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Suicidal Ideation and Community Connectedness in LGBTQ+ Adults: Can Emotion Regulation and Mindfulness Skills Help?

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Suicidal Ideation and Community Connectedness in LGBTQ+ Adults: Can Emotion Regulation and Mindfulness Skills Help?

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ABSTRACT

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Suicidal ideation disproportionally affects the LGBTQ+ community. Community connectedness and mindfulness can be protective against suicidal ideation, whereas emotion regulation difficulty is associated with increased suicidal ideation. Community connectedness, emotion regulation difficulty and mindfulness have demonstrated relationships to each other in the LGBTQ+ community and while they are each independently associated with suicidal ideation, their combined impact on suicidal ideation has not yet been examined. The present study examines moderating effects of emotion regulation difficulty and mindfulness on the relationship between community connectedness and suicidal ideation in LGBTQ+ adults. 141 LGBTQ+ adults completed self-report measures of suicidal ideation, community connectedness, emotion regulation difficulty, and mindfulness. A moderated regression analysis showed significant main effects of community connectedness, emotion regulation difficulty, and mindfulness on suicidal ideation, with community connectedness and mindfulness no longer reaching significance with emotion regulation difficulty accounted for. There were no significant interaction effects. Exploratory analysis showed the mindful action mindfulness facet moderated the relationship between the impulsiveness emotion regulation difficulty facet and suicidal ideation such that high impulsiveness with high mindful action had the highest levels of suicidal ideation. Results indicate that while community connectedness, emotion dysregulation, and mindfulness all impacted suicidal ideation independently, the relationship between these variables remains unclear. Future research should seek to

further clarify the moderating and mediating roles of community connectedness, emotion dysregulation, and mindfulness and identify promising treatment targets for suicidal ideation in the LGBTQ+ community.

CHAPTER I - **INTRODUCTION**

In 2019, there were 1.38 million suicide attempts and 47,511 deaths by suicide in the United States (Centers for Disease Control and Prevention, 2020). The office of the United States Surgeon General named the LGBTQ+ community as both being at increased risk for suicide and having inadequate specialized treatment options (U.S. Department of Health and Human Services, 2021). Individuals who identify as LGBTQ+ attempt suicide at far higher rates than cisgender-heterosexual people (Kann et al., 2018). It is not by coincidence that these histories of suicide and self-injury are often longer and more severe than cisgender-heterosexual people, resulting in more contact with the mental health system through emergency departments and outpatient clinics (Berona et al., 2020; Fox et al., 2018; Horwitz et al., 2021; Layland et al., 2020; Salway et al., 2021). Despite hundreds of studies over 50 years attempting to explain suicidal thoughts and behaviors, our predictive ability of who will die by suicide has not improved beyond the chances of a coin-flip (Franklin et al., 2017). Existing theory and intervention are not fully adequate to prevent suicide in the general population, and to date, even less research has been conducted regarding unique risk factors of suicidal ideation and potential points for intervention in the LGBTQ+ community. In this dissertation I seek to examine relationships between suicidal ideation, community connectedness, emotion regulation, and mindfulness in LGBTQ+ community with the goal of identifying relevant factors in suicidal ideation for the LGBTQ+ community to inform future clinical research. I will first present guiding theories and then examine relevant literature on suicide within the LGBTQ+ community, and roles of community connectedness, emotion regulation, and mindfulness in suicidal ideation.

Background

While suicide is a prevalent problem across populations, rates of suicidal ideation, plans, and attempts are disproportionately high among LGBTQ+ individuals. National studies conclude that while only about 13% of cisgender-heterosexual children and adolescents have seriously contemplated attempting suicide, upwards of 47% of LGBTQ+ children and adolescents have had such thoughts. Compared to 10% of cisgender-heterosexual students, 38% of LGBTQ+ students have made specific plans of how they would attempt to die by suicide. In stark contrast to the mere 5% of cisgender-heterosexual students who go on to attempt suicide, 23% of LGBTQ+ students reported having attempted to take their own lives (Kann et al., 2018). A pattern appears to have emerged within the LGBTQ+ community that suicide attempts peak once during adolescence and once in those aged 30 – 40 (Salway et al., 2021). Within the LGBTQ+ community, young Black women are the individuals who are most likely to die by suicide (Clark et al., 2020). The grim difference in percentage of LGBTQ+ persons in the United States who have thought about or attempted suicide compared to their cisgender-heterosexual peers demonstrates a need to identify relevant contributing factors to suicidal ideation for LGBTQ+ individuals. While some of these factors such as a lack of connectedness to the LGBTQ+ community are likely unique to this community, some contributing factors such as difficulty with emotion regulation may be similar to that of the general population who is majority cisgender-heterosexual.

Interpersonal Theory of Suicide

Seeking to explain both the development of suicidal ideation and the progression of suicidal ideation to suicidal behavior, the Interpersonal Theory of Suicide (IPTS;

Joiner, 2005) posits that perceived burdensomeness and thwarted belongingness are key factors in the initial development of suicidal ideation. Perceived burdensomeness refers to the belief that others would be better off if one were not alive, and suicide would thus relieve a burden from their loved ones. Thwarted belongingness results from a fundamental need for human connectedness and occurs when that need is unmet, often through perceived failed or rejected attempts to connect with others. Lethal or near-lethal suicide attempts are primed to occur when perceived burdensomeness, thwarted belongingness, and a desire for suicide interact with high acquired capability. Acquired capability refers to the learned capacity to overcome the inherent physical pain and psychological distress associated with making a suicide attempt.

