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Perceived Social Support and Suicide-related Depression Symptom Clusters among Queer College Students

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Abstract

LGBTQ+ individuals report disproportionately high rates of depression and suicidal behaviors compared to the general populations, particularly among queer youth. Certain depressive symptoms and symptom clusters, namely hopelessness and self-blame, are predictive of suicidal behavior and outcomes. In contrast, perceived social support may act as a buffer against suicide ideation. The disparity in the rate of queer suicidality may be predicted by higher rates of hopelessness and self-blame, as well as lower rates of perceived social support among depressed queer youth in comparison to depressed non-queer youth. The current study will test this hypothesis using a sample of depressed queer and non-queer college students (n=145).

Results indicate that queer students and non-queer students do not experience significantly different rates of hopelessness, self-blame, or perceived social support. Despite this finding, queer students report significantly higher rates of suicide and self-harm ideation. This suggests that differences in the suicide rate for queer individuals cannot be explained by differences in perceived social support or the manifestation of suicide-related depression symptom clusters. Additionally, depression severity was found to be a weaker predictor of suicide ideation for queer students than for non-queer students. This indicates that suicidality among queer populations may be less connected to experiences of depressive symptoms than it is for cisgender and heterosexual populations. Further research is needed to examine possible suicide predictors and risk factor differences that are unique to queer populations to explain the disparity in suicide rates.

Perceived Social Support and Suicide-related Depression Symptom Clusters among Queer College Students

Introduction

LGBTQIA+ individuals are at a heightened risk for Major Depressive Disorder and other mental illnesses compared to heterosexual and cisgender people. Current research indicates that queer people are nearly three times more likely to develop Major Depressive Disorder over their lifetimes (Lee, Oliffe, Kelly & Ferlatte, 2017). Further extant research suggests that LGBTQ+ *youth* are particularly vulnerable, with estimates that queer youth are approximately 6 times more likely to experience depressive symptoms than the general population (NAMI; Marshal, Dietz, Friedman, Stall, Smith, McGinley, & Brent, 2011; Russell & Fish, 2016). A number of different theories for this disparity have been offered, primarily focusing on queer youth experiencing higher levels of discrimination and social stigma. The minority stress theory contends that minorities, in this case queer individuals, experience severe and chronic stress brought on by frequently encountering discrimination and prejudice (Meyer, 2003).

For queer youth, this prejudice often affects multiple facets of daily life as young people face stigma at home as well as at school, where they are at an elevated risk for bullying and harassment. Bullying directed at queer youth is so severe that a 2013 report by the Gay, Lesbian, & Straight Education Network found that 55% of "out" queer youth feel unsafe at their school due to their sexual orientation, and 74% reported experiencing some form of verbal harassment from their classmates concerning their sexual orientation (Kosciw, Greytak, Palmer & Boesen, 2014).

. This bullying has a direct impact on mental health. Research has indicated that perceived discrimination leads to an increase in depressive symptoms among queer youth and can lead to an elevated risk for suicide and self-harm (Almeida, Johnson, Corliss, Molnar, & Azrael, 2009).

Perceived discrimination may also drive queer youth to engage in unhealthy coping methods, including substance abuse. A 2008 meta-analysis found that sexual minority youth (SMY) report significantly higher rates of alcohol and illegal substance use than do heterosexual youth, which are also correlated with an increase in depressive symptoms (Marshal et al., 2008). Additionally, social stigma against queer individuals extends beyond interpersonal interactions. Institutional prejudice also affects mental health, and both depression and substance abuse rates among LGBT people significantly increase following the introduction and adoption of new legislation that discriminates against queer individuals (Hatzenbuehler, McLaughlin, Keyes, & Hasin, 2010).

These disparities in both Major Depressive Disorder and Substance Use Disorder rates also contribute to perhaps an even more severe problem: suicide among queer youth. According to the Center for Disease Control & Prevention, lesbian, gay, and bisexual youth are 3 times as likely to seriously contemplate suicide and are 5 times as likely to actually attempt to kill themselves compared to similarly-aged heterosexual peers (CDC, 2016). These statistics are even more substantial for transgender youth, with a national study finding that 40% of transgender adults reported having made a suicide attempt during their adolescence (James, Herman, Rankin, Keisling, Mottet, & Anafi, 2016). By comparison, only 4.6% of the general U.S. population reported an attempt at any point across their lifetime. There is, however, little research on transgender suicide

attempts and this statistic only includes those whose attempts were unsuccessful. Not only are queer youth significantly more likely to attempt suicide, but their attempts are often more serious, being 4 to 6 times more likely to require emergency medical services than attempts by heterosexual and cisgender youth (CDC, 2016). Despite this seeming epidemic, there is still a relative dearth of research examining queer suicide and depression.

Symptom Clusters

The Diagnostic and Statistical Manual 5 of Mental Disorders (DSM 5) take a broad approach to understanding Major Depressive Disorder, conceptualizing it as a single diagnosis with a number of possible symptoms. However, research has shown that depression may not be so homogenous, manifesting itself in different ways and with different symptoms for different people (Martin, Neighbors, & Griffith, 2013). According to the DSM-5, one need only experience five of nine listed symptoms to meet the criteria for a diagnosis of a Major Depressive Episode, meaning that two individuals could share the same diagnosis, but experience only one symptom in common (American Psychiatric Association, 2013).

There has been a recent push within the field of depression research to begin conceptualizing it as a more heterogeneous disorder, focusing on individual symptoms and symptom clusters rather than just a single diagnosis (Insel, 2014). Research has indicated that certain depression symptoms and symptom clusters, such as self-blame or sleep disturbances, are more predictive of prognosis and treatment efficacy than the depression diagnosis itself (Checkroud, Gueorguieva, Krumholz, Trivedi, Krystal, & McCarthy, 2017). For example, depressed individuals who primarily manifest symptoms

in the "core emotional" cluster, such as loss of interest and feelings of worthlessness, respond better on average to psychopharmacological interventions than people who primarily manifest "atypical" symptoms such as psychomotor slowing or hypersomnia (Checkroud et al., 2017).

