavior Therapy*, 49(5), 768–780. <https://doi.org/10.1016/j.beth.2017.11.009>
- Frost, J. (2020). *Hypothesis testing: An intuitive guide for making data driven decisions*. Jim Publishing.
- Gratz, K. L., Mann, A. J., & Tull, M. T. (2021). Suicidal ideation among university students during the COVID-19 pandemic: Identifying at-risk subgroups. *Psychiatry Research*, 302, 114034.
- Haas, A. P., Eliason, M., Mays, V. M., Mathy, R. M., Cochran, S. D., D'augelli, A. R., Silverman, M. M., Fisher, P. W., Hughes, T., Rosario, M., Russell, S. T., Malley, E., Reed, J., Litts, D. A., Haller, E., Sell, R. L., Remafedi, G., Bradford, J., Beautrais, A. L., ... Clayton, P. J. (2011). Suicide and suicide risk in lesbian, gay, bisexual, and transgender populations: Review and recommendations. *Journal of Homosexuality*, 58(1), 10–51. <https://doi.org/10.1080/00918369.2011.534038>
- Hatzenbuehler, M. L. (2009). How does sexual minority stigma "get under the skin"? A psychological mediation framework. *Psychological Bulletin*, 135(5), 707–730. <https://doi.org/10.1037/a0016441>
- Hauser, D. J., & Schwarz, N. (2015). Attentive Turkers: MTurk participants perform better on online attention checks than do subject pool participants. *Behavior Research Methods*, 48(1), 400–407. <https://doi.org/10.3758/s13428-015-0578-z>

- Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). Guilford Press.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2011). *Acceptance and commitment therapy: The process and practice of mindful change*. Guilford Press.
- Hedegaard, H., Curtin, S. C., & Warner, M. (2018). *Suicide rates in the United States continue to increase* (NCHS Data Brief, No. 309). National Center for Health Statistic.
- Hubert, M., & Vandervieren, E. (2008). An adjusted boxplot for skewed distributions. *Computational Statistics & Data Analysis*, 52(12), 5186–5201.
- Igartua, K. J., Gill, K., & Montoro, R. (2009). Internalized homophobia: A factor in depression, anxiety, and suicide in the gay and lesbian population. *Canadian Journal of Community Mental Health*, 22(2), 15–30.
- Joiner, T., Pfaff, J., & Acres, J. (2002). A brief screening tool for suicidal symptoms in adolescents and young adults in general health settings: Reliability and validity data from the Australian National General Practice Youth Suicide Prevention Project. *Behaviour Research and Therapy*, 40(4), 471–481. [https://doi.org/10.1016/s0005-7967\(01\)00017-1](https://doi.org/10.1016/s0005-7967(01)00017-1)
- Kennedy, R., Clifford, S., Burleigh, T., Waggoner, P. D., Jewell, R., & Winter, N. J. (2020). The shape of and solutions to the MTurk quality crisis. *Political Science Research and Methods*, 8(4), 614–629. <https://doi.org/10.1017/psrm.2020.6>
- Kessler, R. C., Mickelson, K. D., & Williams, D. R. (1999). The prevalence, distribution, and mental health correlates of perceived discrimination in the United States. *Journal of Health and Social Behavior*, 40, 208–230. <https://doi.org/10.2307/2676349>
- King, M., Semlyen, J., Tai, S. S., Killaspy, H., Osborn, D., Popelyuk, D., & Nazareth, I. (2008). A systematic review of mental disorder, suicide, and deliberate self-harm in lesbian, gay and bisexual people. *BMC Psychiatry*, 8(1), 1–17. <https://doi.org/10.1186/1471-244x-8-70>
- Lass, A. N., & Winer, E. S. (2020). Distress tolerance and symptoms of depression: A review and integration of literatures. *Clinical Psychology: Science and Practice*, 27(3):e12336.
- Law, K. C., Khazem, L. R., & Anestis, M. D. (2015). The role of emotion dysregulation in suicide as considered through the ideation to action framework. *Current Opinion in Psychology*, 3, 30–35. <https://doi.org/10.1016/j.copsyc.2015.01.014>
- Lazuras, L., Ypsilanti, A., Powell, P., & Overton, P. (2019). The roles of impulsivity, self-regulation, and emotion regulation in the experience of self-disgust. *Motivation and Emotion*, 43(1), 145–158.
- Linehan, M. M. (1993). *Cognitive-behavioral treatment of borderline personality disorder*. Guilford Press.