The IPTS likely explains part of the social factors that contribute to increased rates of suicidal thoughts and behaviors among LGBTQ+ individuals. In the context of suicide in the LGBTQ+ community, internalized beliefs that one's LGBTQ+ identity is inherently unacceptable may lead to beliefs that they are "broken" and a burden to the cisgender-heterosexual normed society. Further, thwarted belongingness is likely common given ongoing discrimination and increased rates of bullying and abuse in LGBTQ+ individuals, which are in turn associated with increased suicide attempts (Taylor et al., 2020). Connections to a community with similar marginalized identities and experiences may reduce this sense of perceived burdensomeness and ameliorate thwarted belongingness by increasing connectedness to a community that is likely to be more accepting.

Community Connectedness

Community connectedness involves an alignment with one's wish to belong among a larger collective of mutual relationships and shared emotional connection, particularly with those with whom there is a shared identity (McMillan, 1996; McMillan & Chavis, 1986; Whitlock, 2007). Challenges with community connectedness and sense of belonging have been shown to contribute to suicidal ideation in LGBTQ+ individuals, aligned with the IPTS. Specifically, when one feels psychological pain and hopelessness outweighs community connectedness, suicidal ideation is more likely to occur (Wolford-Clevenger et al., 2021). In general, community connectedness is a protective factor when assessing for suicide risk, and research confirms that connectedness to the LGBTQ+ community buffers against perceived stigma and suicidal behavior (Kaniuka et al., 2019). Community connectedness in LGBTQ+ adults is associated with a wide range of both mental and physical health behaviors (Anderson-Carpenter, 2022). Psychologically, community connectedness is associated with overall positive well-being and decreases in psychological distress (Puckett et al., 2015; Roberts & Christens, 2021; Shilo et al., 2015; Woodrum et al., 2021). Specifically, community connectedness is associated with a decrease in depressive symptoms (Kaniuka et al., 2019; McLaren & Castillo, 2021; Rubino et al., 2018) and feelings of demoralization (Woodrum et al., 2021), both of which are phenomena related to suicidal ideation (Chu et al., 2015).

This pattern of lower connectedness may be a factor that contributes to elevated suicide risk in bisexual individuals, possibly feeling too queer for the straight community and too straight for the queer community. Indeed, individuals who identify as bisexual have higher suicide risk than those of other LGBTQ+ identities (Jacobson et al., 2023),

and tend to experience significantly lower levels of connectedness to the LGBTQ+ community than people of other LGBTQ+ identities (McLaren & Castillo, 2021; Power et al., 2021). Despite the majority of research supporting the assertation that LGBTQ+ community connectedness is a protective factor, a smaller body of research has contrary findings. Specifically, minority stress and suicidal ideation were higher at high levels of connectedness in sexual minority adults (Rogers et al., 2021). One potential explanation for this divergent finding could be the role of co-rumination; indeed, increased connectedness accompanies increased rumination and acknowledgment thereof (Pulice-Farrow et al., 2023). As such, the focus of connectedness among LGBTQ+ individuals may change the influence of connectedness to either be helpful or potentially harmful. Connectedness that centers around sharing suicidal ideation, oppressive experiences, and discrimination may induce more psychological distress than connectedness hinging on communal resilience and pride. Far more research is needed on LGBTQ+ community connectedness to fully understand the intricacies of how community connectedness relates to suicidal ideation as both a protective and potential risk factor. The IPTS is a comprehensive theory tying together interpersonal factors such as community connectedness with suicidal ideation, yet it does not include many other facets and factors that contribute to suicidality.

Biosocial Theory of Emotion Dysregulation and Chronic Suicidality

The biosocial theory of emotion dysregulation seeks to explain the development of chronic emotional dysregulation and suicide risk as resultant from a combination of biological predisposition and environmental invalidation (Linehan, 1993). Biological vulnerability is characterized by three distinct components: increased emotional

sensitivity (i.e., below-average threshold for experiencing emotion), increased reactivity to emotions (i.e., heightened intensity of emotional responses), and a slower than average return to emotional baseline. Individuals with these biological predispositions often have not yet returned to their homeostatic baseline after an emotional crisis before another stimuli ignites a second high-intensity, highly reactive emotional response, often greater than the first one.

Environmental invalidation occurs through three core pathways: ignoring or punishing of displays of emotion, oversimplification of the ease of problem solving, and pervasive invalidation. First, the ignoring or punishing of displays of emotion functionally rejects communication of thoughts and emotions. For the LGBTQ+ community, displays of emotion and identity may be ignored or punished when families respond with outright rejection of LGBTQ+ family members. Such rejection of LGBTQ+ identities may impede the development of community connectedness due to fear of disapproval. On the other hand, rejection of identity could strengthen community connectedness if that motivates one to turn toward an external community of individuals with similar identities and experiences who are likely to be accepting of their identity. Second, oversimplifying the ease of problem solving communicates that emotion regulation difficulty among other problems are easy to solve. For LGBTQ+ individuals, this oversimplification may come in the form of suggesting one can simply choose to be straight and/or cisgender or can take steps to change their sexual orientation and gender identity to fit cisgender-heterosexual norms. Being highly connected to an affirming LGBTQ+ community may help to combat some of the invalidation that happens through the oversimplification of problem solving. Specifically, other individuals of LGBTQ+

identity are more likely to understand that gender and sexuality are not a choice and are thus able to create a more validating environment among individuals with shared experiences of invalidation. Lastly, pervasive invalidation occurs when one's internal or emotional experience is dismissed, specifically by communicating that one does not know their own internal experience. For those who identify as LGBTQ+, this may include family members attributing LGBTQ+ identity to a temporary phase, that they are 'just confused', or that they are 'too young' to understand their identity. Being connected to an affirming LGBTQ+ community may provide support for individuals experiencing familial discord and rejection due to their identity.