Additionally, symptom cluster research is becoming increasingly common in psychopharmacology research, as certain antidepressants are more effective in the treatment of specific symptom clusters (Lin & Stevens, 2014). While norepinephrine dopamine reuptake inhibitors (NDRI's) are particularly effective at treating depression with high rates of fatigue, selective serotonin reuptake inhibitors (SSRI's) are more effective for depressed patients who experience comorbid anxious symptoms (Lin & Stevens, 2014). As professionals gain a better understanding of the distinctions and similarities between symptom clusters like sleep disturbances and anxious depression, psychiatrists will be better able to provide effective therapeutic interventions.

Suicide-related Symptom Clusters

Symptom cluster manifestation may also serve as a useful tool to predict suicidal and self-injurious behaviors and outcomes. A growing body of research has established that hopelessness, a cognitive symptom of depression, is one of the primary mediators between Major Depressive Disorder and suicidal ideation and behavior (Weishaar & Beck, 2009). A seminal 1973 study found that hopelessness was a better indicator of suicidal intent than depression itself, and that directly addressing hopelessness may be a more effective means of preventing a suicidal outcome than simply treating depression more generally (Minkoff, Bergman, Beck & Beck, 1973). This finding has been

instrumental to the field of suicide research, and many studies use hopelessness scales rather than depression inventories to assess for possible suicidal ideation (Beck & Steer, 1988).

More recently, another depression symptom cluster has emerged as a strong indicator of suicidal intent. Multiple studies have found that excessive feelings of guilt coupled with inappropriate self-blame, are highly correlated with suicide ideation (Fountoulakis, 2013; Mcgirr, Renaud, Seguin, Alda, Benkelfat, Lesage & Turecki, 2007). Additionally, stronger feelings of guilt mediated the relationship between suicidal individuals who actually made an attempt to take their lives and those who did not, implying that guilt and self-blame may be an underlying symptom that leads from suicidal ideation to behavior (Mcgirr et al., 2007).

Perceived Social Support

In contrast to self-blame and guilt, Perceived Social Support may act as a critical protective factor against both depression and suicidal behavior. Extant literature points to the importance of social support as a coping method and as a buffer against stressful life events and depressive or anxious symptoms (Barrera, 1986). Social support, or the feeling of being loved, valued, and cared for by the people in one's life, can be either enacted or perceived. On the one hand, enacted social support refers to tangible demonstrations of support in the form of assistance from others during a stressful period of event. On the other hand, perceived social support, is the confident belief that one would receive support if it were ever needed. Many conceptions of perceived social support focus on both the perceived availability and adequacy of one's supportive relationships (Barrera,1986). While enacted social support may seem integral to one's

well-being, research has shown that perceived social support is more highly correlated with positive mental health outcomes (Taylor, Sherman, Kim, Jarcho, Takagi, & Dunagan, 2004).

According to the buffering hypothesis, perceived social support is able to protect an individual from the negative effects of stressful events, thereby buffering them against poor health outcomes (Cohen & Wills, 1985). Perceived social support may change how a person thinks about and deals with a negative situation, leading to better problem solving and less internalization of stress and frustration (Thoits, 1986). However, perceived social support has benefits even outside of stressful life events, and has direct effects on mental health regardless of stress levels (Uchino, 2009). Some researchers believe that both the buffering and direct effects of perceived social support can be explained by improvements in emotion regulation. In both stressful and innocuous circumstances, people who report feeling higher levels of perceived social support are able to more positively and more effectively regulate their emotions (Lakey, 2010). This emotion regulation may help buffer against suicide ideation and prevent ideation from developing into suicidal behavior. Research has shown that youth with difficulties in emotional regulation are at increased suicide risk as they are less able to cope with distressing events and emotions without developing suicidal thoughts (Rajappa, Gallagher & Miranda, 2011). Higher levels of perceived social support may therefore protect against suicide ideation by helping youth to develop positive emotional regulation strategies and preventing stressful situations from leading to suicidal thoughts and behavior.

Perceived Social Support, Depression, and Suicide

Perceived Social Support may also play an important role in protecting against depression and suicidal ideation, as well as preventing ideation from becoming acted upon. Higher rates of perceived social support are negatively correlated with both hopelessness and guilt and self-blame (Pehlivan, Ovayolu, Ovayolu, Sevinc & Camci, 2011; Roohafza, Afshar, Keshteli, Mohammadi, Feizi, Taslimi & Adibi, 2014). This may be because individuals with high perceived social support are more likely to engage in positive coping methods, such as perspective taking and healthy re-framing of negative situations. Research has also indicated that perceived social support can act as both a direct and indirect buffer against suicidal ideation (Endo, Tachikawa, Fukuoka, Aiba, Nemoto, Shiratori, & Asada, 2013). Conversely, a lack of perceived social support may increase suicide risk. Individuals who suddenly lose support experience sharp increases in suicide ideation (Endo, et al., 2013). Social support may act as a moderator between impulsivity and suicidal behavior, meaning that without perceived social support, impulsive individuals may have less control over their suicidal urges (Kleiman, Riskind, Schaefer & Weingarden, 2012).