- Links, P. S., Eynan, R., Heisel, M. J., & Nisenbaum, R. (2008). Elements of affective instability associated with suicidal behaviour in patients with borderline personality disorder. *The Canadian Journal of Psychiatry*, 53(2), 112–116. <https://doi.org/10.1177/07067437085300206>
- Lynch, T. R., Cheavens, J. S., Morse, J. Q., & Rosenthal, M. Z. (2004). A model predicting suicidal ideation and hopelessness in depressed older adults: The impact of emotion inhibition and affect intensity. *Aging & Mental Health*, 8(6), 486–497. <https://doi.org/10.1080/13607860412331303775>
- Mann, A. J., Patel, T. A., Elbogen, E. B., Calhoun, P. S., Kimbrel, N. A., & Wilson, S. M. (2020). Sexual orientation, attraction and risk for deliberate self-harm: Findings from a nationally representative sample. *Psychiatry Research*, 286, 112863.
- Marwaha, S., He, Z., Broome, M., Singh, S. P., Scott, J., Eyden, J., & Wolke, D. (2014). How is affective instability defined and measured? A systematic review. *Psychological Medicine*, 44(9), 1793–1808. <https://doi.org/10.1017/s0033291713002407>
- Mereish, E. H., Peters, J. R., & Yen, S. (2019). Minority stress and relational mechanisms of suicide among sexual minorities: Subgroup differences in the associations between heterosexist victimization, shame, rejection sensitivity, and suicide risk. *Suicide and Life-Threatening Behavior*, 49(2), 547–560. <https://doi.org/10.1111/sltb.12458>
- Mereish, E. H., & Poteat, V. P. (2015). A relational model of sexual minority mental and physical health: The negative effects of shame on relationships, loneliness, and health. *Journal of Counseling Psychology*, 62(3), 425–437.
- Metalsky, G. I., & Joiner, J. T. E. (1997). The hopelessness depression symptom questionnaire. *Cognitive Therapy and Research*, 21(3), 359–384. <https://doi.org/10.1023/a:1021882717784>
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, 129(5), 674–697. <https://doi.org/10.1037/0033-2909.129.5.674>
- Miranda-Mendizábal, A., Castellví, P., Parés-Badell, O., Almenara, J., Alonso, I., Blasco, M. J., Cebrià, A., Gabilondo, A., Gili, M., Lagares, C., Piqueras, J. A., Roca, M., Rodríguez-Marín, J., Rodríguez-Jiménez, T., Soto-Sanz, V., Vilagut, G., & Alonso, J. (2017). Sexual orientation and suicidal behaviour in adolescents and young adults: Systematic review and meta-analysis. *British Journal of Psychiatry*, 211, 77–87. <https://doi.org/10.1192/bjp.bp.116.196345>
- Newhill, C. E., Bell, M. M., Eack, S. M., & Mulvey, E. P. (2010). Confirmatory factor analysis of the emotion dysregulation measure. *Journal of the Society for Social Work and Research*, 1(3), 159–168. <https://doi.org/10.5243/jsswr.2010.12>
- Newhill, C. E., Mulvey, E. P., & Pilkonis, P. A. (2004). Initial development of a measure of emotional dysregulation for individuals with cluster B personality disorders. *Research on Social Work Practice*, 14(6), 443–449. <https://doi.org/10.1177/1049731504267332>

- Nock, M. K., Borges, G., Bromet, E. J., Cha, C. B., Kessler, R. C., & Lee, S. (2008). Suicide and suicidal behavior. *Epidemiologic Reviews*, 30, 133–154. <https://doi.org/10.1093/epirev/mxn002>
- Oaten, M., Stevenson, R. J., & Case, T. I. (2011). Disease avoidance as a functional basis for stigmatization. *Philosophical Transactions of the Royal Society, B: Biological Sciences*, 366(1583), 3433–3452. <https://doi.org/10.1098/rstb.2011.0095>
- Overton, P. G., Markland, F. E., Taggart, H. S., Bagshaw, G. L., & Simpson, J. (2008). Self-disgust mediates the relationship between dysfunctional cognitions and depressive symptomatology. *Emotion*, 8(3), 379–385. <https://doi.org/10.1037/1528-3542.8.3.379>
- Power, M., & Dalgleish, T. (2015). *Cognition and emotion: From order to disorder*. Psychology Press.