One of the chief goals in increasing an individual's connectedness to the LGBTQ+ community is to create a more validating environment for LGBTQ+ individuals. According to the biosocial theory, an invalidating environment impedes the development of effective emotion regulation skills which can lead to increased long-term risk of suicidal ideation.

Emotion Regulation

Emotion regulation refers to one's ability to modulate emotional responses flexibly to the environment. When one has challenges with effective emotion regulation, they often experience high negative urgency such that when an individual enters crisis, they are compelled to immediately act on negative emotional states (Gratz & Roemer, 2004). Difficulty with emotion regulation is a longstanding factor known to be associated with increased suicidal ideation (Colmenero-Navarrete et al., 2022; Lynch et al., 2004; Neacsiu 2018; Rajappa et al., 2012; Shelef et al., 2015; Turton et al., 2021). This may indicate that, rather than the experience or existence itself of distressing emotions, an

impaired ability to regulate such emotions may drive the relationship to increased suicidality (Law et al., 2015).

In the LGBTQ+ community, emotion regulation and social support have been shown to explain a portion of the relationship between sexual minority status and suicide attempts (Chang et al., 2020). It is likely that emotion regulation and community connectedness are intertwined in their influence on suicidal ideation, though it is unknown whether these relationships differ in the LGBTQ+ community or exist in the same way they do the cisgender-heterosexual communities. In addition to direct influences on suicidal ideation, emotion regulation is associated with known protective factors for suicidal ideation, namely community connectedness. Specifically, emotion regulation was associated with decreased thwarted belongingness (Baer et al., 2019), and increased interpersonal connectedness (Winter et al., 2018). Additionally, part of the relationship between challenges with emotion regulation and suicidal ideation has been found to occur through a pathway of thwarted belongingness (Swee et al., 2020). Taken together, the current research indicates that emotion regulation plays an important and influential role in both suicidal ideation and community connectedness, two variables that are also closely connected to each other.

Mindfulness

Mindfulness refers to the act of intentionally directing one's full attention to present-moment experiences in a way that is accepting and non-judging (Brown & Ryan, 2003; Kabat-Zinn, 1990; Linehan, 1993; Marlatt & Kristeller, 1999). There is ample evidence to support that trait mindfulness is associated with lower suicidal ideation and that mindfulness-based interventions may help to decrease suicidal ideation. In general,

increased trait mindfulness has consistently been shown to be associated with lower suicidal ideation (Liang et al., 2022; Nowakowska-Domagala et al., 2022; Per et al., 2022), and may even buffer the effects of other mental health symptoms on suicidal ideation (Zhou et al., 2023). In randomized control trials of veterans at high risk for suicide (Chesin et al., 2022) and in general community adults (Dimidjian et al., 2022; Wu et al., 2023), mindfulness-based interventions were found to significantly decrease the likelihood of suicidal ideation and behaviors, indicating that increasing mindfulness may be part of effective treatment of suicidality (Raj et al., 2021).

Emotion regulation and community connectedness are two constructs closely associated with mindfulness that, in conjunction with increased mindfulness, are linked to decreased suicidality. Mindfulness is associated with healthy emotion regulation (Heppner et al., 2015) and may even play a causal role in enhancing effective emotion regulation (Roemer et al., 2015). Specific facets of trait mindfulness are found to be associated with increased emotion regulation. Specifically, nonreactivity (detachment from negative thoughts and emotions that helps to foster acceptance), observing (noticing internal and external stimuli), and nonjudging (holding a non-evaluative attitude toward one's inner experiences) were positively associated with emotion acceptance (accepting rather than trying to control emotions) and clarity (ability to identify which emotions one is feeling) domains of emotion regulation (Iani et al., 2018). Mindfulness has been shown to have a significant role in the relationship between increased challenges with emotion regulation and depressive symptoms (Kumar et al., 2022), and as well as in the emotion dysregulation-suicidal ideation connection in the LGBTQ+ community (Wedell et al., 2022).

Mindfulness-based interventions have been demonstrated to help reduce risk factors for suicidal ideation and increase factors that are protective against suicidal ideation. Specifically, mindfulness-based interventions are shown to significantly decrease loneliness and disconnectedness from one's community (Teoh et al., 2021). Additionally, mindfulness-based interventions can increase community belongingness (Fagioli et al., 2023) and stability of connectedness over time (Don et al., 2022). It may be that individuals are more likely to benefit from community connectedness when they have the ability to be present in experiencing such benefits. Taken together, mindfulness may be a key intervention point to effectively create sustainable change to suicidal ideation both directly, and through addressing related factors such as loneliness and disconnectedness. This indicates that mindfulness also has the potential to increase protective factors such community connectedness long-term. In synthesis, research findings to-date suggest that mindfulness may play a critical role in the reduction of suicidal ideation and that benefits of mindfulness are associated with increased protective factors such as community connectedness and decreased risk-factors specific to the LGBTQ+ community (Chan & Leung, 2021).