Unfortunately, research on the relationship between symptom clusters that increase suicidality and perceived social support that protects against it has largely been performed on heterosexual and cisgender populations. A dearth of queer-specific suicide research has limited our understanding of how both depression and suicide ideation manifest in queer communities. Although symptom and symptom cluster research has identified differences in the experience of depression between ethnic and gender groups, similar research has yet to be conducted on possible differenced in the experience of

depression across gender and sexual minorities. Numerous studies have shown that queer people, especially youth, experience higher rates of depression, but the literature has yet to examine whether they demonstrate a propensity to experience *different* depression symptom clusters than heterosexual and cisgender people. The literature has demonstrated, however, that queer youth are at a significantly elevated risk of suicidal ideation and behavior. If these especially harmful behaviors are correlated with certain depressive symptom clusters (i.e. hopelessness and guilt and self-blame), then perhaps queer people with Major Depressive Disorder may be predisposed to experience these specific symptoms at higher rates than depressed non-queer individuals. Furthermore, if these specific symptom clusters can be targeted for intervention, it may also lead to a decrease in the overall suicide rate of queer individuals experiencing depression and better overall outcomes for this group.

Perceived Social Support among Queer Youth

Protective factors such as Perceived Social Support may also be harder to develop for queer youth who are in the process of forming their identities. Research has indicated that many queer youth feel that they lack social support from multiple areas within their life, including family and classmates (Munoz-Plaza, Quinn, & Rounds, 2002). One study conducted with queer college students found that when they did feel social support, it often developed gradually over time rather than being immediately protective as it was for heterosexual classmates (Snapp, Watson, Russell, Diaz & Ryan, 2015). Queer high school students report lower than average perceived social support from family members, but research shows that family support has a greater effect on the mental health outcomes of queer youth than non-queer youth (Munoz-Plaza et al., 2002; Snapp et al., 2015). Lack

of family support appears to be a more significant risk factor for queer youth, who may feel especially dejected and isolated if the rejection is a result of their sexual orientation or gender identity. Even when queer students do report feeling social support, they perceive as qualitatively different than do heterosexual and cisgender students, believing it to be both more conditional and more limited (Munoz-Plaza et al., 2002). This implies that while a lack of perceived social support may be especially harmful to queer youth, positive feelings of support may not offer the same range of beneficial effects that they do for non-queer youth.

Both the presence of suicide-related depressive symptom clusters and a lack of perceived social support may be contributing factors to the disparity in suicide rates among queer populations. Insufficient social support surrounding one's sexual or gender identity is strongly correlated with both suicidality and depression among LGBTQ+ youth (Baams, Grossman & Russell, 2015). This implies that queer youth perceive less support as a direct result of their identity, which then directly contributes to feelings of isolation and hopelessness. Additionally, a recent British study found that LGBTQ+ students, who felt that they lacked the social support necessary to be able to talk about their emotional issues, were also at the highest risk for suicidal feelings and self-harm of any student demographic group (McDermott, Hughes & Rawlings, 2017). This indicates that a lack of social support may be perhaps the greatest risk factors facing queer youth (McDermott, Hughes & Rawlings, 2017). Extant research has also demonstrated that experiencing rejection due to sexual or gender orientation is so damaging to mental health that lesbian, gay, and bisexual youth who experience high levels of rejection from their families are 8.4 times as likely to attempt suicide compares to LGB peers with

supportive families (Family Acceptance Project, 2009). Given the existing research on perceived social support differences among queer youth, a number of hypotheses can be generated about how support interacts with other risk and protective factors unique to queer youth.

The Present Research

The current investigation seeks to explore the disparity in suicide ideation and attempts among queer youth by examining differences in the manifestation of suicide-related symptom clusters and perceptions of social support among queer and non-queer college students. This study will examine whether LGBTQ+ students with depression experience suicide-related symptom clusters at different rates than non-queer depressed students, and whether these differences are partially attributable to differences in perceived social support.

Primary Hypotheses

H1: Queer students with Major Depressive Disorder will endorse hopelessness and self-blame symptom clusters at higher rates than depressed non-queer individuals.

H2: Queer students with Major Depressive Disorder will report feeling lower levels of social support than depressed non-queer individuals.

H3: Higher perceived social support will be negatively correlated with hopelessness and self-blame depressive symptom clusters. Further, these attributes will mediate the relationship between sexual orientation and symptom cluster manifestation.

Exploratory Hypotheses

H4: There will be a significant interaction between sexuality and perceived social support by sexual orientation such that the positive effect of perceived social support on reducing hopelessness and self-blame symptom clusters will be greater for non-queer people than for queer individuals.

Method

Participants

A sample of 217 undergraduate students from the Claremont Colleges, University of California Los Angeles, and University of Southern California was recruited online through social media platforms. Individual participants were specifically asked to participate if they had experienced a period of depression lasting at least two weeks in the six months before the study was conducted. 72 participants failed to meet the inclusion criteria for moderate or severe depression, leaving 145 participants in the analysis.

One hundred thirteen participants identified as cisgender women, 22 identified as cisgender men, and an additional 10 participants as either transgender or non-binary. Participants' ages ranged from 18 to 28 with a mean age of 20.3. The ethnic breakdown of the sample was: 46.2% White, 24.8% Asian or Pacific Islander, 9.0% Hispanic or Latinx, 6.0% Black or African American, and 13.8% Mixed ethnic background. 66 participants (45.5%) identified as heterosexual, with 12 participants (8.3%) identifying as homosexual, 44 participants (30.3%) identifying as bisexual, and an additional 23 participants (15.9%) identifying with another sexual orientation (e.g., pansexual, asexual, etc.).

Procedure

Participants were recruited via social media posts in both general university pages and campus-wide LGBTQ+ group pages inviting students of all sexual orientations and gender identities to participate in a brief study about experiences with mental health issues on college campuses for the chance to win a $75 Amazon gift card. To ensure recruitment of queer participants, we contacted leaders of various queer networks and organizations on each campus and asked them to share the study with the members of their group. Participants were also invited to share the study with their friends and peers.