- Powell, P. A., Simpson, J., & Overton, P. G. (2015). An introduction to the revolting self: Self-disgust as an emotion schema. In P. A. Powell, P. G. Overton, & J. Simpson (Eds.), *The revolting self: Perspectives on the psychological, social, and clinical implications of self-directed disgust* (pp. 1–24). Karnak. <https://doi.org/10.4324/9780429483042-1>
- Puckett, J. A., Horne, S. G., Surace, F., Carter, A., Noffsinger-Frazier, N., Shulman, J., Detrie, P., Ervin, A., & Mosher, C. (2017). Predictors of sexual minority youth's reported suicide attempts and mental health. *Journal of Homosexuality*, 64(6), 697–715. <https://doi.org/10.1080/00918369.2016.1196999>
- Reitzel, L. R., Smith, N. G., Obasi, E. M., Forney, M., & Leventhal, A. M. (2017). Perceived distress tolerance accounts for the covariance between discrimination experiences and anxiety symptoms among sexual minority adults. *Journal of Anxiety Disorders*, 48, 22–27. <https://doi.org/10.1016/j.janxdis.2016.07.006>
- Rodriguez-Seijas, C. M. R., & Pachankis, J. E. (2019). Prevalence of psychiatric disorders at the intersection of race and sexual orientation: Results from the National Epidemiologic Survey of Alcohol and Related Conditions-III. *Journal of Consulting and Clinical Psychology*, 97(4), 321–331. <https://doi.org/10.1037/ccp0000377>
- Schienle, A., Schwab, D., Höfler, C., & Freudenthaler, H. H. (2020). Self-disgust and its relationship with lifetime suicidal ideation and behavior. *Crisis*, 41(5), 344–350. <https://doi.org/10.1027/0227-5910/a000645>
- Schwartz, D. R., Stratton, N., & Hart, T. A. (2016). Minority stress and mental and sexual health: Examining the psychological mediation framework among gay and bisexual men. *Psychology of Sexual Orientation and Gender Diversity*, 3(3), 313–324.
- Shapiro, D. N., Chandler, J., & Mueller, P. A. (2013). Using Mechanical Turk to study clinical populations. *Clinical Psychological Science*, 1(2), 213–220.
- Skerven, K., Whicker, D. R., & LeMaire, K. L. (2019). Applying dialectical behaviour therapy to structural and internalized stigma with LGBTQ+ clients. *The Cognitive Behaviour Therapist*, 21, 1–19.
- Swannell, S., Martin, G., & Page, A. (2016). Suicidal ideation, suicide attempts and non-suicidal self-injury among lesbian, gay, bisexual and heterosexual adults: Findings from an Australian national study. *Australian & New Zealand Journal of Psychiatry*, 50(2), 145–153. <https://doi.org/10.1177/000486741561594>
- Szanto, K., Reynolds, III, C. F., Frank, E., Stack, J., Fasiczka, A. J., Miller, M., Mulsant, B. H., Mazumdar, S., & Kupfer, D. J. (1996). Suicide in elderly depressed patients: Is active vs. passive suicidal ideation a clinically valid distinction? *The American Journal of Geriatric Psychiatry*, 4(3), 197–207. <https://doi.org/10.1097/00019442-199622430-00003>
- Tomitaka, S., Kawasaki, Y., Ide, K., Akutagawa, M., Yamada, H., Ono, Y., & Furukawa, T. A. (2018). Distributional patterns of item responses and total scores on the PHQ-9 in the general population: Data from the national health and nutrition examination survey. *BMC Psychiatry*, 18(1), 1–9.
- Turner, R. J., & Avison, W. R. (2003). Status variations in stress exposure: Implications for the interpretation of research on race, socioeconomic status, and gender. *Journal of Health and Social Behavior*, 44, 488–505. <https://doi.org/10.2307/1519795>
- Turner, R. J., & Lloyd, D. A. (2004). Stress burden and the lifetime incidence of psychiatric disorder in young adults: Racial and ethnic contrasts. *Archives of General Psychiatry*, 61, 481–488. <https://doi.org/10.1001/archpsyc.61.5.481>
- von Glischinski, M., Teismann, T., Prinz, S., Gebauer, J. E., & Hirschfeld, G. (2016). Depressive symptom inventory suicidality subscale: Optimal cut points for clinical and non-clinical samples. *Clinical Psychology & Psychotherapy*, 23(6), 543–549.
- Vujanovic, A. A., Hart, A. S., Potter, C. M., Berenz, E. C., Niles, B., & Bernstein, A. (2013). Main and interactive effects of distress tolerance and negative affect intensity in relation to PTSD symptoms among trauma-exposed adults. *Journal of Psychopathology and Behavioral Assessment*, 35(2), 235–243.
- Williams, D. R., & Jackson, P. B. (2005). Social sources of racial disparities in health. *Health Affairs*, 24, 325–334. <https://doi.org/10.1377/hlthaff.24.2.325>
- Zvolensky, M. J., Vujanovic, A. A., Bernstein, A., & Leyro, T. (2010). Distress tolerance. *Current Directions in Psychological Science*, 19(6), 406–410. <https://doi.org/10.1177/0963721410388642>

How to cite this article: Mann, A. J. D., Kurtz, A. J., Tull, M. T., & Gratz, K. L. (2022). The moderating role of sexual minority status in the associations of the experience and tolerance of shame-related emotions to suicide risk. *Journal of Clinical Psychology*, 78, 2579–2594. <https://doi.org/10.1002/jclp.23367>