Given that there are contrary findings as to the direction of the relationship between community connectedness and suicidal ideation (Kaniuka et al., 2019; Rogers et al., 2021), there are likely one or more moderating variables that may change the direction of this relationship under certain conditions. Emotion regulation is associated with both interpersonal connectedness (Winter et al., 2018) and suicidal ideation (Colmenero-Navarrete et al., 2022; Turton et al., 2021), and therefore may be one condition in which the direction of the relationship between community connectedness

and suicidal ideation is positive or negative. It may be that one does not benefit from community connectedness if they are highly dysregulated, and thus significant difficulty with emotion regulation may be a condition in which community connectedness is associated with higher suicidal ideation. Mindfulness is another factor related to both community connectedness (Don et al., 2022; Fagioli et al., 2023; Teoh et al., 2021) and suicidal ideation (Liang et al., 2022; Nowakowska-Domagala et al., 2022; Per et al., 2022) and may also change the strength or direction of the relationship between community connectedness and suicidal ideation. It may be that one is more likely to benefit from community connectedness if they tend to be more mindfully present in experiences of connection. Finally, mindfulness has been shown to moderate emotion regulation and suicidal ideation in the LGBTQ+ community (Wedell et al., 2022). Given this already established interaction between mindfulness and emotion regulation, it may be that emotion regulation and mindfulness have a three-way interaction with community connectedness to influence the direction of the relationship between community connectedness and suicidal ideation.

Present Study

The present study seeks to answer the question of whether community connectedness, emotion regulation difficulty, and mindfulness influence suicidal ideation in the LGBTQ+ community. I seek to explore whether these factors may be worth further investigating in the context of clinical intervention. By examining the relationship between community connectedness, emotion regulation difficulty, mindfulness, and suicidal ideation in the LGBTQ+ community, I seek to accomplish the following aims:

1. I will examine the main effects of community connectedness on suicidal ideation. Given theory that thwarted belongingness contributes to suicidal ideation (Joiner, 2005) and that connectedness to the LGBTQ+ community can buffer suicidal behavior (Kaniuka et al., 2019), I hypothesize that community connectedness will be negatively associated with suicidal ideation. If supported, results would indicate that building connections to the LGBTQ+ community may be a means of decreasing suicidal ideation. See *Figure 1* for hypothesized model.
2. I will determine whether emotion regulation difficulty moderates the relationship between community connectedness and suicidal ideation. Given theories of biological vulnerability to emotion dysregulation playing a key role in development of chronic suicidality (Linehan, 1993) and extensive evidence suggesting a relationship between emotion regulation and suicidality (Colmenero-Navarrete et al., 2022; Lynch et al., 2004; Neacsiu 2018; Rajappa et al., 2012; Shelef et al., 2015; Turton et al., 2021) along with community connectedness (Baer et al., 2019; Winter et al., 2018), I hypothesize that emotion regulation difficulty will buffer the relationship between community connectedness and suicidal ideation such that:
    a) Having less difficulty with emotion regulation combined with a high sense of community connectedness will be associated with the lowest levels of suicidal ideation.

b) Having less difficulty with emotion regulation combined with having a low sense of community connectedness will be associated with moderate levels of suicidal ideation.

c) Having more difficulty with emotion regulation and having a low sense of community connectedness will be associated with the highest levels of suicidal ideation. See *Figure 2* for hypothesized model.

If these hypotheses are supported, the results will pave the way for developing LGBTQ+ specific interventions that address both community connectedness and emotion regulation to decrease suicidality.

3. Further, this study will investigate whether mindfulness moderates the relationship between community connectedness and suicidal ideation. Given evidence that mindfulness may be protective against suicidal ideation (Liang et al., 2022; Nowakowska-Domagala et al., 2022; Per et al., 2022; Raj et al., 2021) and may be related to community connectedness (Fagioli et al., 2023), I hypothesize that high mindfulness will amplify the relationship between community connectedness and suicidal ideation such that:

    a) Having high mindfulness combined with having high community connectedness will be associated with the lowest levels of suicidal ideation.

    b) Having high mindfulness combined with low community connectedness will be associated with moderate levels of suicidal ideation.

c) Having low mindfulness combined with low community connectedness will be associated with the highest levels of suicidal ideation. See *Figure 3* for hypothesized model.

If supported, results would support a need for future research to examine potential impacts of LGBTQ+ specific interventions that could increase both community connectedness and mindfulness to decrease suicidality.

4. This study will determine whether mindfulness and emotion regulation difficulty together moderate the relationship between community connectedness and suicidal ideation. Given converging evidence that both mindfulness and emotion regulation are associated with community connectedness and together both influence suicidal ideation (Kumar et al., 2022; Wedell et al., 2022), I hypothesize that emotion regulation difficulty and mindfulness together will moderate the relationship between community connectedness and suicidal ideation such that:

    a) Low emotion regulation difficulty, high mindfulness, and high community connectedness will be associated with the lowest levels of suicidal ideation.

    b) High emotion regulation difficulty, low mindfulness, and high community connectedness will be associated with moderate levels of suicidal ideation.