Each participant was informed that the study would contain questionnaires about personal experiences with mental health issues while in college, and that it may include uncomfortable questions. Students were asked whether they had experienced a period of depression lasting at least two weeks in the six months prior to the study. Those who said no were thanked for their time and did not complete the remainder of the survey. Those who said yes and who chose to continue then completed a Depression Inventory questionnaire in order to assess symptom cluster manifestation and another questionnaire designed to assess subjective perceptions of social support from friends and family members. The order in which these two questionnaires were presented was randomized to prevent order effects or any other biases.

Upon completion of the two questionnaires, participants were asked to provide demographic information, including information about sexual orientation (e.g. heterosexual, bisexual, etc.) and gender identity (e.g., cisgender man, transgender woman, etc.). If participants did not identify with any of the options provided, they had the opportunity to write in their sexual orientation and gender identity. To minimize the

risk of any distress or discomfort that may have arisen from completing the survey, a page listing mental health resources and hotlines was provided at the end of the survey. Upon completion of the survey, participants were given a link through which to submit their email in order to enter a raffle for a chance to win a $75 Amazon gift card. In the interest of protecting confidentiality, the raffle was hosted on a different server than the survey so that email addresses can in no way be connected to a participant's responses.

Materials

Depression Symptom Clusters. A 29-item depression scale based on constructs in Beck's Depression Inventory and the Beck Hopelessness Scale (BDI; Beck et al., 1996, Beck, 1988) was developed for this study in order to assess the manifestation of different symptom clusters (See Appendix A). Using a 4-point scale ranging from 0 (*Rarely [<1 day a week]*) to 3 (*Almost every day [5-7 days a week]*), participants were asked to rate the frequency with which they had experienced different depressive symptoms (e.g., "I feel like life will never get better"). Each item on the scale corresponds to one of seven separate symptom clusters, and each symptom cluster is operationalized by multiple items on the scale. Mean scores for individual clusters, such as loss of pleasure ($\alpha = .872$) and hopelessness ($\alpha = .778$), were calculated for each participant. An overall depression score ($\alpha = .904$) was also calculated by summing the score for each of the 29 items, with higher scores indicating more severe symptomatology. The depression scale used the same 4-point likert scale as Beck's Depression Inventory, and severity categorizations were determined by applying similar cut-offs as the BDI based on percentage of total possible score. A score of 0-17 was considered a minimal range of depression, 17-30 is mild, 30-43 is moderate, and 43-87 is

considered severe. Only participants who indicated at least moderate depression (a score of 30) had their data included in the analysis.

Perceived Social Support. Participants' subjective perception of available social support was assessed with a 26-item scale consisting of items from the Multidimensional Scale of Perceived Social Support (Zimet et al., 1988), Procidano's Perceived Social Support scale (Procidano & Heller, 2005), and 6 original items developed for this study (See Appendix B). On a 7-point likert scale ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*), participants rated their agreement with 26 statements about social support, such as "I can count on my friends when things go wrong," and "My family gives me the moral support I need." The 6 additional items were developed to gauge perceptions of negative judgment (e.g., "I often feel judged by my family") and forgiveness (e.g., "My friends would forgive me if I did something that upset them"). Mean scores were calculated for each of three subscales: perception of social support from family members ($\alpha = 938$), from friends ($\alpha = .870$), and from a "special person" (i.e., a romantic partner or an especially close friend) [$\alpha = .948$] An average of scores across all items was taken to give a general perceived social support score, with higher scores indicating greater perceived support ($\alpha = .925$).

Follow-up Resources. Conducting research with at-risk populations necessitates extra precaution, and after completion of the two questionnaires, participants were directed to a page with links to mental health resources in order to minimize any negative effects of participating in the study, and to provide additional support to an at-risk population. Telephone numbers for national and local suicide, self-harm, and depression

hotlines were included, as well as links to different online resources and communities (See Appendix C).

Results

Depression Symptom Clusters

To examine hypothesis 1 that queer students would report significantly higher rates of suicide-related symptom clusters, mean scores were examined for both hopelessness and guilt/self-blame. An independent-samples t-test was conducted to compare hopelessness in queer and non-queer students. There was not a significant difference on levels of hopelessness between queer (M=2.69, SD=.634) and non-queer (M=2.55, SD=.767) students; t(143)=1.180, p = .240. Another independent-samples t-test indicated that there was also not a significant difference on levels of guilt/self-blame between queer (M=2.94, SD=.670) and non-queer (M=2.86, SD=.634) students; t(143)=.739, p = .461. These findings suggest that depressed LGBTQ+ students are not manifesting suicide-related symptom clusters at higher rates than are depressed students who identify as heterosexual and cisgender.

Further statistical comparisons revealed that there were no significant statistical differences between depressed queer and non-queer students for any symptom cluster except for suicide and self-harm ideation. In this sample, queer students reported significantly higher rates of suicide and self-harm ideation (M=2.15, SD=.790) than did non-queer students (M= 1.84, SD= .816); t(143)=2.26, p = .025. This indicates that queer students are more suicidal than non-queer students even though they do not report significantly higher rates of any other depressive symptom cluster, or even higher overall severity of depressive symptoms; t(143)=.739, p = .461. This difference was not uniform

across the queer student sample. A one-way ANOVA yielded significant variation among different queer identities within the queer sample, $F(4,140) = 2.826$, $p = .012$). Post-hoc Tukey's HSD tests showed that "other" queer students, who identify as LGBTQ+ but not as gay, lesbian, or bisexual (e.g., pansexual, asexual, genderqueer) reported significantly higher rates of suicide and self-harm ideation ($M = 2.47$, $SD = 0.74$) than both LGB ($M = 2.07$, $SD = 1.04$) and non-queer participants ($M = 1.83$, $SD = .84$) at $p > .05$. All other comparisons were not significant.

Even when there are no other differences in depression manifestation, queer students report significantly higher rates of suicide and self-harm ideation than non-queer students, especially among "other" queer students who do not identify as gay, lesbian, or bisexual.

Perceived Social Support

Hypothesis 2, which predicts that depressed queer students would report lower rates of perceived social support than non-queer depressed students, was examined by taking a mean score for each of the three subscales on the Perceived Social Support Scale (family, friends, and special person) as well as an average across all items to give an overall PSS score. In this sample, a series of independent-samples t-tests indicated no significant difference on levels of overall perceived social support between queer students (M=4.59, SD=.860) and non-queer students (M=4.46, SD=.1.15); $t(143)=.771$, $p = .442$. However, queer students reported a significantly higher rate of perceived social support from friends (M=4.55, SD=.957) than did non-queer students (M=4.15, SD=.1.30); $t(143)=2.144$, $p = .034$. The two groups did not differ on social support from

family (t[143]=-1.037, p = .302), or social support from a special person (t[143]=.914, p = .362). Although queer students reported significantly higher rates of perceived social support from friends, there were no differences between the two groups on other measures of perceived social support.

In sum, our first two hypotheses were not supported. However, despite no other significant differences in symptom clusters or overall perceived social support, queer students demonstrate disparate rates of suicide ideation. Additionally, there were no significant differences on perceived social support or symptom clusters across ethnic groups or between cisgender men and cisgender women.

Due to the lack of initial findings, the mediation analysis between perceived social support, sexual orientation, and hopelessness and guilt/self-blame was not run.

Suicide Ideation Predictors

To determine which factors may be predicting suicide and self-harm ideation, a stepwise multiple regression was used to test whether suicide-related symptom clusters and different forms of perceived social support predicted suicidality scores among queer and non-queer students. Hopelessness was entered in Step 1 of the regression, guilt/self-blame was included in step 2, followed by overall perceived social support score, family PSS score, friends PSS score, and special person PSS score in steps 3, 4, 5, and 6, respectively. For cisgender and heterosexual students, the model was significant (F(6,59) = 6.976, p < .000), and accounted for approximately 36% of the variance of suicide and self-harm ideation (R^2 = .356). Hopelessness significantly predicted suicide and self-harm ideation (β = .518, p < .000), and self-blame/guilt approached significance (β = .211, p = .063). Perceived social support variables did not significantly predict

suicidality, and were excluded from the model. Similarly for queer students, a significant regression equation was also found ($F(6,72) = 5.882$, $p < .000$), and accounted for approximately 27% of the variance of suicide and self-harm ideation ($R^2 = .273$). Hopelessness significantly predicted suicide and self-harm ideation among queer students ($\beta = .443$, $p < .000$), but self-blame/guilt was not a significant predictor ($\beta = .090$, $p = .452$). This suggests that the predictive relationship between guilt/self-blame and suicidality may not apply to queer populations. Regression statistics for queer and non-queer students are reported in Tables 1 and 2.

Table 1

Summary of Stepwise Regression Analysis for Variables predicting Suicide and Self-harm Ideation among Non-Queer Students

Variable	*B*	*SE B*	*β*	*t*	*p*
Hopelessness	0.551	0.123	0.518	4.471	0.000***
Guilt/Self-blame	0.272	0.143	0.211	1.896	0.063
Overall PSS	3.005	2.521	4.216	1.192	0.238
Family PSS	-1.044	0.856	-1.882	-1.22	0.227
Friends PSS	-1	0.863	-1.598	-1.159	0.251
Special Person PSS	-0.966	0.803	-2.122	-1.204	0.233

Note. N = 145; *p < .05, **p < .01, ***p < .001

Table 2

Summary of Stepwise Regression Analysis for Variables predicting Suicide and Self-harm Ideation among Queer Students

Variable	*B*	*SE B*	*β*	*t*	*p*
Hopelessness	0.552	0.14	0.443	3.935	0.00***
Guilt/Self-blame	0.106	0.139	0.09	0.757	0.452
Overall PSS	3.019	2.754	3.288	1.096	0.277
Family PSS	-1.111	0.959	-2.084	-1.158	0.251
Friends PSS	-1.171	0.951	-1.418	-1.231	0.222
Special Person PSS	-0.871	0.868	-1.416	-1.003	0.319

Note. N = 145; *p < .05, **p < .01, ***p < .001

Differences in individual symptom clusters and levels of perceived social support did not explain the significant difference in suicide and self-harm ideation between queer and non-queer college students. To examine whether overall depressive symptom severity predicted suicide and self-harm ideation, a simple linear regression was conducted for both queer and non-queer students to predict suicidality based on depression severity. For both groups, depression severity was found to be a significant predictor, although it explained approximately 15% more of the variance in suicidality scores for non-queer students ((F(1,64)=92.07, p<.000), with an R^2 of .584) than for queer students ((F(1,77)=58.02, p<.000, with an R^2 of .422). This finding implies that depression severity may be a stronger predictor of suicidality among non-queer students than among queer students.

To test for any potential moderation effects, a hierarchical multiple regression was conducted in which suicide and self-harm ideation was regressed on to the interaction

between depression severity and sexual orientation. Depression severity scores were centered prior to calculating the interaction term, and sexual orientation was dummy coded into three dichotomous categories, each in reference to the heterosexual group: homosexual, bisexual, and "other" queer students. Depression severity was at entered at stage one of the regression to control, and the interaction variables between depression severity and each sexual orientation group were entered at stage two. Regression statistics are reported in Table 3.