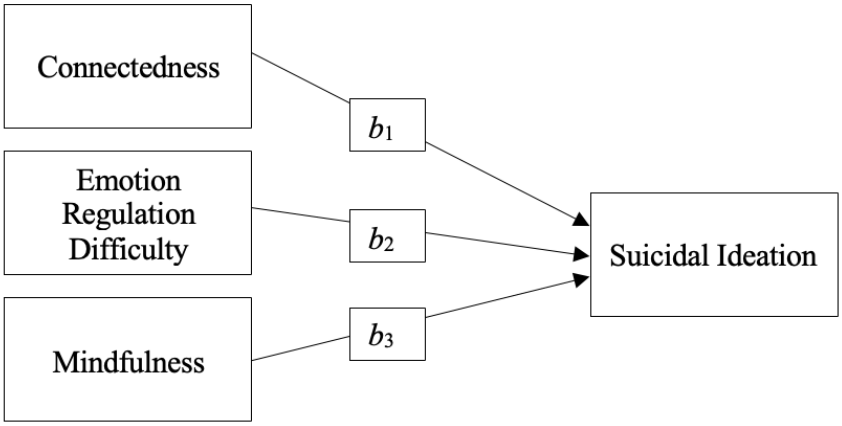
    c) High emotion regulation difficulty, low mindfulness, and low community connectedness will be associated with highest levels of suicidal ideation. See *Figure 4* for hypothesized model.

If supported, results would indicate a need for future research into both interventions aimed to increase LGBTQ+ specific protective factors (e.g., connectedness to the LGBTQ+ community) as well as factors protective across populations (e.g., emotion regulation and mindfulness).

Exploratory Aim

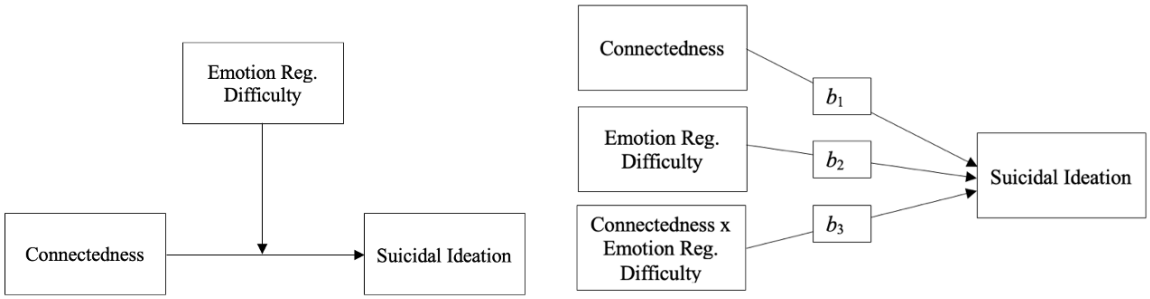
I aim to examine exploratory main and interaction effects of emotion regulation difficulty and mindfulness facets on suicidal ideation. Specific facets of emotion regulation difficulty and mindfulness that impact suicidal ideation may provide more concrete future directions in clinical research. To guide in exploring a subset of the relationships between emotion regulation difficulty facets, mindfulness facets, and suicidal ideation, I chose facets of emotion regulation difficulty and mindfulness based on whether their correlation to suicidal ideation was significant. Given that community connectedness to the LGBTQ+ community is the only variable unique to the LGBTQ+ community, I decided to exclude it from exploratory analysis in order to additionally explore any potential differences in effects within the LGBTQ+ community of variables that are applicable to the general population.

Figure 1. Hypothesized Main Effects Model



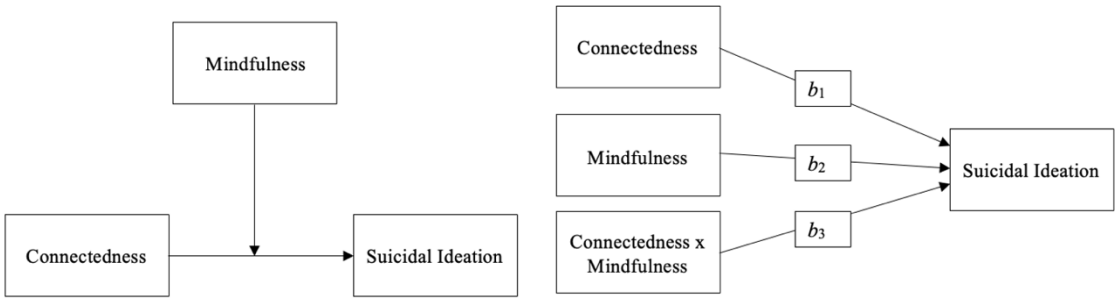
Note. Connectedness = Community Connectedness.