The analysis yielded a significant interaction between depression severity scores and both homosexual ($\beta = .119$, $p = .036$) and "other" queer students ($\beta = .208$, $p < .000$) in comparison to heterosexual students. This suggests a moderation effect of sexual orientation on the relationship between depression severity and suicidality. Given the significance of the two interaction terms, this finding indicated that sexual orientation moderated the predictive relationship such that depression severity is a significantly better predictor of suicidality rates for non-queer students than for homosexual or "other" queer students. In other words, the predictive factors found by past suicide research (e.g., hopelessness and self-blame/guilt) may be more applicable to non-queer populations, implying that queer suicide ideation may be explained by factors unique to queer populations.

Table 3

Summary of Hierarchical Regression Analysis for Variables predicting Suicide and Self-harm Ideation

Variable	β	*t*	*R*	R^2	ΔR^2
Step 1			0.715	0.508	0.511
Depression Severity	0.715	12.23***			
Step 2			0.749	0.552	0.05
Depression Severity	0.684	12.147***			
Interacton - Homosexual and Depression Severity	0.119	2.114*			
Interaction - "Other" queer group and Depression Severity	0.208	3.659***			

Note. N = 145; *p < .05, **p < .01, ***p< .001

Discussion

The present study examined differences in the manifestation of suicide-related depressive symptom clusters and perceived social support among queer and non-queer college students. Although past studies have examined which symptom clusters and risk factors are predictive of suicidal outcomes, including ideation and attempts, there has yet to be a study specifically examining whether these findings are generalizable to queer populations, who are at heightened risk for suicide and self-harm. Contrary to our hypotheses, queer students did not report higher rates of either hopelessness or guilt/self-blame than non-queer students, suggesting that queer students are likely not experiencing these symptoms at disproportionate rates. Queer students also did not report lower rates of perceived social support, and even reported significantly higher perceptions of social support from friends compared to non-queer students. However, this finding may be a

byproduct of our recruitment methods. To reach and recruit enough depressed queer participants, we targeted LGBTQ+ networks and social media groups on college campuses, and asked willing participants to share the study with their friends and classmates. Specifically targeting students who are connected to existing queer networks may have led to an unrepresentative sample of queer college students. As a result of their affiliation with these networks, our participants may have higher rates of perceived social support from friends than queer students who have no affiliation with such a group. These groups may also be disproportionately comprised of a self-selected student population who are both more open about their sexual orientation and gender identity and who are more willing to actively engage with queer communities. Students who are less open about or comfortable and who feel lower levels of social support from their peers may therefore be underrepresented in our sample.

On other measures of both perceived social support and depressive symptom clusters, our queer and non-queer student samples were surprisingly similar Despite these similarities, queer students still report significantly higher rates of suicide and self-harm ideation. This implies that there may be something inherent about the queer experience that leads to suicidal thoughts and behavior beyond what can be explained by depression and social support.

Additionally, there was an incongruence between the predictive capacity of suicide-related symptom clusters between queer and non-queer populations. Although hopelessness was a significant predictor of suicidality for both groups, guilt/self-blame was unrelated to suicide ideation scores for queer students. While these results may appear surprising, extant literature has focused almost exclusively on heterosexual and

cisgender populations, and the majority of studies fail to include demographic questions on sexual orientation and gender identity. Due to this lack of queer-specific suicide research, risk factors and predictors that have been found in primarily non-queer suicidal populations are often assumed to generalize to queer populations. This study suggests that these assumptions of similarity may be insufficient to understand the unique circumstances and factors involved in the development of queer suicide ideation.

Our analyses also found that depression severity was a significantly stronger predictor of suicidal ideation for non-queer students than for queer students. This implies that there may be a weaker relationship between depressive symptoms and suicidality for LGBTQ+ individuals. This result raises interesting questions for future research; do queer individuals who do not meet the criteria for Major Depressive Disorder still disproportionately develop suicide and self-harm ideation? In other words, are queer people at heightened risk for suicidal behavior even if they are not depressed? This finding may be consistent with recent literature, with one study finding that although only 18% of queer youth meet the criteria for a diagnosis of Major Depressive Disorder, 31% reported engaging in suicidal behavior (Russell & Fish, 2016). As a result, if depression and suicidal behavior are not as strongly related among queer populations, research needs to turn to exploring other predictive factors and possible explanations for why queer people, especially queer youth, are so disproportionately vulnerable to suicidal outcomes.

The present research also suggests that queer people are not all equally vulnerable to suicidal ideation. “Other” queer students, who align with queer identities other than lesbian, gay, or bisexual (e.g., asexual, pansexual, genderqueer), reported significantly higher rates of suicide and self-harm ideation compared to both heterosexual and

homosexual students. When queer mental health research is conducted, it often only examines trends among gay, lesbian, and bisexual populations. Mental health and suicide statistics and research for transgender, asexual, pansexual, genderqueer, and other queer minority groups who fall outside of the LGB community are extremely limited, as these individuals represent a small percentage of the general population and are difficult to access. The present research indicates that these "other" queer groups may be especially vulnerable to suicide and self-harm ideation, and are therefore a valuable group to study both from a theoretical and an intervention standpoint.

If the standard predictors for suicidal ideation and behaviors are more applicable for cisgender and heterosexual individuals, what factors unique to queer individuals and the queer experience could be driving so many LGBTQ+ youth toward suicide and self-harm? One possible explanation is that queer suicidality is linked to chronic stressors caused by anti-queer discrimination and harassment. The Minority Stress Theory posits that stress caused by encountering prejudice on the basis of one's minority status leads to heightened risk for developing mental disorders, including General Anxiety Disorder and Substance Use Disorder (McKirnan & Peterson, 1998; Herek, Gillis & Cogan, 1999). Even queer individuals who are not "out," or who choose to conceal their minority status, experience chronic stressors. Although they may not experience direct discrimination or harassment, research has shown that concealing one's sexual orientation causes psychological distress, including depression, anxiety, and isolation from social groups, all of which are risk factors for suicide (D'Augelli & Grossman, 2001).