Figure 2. Conceptual and Statistical Model of Hypothesized Main and Two-Way Interaction Effects: Emotion Regulation Difficulty



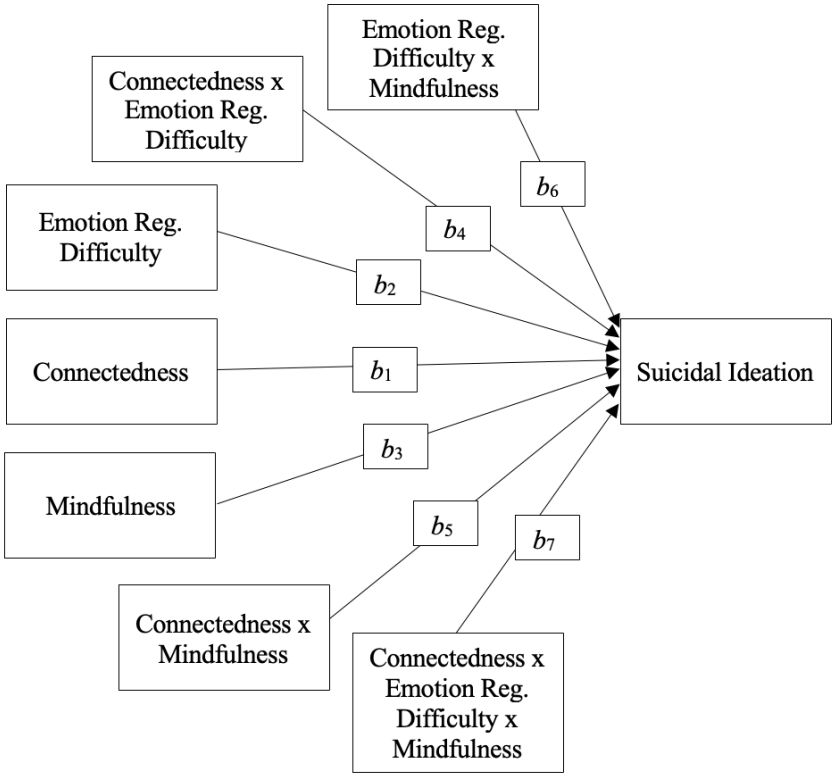
Note. Connectedness = Community Connectedness; Emotion Reg. Difficulty = Emotion Regulation Difficulty. Conditional effect of X (connectedness) on Y (suicidal ideation) = b1 + b3(emotion reg. difficulty).

Figure 3. Conceptual and Statistical Model of Hypothesized Main and Two-Way Interaction Effects: Mindfulness



Note. Connectedness = Community Connectedness. Conditional effect of X (connectedness) on Y (suicidal ideation) = b1 + b3(mindfulness).

Figure 4. Hypothesized Main, Two-Way, and Three-Way Interaction Effects Model



Note. Connectedness = Community Connectedness; Emotion Reg. Difficulty = Emotion Regulation Difficulty. Conditional effect of X (connectedness) on Y (suicidal ideation) = b1 + b4(emotion reg. difficulty) + b5(mindfulness) + b7(emotion reg. difficulty x mindfulness).

CHAPTER II – **METHOD**

Participant Selection and Sample Characteristics

Participants (1) living in the U.S., (2) aged 18 or older, (3) having experienced suicidal ideation in lifetime, and (4) identifying as LGBTQ+ were recruited through the platform Prolific, an online research participant recruiting platform. When participants sign up for their Prolific account, they are instructed to complete an extensive list of demographic surveys created by Prolific to best match them to potential studies. Prolific automatically matches participants to studies for which they meet requirements. In order to register for a Prolific account users must verify their email address, phone number, and photo identification which is the first of numerous steps the platform takes to ensure quality data. Prior research indicates that data quality is higher on Prolific than other comparable cites, such as SONA, Qualtrics, and MTurk (Douglas et al.., 2023), and even that Prolific was the only platform providing high quality data across multiple measures compared to MTurk and CloudResearch (Peer et al., 2022). For additional measures taken to ensure data quality, see *Data Cleaning and Preparation* section. Most participants identified as White, Cisgender female, and bisexual. See *Table 1* for participant demographics. Given that a lifetime history of suicidal ideation was required for participation in the study, 100% of the sample endorsed experiencing suicidal ideation. As such, suicidal ideation severity in this sample was relatively high (M = 27.21, SD = 6.74; possible scores range from 0 – 38). See *Table 2* for variable descriptive statistics.

Table 1 *Participant Demographics*

Variable	*M(SD)*	*Range*	*n*	%
Age	30.31 (8.38)	19 – 60		
Race				
Asian/Asian American			8	5.26
Black/African American			25	16.45
Latinx			13	8.55
Middle Eastern/North African			1	0.66
Multiracial			10	6.58
Native American/Alaskan/ Hawaiian			2	1.32
White/European/Caucasian			110	72.37
Gender				
Agender			3	1.97
Cisgender Female			78	51.32
Cisgender Male			43	28.29
Genderfluid			9	5.92
Nonbinary			22	14.47
Questioning			2	1.32
Transgender Female			4	2.63
Transgender Male			7	4.61
Sexual Orientation				
Aromantic			4	2.63
Asexual			13	8.55
Bisexual			89	58.94
Demisexual			10	6.58
Fluid			2	1.32
Gay			15	9.93
Lesbian			12	7.95
Pansexual			27	17.88
Queer			23	15.23
Questioning			8	5.26
Sapphic			7	4.61
Straight			1	0.66

Note: Participants selected as many options as applied to them for race, gender, and sexual orientation variables; thus, the totals for these variables do not sum to the total sample size.

Table 2 *Descriptive Statistics and Correlations*

Variable	*M (SD)*	*Skew*	*Kurtosis*	1	2	3
1. Suicidal Ideation	27.21 (6.74)	0.84	0.86	--		
2. Community Connectedness	24.78 (4.86)	-0.76	0.90	-.15	--	
3. Emotion Regulation Difficulty	106.52 (18.11)	0.07	-0.49	**.26****	.12	--
4. Mindfulness	118.98 (9.84)	0.37	-0.06	**-.28*****	.11	**-.57*****

Note. *M* = Mean, *SD* = standard deviation. **p* < .05, ***p* < .01, ****p* < .001

Procedure

The study protocol was approved by and met ethical standards of the university's Institutional Review Board (IRB approval #222308015). Participants were compensated with $5 for completing the survey, equivalent to approximately $15/hour, which is above the minimum ($5.60/hour) and recommended pay rate ($9.60/hour) suggested by Prolific. A message was automatically sent to eligible participants via Prolific containing the study description and recruitment prose, as well as informing them of the compensation for this study. Individuals wishing to participate followed the link to the study's Qualtrics survey. Consent was obtained by asking the participant to check the "yes" box as an indication of their informed consent to participation. Every individual had the right to withdraw from the study at any time without penalty and the right to leave any questions blank. There were two screening questions in which participants must answer "yes" to in order to continue with the survey: "Have you ever experienced suicidal ideation in your lifetime?" and "Do you identify as part of the LGBTQ+ community?" Participants completed a set of measures including demographic information, suicidal ideation, community connectedness, emotion regulation, and mindfulness. Once completed, participants received a compensation code that they entered into Prolific to receive their compensation. Participants were provided with resources for suicide crises, including phone numbers for the National Suicide Prevention Lifeline, the Trevor Project, and confidential crisis line text chat.

Measures

Suicidal Ideation

The Beck Scale for Suicidal Ideation (BSI; Beck & Steer, 1991) is a self-report measure consisting of 21 items designed to measure severity of suicidal ideation. Each item consists of three unique response options in ascending order to statements regarding a particular aspect of suicidal ideation. These response options are coded on a 3-point scale ranging from zero to two. For example, item four assesses desire to die by suicide, where participants select one of the following options: "I have no desire to kill myself*"* (coded as "0"), *"*I have a weak desire to kill myself" (coded as "1"), or "I have a moderate to strong desire to kill myself*"* (coded as "2"). The coded responses are summed to yield a total scale score, ranging from zero to 38. The BSI has demonstrated strong concurrent validity with depression severity and past suicide attempts (Beck et al., 1997; Molock et al., 1994), and strong predictive validity for death by suicide (Brown et al., 2000). The BSI has also demonstrated high internal consistency reliability in a range of samples, including LGBTQ+ adults receiving inpatient treatment (α = .94; Plöderl et al., 2017). The internal reliability in the current sample was good (α = .88).

Community Connectedness

The Connectedness to the LGBTQ+ Community Scale (CLCS; Frost & Meyer, 2012) is an 8-item self-report questionnaire designed to measure the state level of which one experiences a collective affiliation and shared emotional connection with the LGBTQ+ community. Items consist of statements that represent a range of experiences of community connectedness (e.g., "I feel a bond with the LGBTQ+ community"; "I feel that any problems faced by the LGBTQ+ community are also my own problems"). Participants rate these items from one ("strongly disagree") to four ("strongly agree"), such that higher scores indicate increased connectedness to the LGBTQ+ community.

The CLCS demonstrated good convergent validity with constructs of collective self-esteem and strength of group LGBTQ+ identity, and is inversely correlated to internalized stigma (Frost & Meyer, 2012). Higher scores on the CLCS also correlated with higher psychosocial wellbeing. The CLCS demonstrated satisfactory internal consistency reliability in a large, diverse, urban community sample (α = .81; Frost & Meyer, 2012). The internal reliability was strong in the present study's sample (α = .91).

Emotion Regulation Difficulty

The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) is a 36-item self-report scale designed to measure emotion regulation difficulty across the following six capacities: nonacceptance of emotions, difficulty engaging in goal-directed behavior when distressed, impulse control issues when distressed, lack of emotional awareness, limited access to effective emotion regulation strategies, and lack of emotional clarity. Items consist of a range of questions about these different aspects of emotion regulation difficulty, such as "When I'm upset, I believe there is nothing I can do to make myself feel better," "When I'm upset, I feel out of control," and "I am confused about how I feel." Participants the degree to which they experience each statement on a scale from one ("almost never") to five ("almost always"), where higher scores reflect greater difficulty with emotion regulation. The DERS demonstrated strong convergent validity with related concepts such as borderline personality symptoms and dissociation (Ritschel et al., 2015). The DERS also demonstrated strong internal reliability in previous research with LGBTQ+ adult samples (α = .82 – .96; Chang et al., 2020; McCabe et al., 2021; Sommantico & Parrello, 2022). The internal reliability in the current sample was excellent (α = .95).