Queer youth are also subject to rejection sensitivity, or chronic stress caused by the anxiety and expectations surrounding social rejection based on one's sexual

orientation (Pachankis, Goldfried & Ramrattan, 2008). Furthermore, the minority stress theory explains that individuals may turn to unhealthy or destructive coping methods to deal with stress, including self-harm and substance abuse (Meyer, 2003). Substance abuse itself may be a major contributing factor to suicidality among queer youth, and the use of illegal substances before the age of 18 is highly correlated with both suicide ideation and attempts among queer youth (Gonzales & Henning-Smith, 2017). Queer youth may be developing suicide ideation in reaction to chronic stress, even if they do not develop other depressive symptoms that would qualify them for a diagnosis of Major Depressive Disorder. Future research should examine mental health difficulties beyond Major Depression that are caused by these chronic stressors, and how these difficulties may be leading to suicidal ideation and behavior among queer populations. Understanding the direct links between the stress of prejudice and discrimination and suicide ideation may help to explain why queer youth experience suicide and self-harm ideation at higher rates than they experience Major Depressive Disorder.

Another potential explanation for the heightened rate of suicide ideation and behavior among queer youth may be linked to representation of queer suicide in media. A number of international studies have found that widely publicized suicide stories sometimes find a "copycat" effect, in which a person learns about a suicide through media depictions, and then emulates the attempt (Stack, 2002). Even reporting the specific method used in a suicide can elevate the risk for copycat effects, with an estimated 90% of copycat suicides using the same method as the publicized death (Stack, 2002). Although there are few statistics examining depictions of queer suicide in media, queer youth are repeatedly exposed to both fictional and non-fictional accounts of queer

young people ending their own lives. Suicide and mental illness are common tropes in movies about LGBTQ+ individuals, and news stories about queer youth who are bullied to the point of suicide are not uncommon (Associated Press, 2015; Musumeci, 2016). Queer youth may come to identify with these narratives and start to associate suicide with queerness, leading queer youth to think about and consider suicide, even if they do not have other depressive symptoms. However, more research is needed before any conclusions can be drawn.

Implications

The unexpected findings of this study highlight the importance of studying queer suicide as its own entity, with its own set of theories and risk factors. The current focus of suicide research may be insufficient to thoroughly understand queer suicidality and what leads to it. Simply assuming that paradigms and predictors from research conducted on non-queer populations generalize to this particularly vulnerable group is likely to slow the development of innovative and groundbreaking research, and may ultimately be harmful to queer populations by limiting perspectives on queer mental health. If unique risk factors and predictors can be identified, clinicians may be able to improve treatment and intervention for suicidal queer patients. Reframing how we conceptualize risk factors and predictors of queer suicide may also help to shape suicide interventions targeting LGBTQ+ individuals. If depression is not as closely linked to suicidal ideation as it is for non-queer people, suicidal queer people may be better served by treatments and programs that don’t exclusively focus on alleviating depressive symptomology.

Limitations

The present study has several limitations. The sample consisted of Southern California college students who attend institutions where the majority of students are liberal, and may be more accepting of LGBTQ+ individuals than the average population college campuses located elsewhere in the nation (Arom, 2012). Therefore, queer students at these colleges may have higher rates of perceived social support than students elsewhere in the nation. The majority of students at these institutions are also receiving financial support for their education from their parents, and may feel higher rates of familial social support than other queer populations (P., 2017). Additionally, our findings may have been limited by survey self presentation bias, wherein subjects feel a desire to present themselves as healthy and socially desirable. This bias may lead to participants under-reporting perceived negative qualities and overstating positive qualities in an unconscious effort to present one's self in a positive light. Therefore, our participants may have under-reported levels of depression and suicide ideation as well as over-reported levels of perceived social support. However, despite this possible bias, queer students are still admitting to more suicide and self-harm ideation than non-queer students. This suggests that the disparity in suicidality between queer and non-queer exists even when students are trying to present themselves in a positive light.

Future Directions

Future research should explore other predictors beyond hopelessness and guilt/self-blame, and potentially examine the influence of other depressive symptoms and symptom clusters on queer suicide ideation. Beyond depression, research should examine how other stressors and mental health difficulties may be influencing queer suicide.

Queer individuals experience unique forms of stress from discrimination and prejudice, and exploring how the stress of being a sexual or gender minority affects suicide ideation is essential to understanding why queer individuals are so vulnerable to suicidal ideation and behaviors. Future research should also study how the use of negative methods of coping with these stressors among queer youth, particularly substance abuse, may be leading to high rates of suicide ideation even among those who do not meet the criteria for Major Depressive Disorder. Additionally, seminal studies in the field of suicide research must be replicated with queer populations to examine how much of our existing understanding of suicidal behavior and what leads to it generalizes to LGBTQ+ individuals. To further understand the relationship between queer suicidality and depression, studies should focus not only on depressed queer individuals, but should also examine possible differences in suicide ideation among queer populations who do not meet the criteria for Major Depressive Disorder. Understanding suicide ideation among queer people who are not depressed may help researchers isolate the specific factors that are leading to suicidal thoughts beyond what can be explained by depression.

Conclusion

Although the present study failed to support our hypotheses, it elucidates several important findings. Queer college students report significantly higher rates of suicide and self-harm ideation than non-queer students. This effect occurred even though the two groups did not report differences on other measures of depressive symptomatology and perceived social support. This finding suggests that the differences in suicidality between queer and non-queer students cannot be explained by differences in social support, or differences in how queer people experience depressive symptoms. Additionally, certain

groups of queer students appear to be particularly vulnerable to suicidality, although future research is needed to identify potential explanatory factors for this disparity. Overall depressive symptom severity was a significantly stronger predictor of suicide ideation for non-queer students, implying that the established risk factors and predictors of suicide ideation may not generalize to queer populations. This finding also suggests that depression and suicidality may not be as closely related in queer populations as in non-queer populations. Future research should focus on identifying factors beyond depressive symptomology that may be leading to suicide ideation and attempts among queer individuals, including copycat suicide effects and chronic stress due to experiences of discrimination. This study shows that our current understanding of suicidality may be insufficient to explain the disproportionately high rates of queer suicide, and future research on suicidal queer populations is needed to explain and to ultimately combat this suicidal epidemic.

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APPENDIX A.

Please indicate how often you have experienced the following symptoms (0 = Rarely [<1 day a week], 1 = Occasionally [1-2 days a week], 2 = A moderate amount of the time [3-4 days a week], 3 = Almost every day [5-7 days a week]):

1. I feel down or depressed most of the day (C1)
2. I avoid social interactions, even with close friends (C2)
3. I feel that things just won't work out the way I want them to (C7)
4. I feel guilt for something I've said or done (C5)
5. I find completing everyday tasks tiring (C3)
6. I feel like life will never get better (C7)
7. I feel that everything is my fault (C5)
8. I feel that life isn't worth living (C6)
9. I do not get pleasure from activities and hobbies I typically enjoy (C2)
10. I feel that I am worthless (C5)
11. I think about hurting myself (C6)
12. I have difficulty falling asleep or waking up when I need to (C4)
13. I feel low almost the whole day (C1)
14. I do not enjoy spending time with friends (C2)
15. I get exhausted during the day (C3)
16. I blame myself for any problems that may arise (C5)
17. I feel that I would be better off I were dead (C6)
18. I avoid thinking about the future (C7)
19. I spend time reflecting on mistakes I've made in my past (C5)

20. Things that used to make me happy no longer do (C2)

21. I feel tired no matter how much I sleep (C3)

22. I think about killing myself (C6)

23. I feel that my current situation is unlikely to improve (C7)

24. I have consistent insomnia or hypersomnia (not being able to sleep or sleeping too much) (C4)

25. I feel the urge to hurt myself (C6)

26. I constantly feel guilty (C5)

27. I feel hopeless about the future (C7)

28. I have no interest in participating in activities I typically enjoy (C2)

29. I have low energy the whole day (C3)

(C1) = Depressed Mood
(C2) = Loss of Pleasure and Interest
(C3) = Exhaustion and Fatigue
(C4) = Sleep disturbance
(C5) = Self-blame and guilt
(C6) = Suicide and Self-harm ideation
(C7) = Hopelessness

APPENDIX B.

Please indicate the degree to which you agree with the following statements (1 = Strongly Disagree, 7 = Strongly Agree):

*"Special person" can refer to a romantic partner or a particularly close friend or mentor.

1. There is a special person who is around when I am in need. (SP)

2. My friends give me good advice. (Fr)

3. My family gives me the moral support I need. (Fam)

4. I can talk about my problems with my friends. (Fr)

5. I often feel judged by my family. (Fam)*

6. I have a special person who is a real source of comfort to me. (SP)

7. My family would forgive me if I did something that upset them. (Fam)

8. There are certain issues I can't talk to my friends about (Fr)*

9. There is a special person in my life I know I can tell anything. (SP)

10. I rely on my friends for emotional support. (Fr)

11. I can talk about my problems with my family members. (Fam)

12. Members of my family are good at helping me solve problems. (Fam)

13. My family would be unwilling to help me with certain personal issues (Fam)*

14. I have a special person with whom I can talk about my problems. (SP)

15. My friends would forgive me if I did something that upset them. (Fr)

16. I have a special person who would support me no matter what (SP)

17. Most other people are closer to their friends than I am. (Fr)*

18. I have a special person I rely on for emotional support. (SP)

19. I know my friends would accept me no matter what (Fr)

20. I have a special person who comes to me for emotional support. (SP)

21. My family is there for me through tough times. (Fam)

22. I can count on my friends when things go wrong. (Fr)

23. Most other people are closer to their family than I am. (Fam)*

24. I often feel judged by my friends. (Fr)*

25. I know my family would support me no matter what (Fam)

26. I have a special person who is good at helping me solve problems. (SP)

(Fam) = Family

(Fr) = Friends

(SP) = Special Person

* = reverse coded

APPENDIX C.

Debriefing Form

Thank you for participating in this study. We would now like to tell you a little more about what we are studying.

We are interested in examining whether LGBTQIA+ individuals who experience depression demonstrate different depressive symptoms than do depressed cisgender and heterosexual individuals. Additionally, we wanted to look at whether these potential differences could be partially explained by differences in how much social support one feels they have.

If you have any questions, or would like to know more about the study and what we find, please feel free to contact the study's principal investigator at krausslab@cmc.edu.

Below are a list of useful mental health resources, should you feel inclined to reach out and talk to someone or to learn more about mental health and positive coping methods.

- College Student Mental Health Resource Page: http://www.learnpsychology.org/mental-health/
- Los Angeles County Suicide Hotline: 1-877-7CRISIS
- Los Angeles County Mental Health Crisis Hotline: 1-800-854-7771
- National Suicide Prevention Lifeline: 1-800-273-8255
- Trevor Project Lifeline (LGBTQIA+ Suicide and Mental Health): 1-866-488-7386
- Suicide Prevention Resource Center: http://www.sprc.org/
- American Foundation for Suicide Prevention Resource Page: https://afsp.org/find-support/resources/