Mindfulness

The Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006) is a 39-item self-report questionnaire designed to measure trait mindfulness, one's ability to nonjudgmentally bring their complete attention to their present-moment experience with acceptance. The FFMQ measures the following five facets of mindfulness: nonreactivity to inner experience, observing sensations/perceptions/thoughts/feelings, acting with awareness, describing/labeling with words, and nonjudging of experience. Items consist of a range of statements in these facets such as "When I'm walking, I deliberately notice the sensations of my body moving," "I can easily put my beliefs, opinions, and expectations into words," and "In difficult situations, I can pause without immediately reacting." Participants rate the extent to which each statement is true of their experience on a scale of one ("never or rarely true") to five ("almost always or always true") where higher scores reflect higher trait mindfulness. Several items are reverse scored to preserve face validity. The FFMQ has demonstrated strong convergent validity with related concepts such as satisfaction with life and negative associations with depression (Christopher et al., 2012). However, some studies have failed to demonstrate the discriminant validity of the FFMQ (Goldberg et al., 2016). The FFMQ's internal reliability in previous research with LGBTQ+ samples ranges from fair to strong (α = .67 – .91; Keng & Liew, 2017; Regan et al., 2023; Salvati et al., 2019; Tudino & Jellison, 2022). The internal reliability in the current sample was satisfactory (α = .78).

Data Analytic Procedures

Data Cleaning and Preparation

After removing 4 individuals due to providing no data and withdrawing from the study (e.g., not completing the study by leaving the survey without finishing and submitting it), N = 141. There were no significant outliers in the data set. To ensure quality data was collected from Prolific, several assurance measures were put in place. First, two attention check questions were included in the survey (e.g., "For this question, please select 'some of the time'." Additionally, all responses were monitored to ensure there were no observable patterns in responding (e.g., participants selecting the same answer for all questions, selecting alternating answers for questions, etc). The Prolific platform also has several quality assurances measures in place, such as blocking low-trustworthy IP addresses, not allowing users to use Virtual Private Networks (VPNs) and analyzing their internal data to identify any unusual responding patterns.

Statistical Approach

Ordinary Least Squares (OLS) multiple regression with moderated moderation was utilized to for primary data analysis. Moderated regression analysis seeks to predict an outcome from multiple predictor variables and from two-way and three-way interaction effects between predictor variables. The goal of regression analysis is to have good model fit and a large amount of variance significantly explained by the model and its predictors. Regression analysis uses the equation of a line to predict values of the outcome based on the slopes of the predictor variables. The equation for a regression with moderated moderation takes the following form:

$$SI = B_0 + B_{CC} + B_{ER} + B_M + B_{CC*ER} + B_{CC*M} + B_{CC*ER*M} + e$$

In this equation, SI represents the outcome variable (i.e., suicidal ideation), B_0 represents slope of the constant/intercept, B_{CC} represents the regression coefficient/slope

of the independent variable (i.e., community connectedness), B_{ER} represents the regression coefficient/slope of the first moderator (i.e., emotion regulation difficulty), B_M represents the regression coefficient/slope of the second moderator (i.e., mindfulness), B_{CC*ER} represents the regression coefficient/slope of the first interaction effect (i.e., community connectedness*emotion regulation difficulty), B_{CC*M} represents the regression coefficient/slope of the second interaction effect (i.e., community connectedness*mindfulness), $B_{CC*ER*M}$ represents the regression coefficient/slope of the three-way interaction effect (i.e., community connectedness*emotion regulation difficulty*mindfulness), and e = random error.

Sample Size and Power

Models were tested in a sample size of N = 141. An *A Priori* power analysis was conducted using the "pwrss" package in R. To detect a large effect (f^2 = .35) with power of .80, a sample size of 23 is needed. To detect a medium effect (f^2 = .15) with power of .80, a sample of 137 is needed. To detect a small effect (f^2 = .02) with a power of .80, a sample of 1,428 is needed. A post-hoc power analysis determined that the sample size of 141 provided sufficient power (.97 - .98) to detect the medium effect sizes (f^2 = .15 - .20) found in all models while holding type one error to α = .05. A post-hoc power analysis was conducted to determine the models' power to detect the smallest and largest interaction effects found based on the achieved sample size while holding type one error to α = .05. The models had poor power (.11 - .17) for detecting the smallest and largest interaction effects found in this sample.

CHAPTER III – **RESULTS**

Preliminary Analyses

Skew and kurtosis values were assessed for all variables to determine whether they were normally distributed. Skew and kurtosis were within acceptable bounds (+/-2; Field, 2012) for all variables. Given that skew and kurtosis were within normal bounds for all variables, no transformations were used. See *Table 2* for skew and kurtosis values.

To determine whether covariates should be included in primary analysis models, differences in suicidal ideation by race and age were examined. There were no significant differences (*p*'s = .07 = .89). As such, race and age were not included as covariates in models. Sexual orientation and gender were not tested for significant difference in suicidal ideation, as the nature of the sample being LGBTQ+ negates the need to control for LGBTQ+ vs cisgender-heterosexual identity.

Statistical Assumption Checking

Statistical assumptions for a regression analysis were checked in accordance with guidelines from Ernst and Albers (2017). The assumption of normality was met, such that each independent variable and the dependent variable were normally distributed with no significant outliers. The errors of each variable were also normally distributed. The linearity assumption was met for the two moderating variables, emotion regulation difficulty and mindfulness, such that they each had a linear relationship with the dependent variable of suicidal ideation on scatterplots. The independent variable of community connectedness did not have a significant relationship with the dependent variable; however, analysis was conducted as planned because there was not a curvilinear relationship between the variables which would indicate the need for a different type of

analysis. The homoscedasticity of error variance assumption was met, as a QQ plot demonstrated equal variance of residuals. The independence and multicollinearity assumptions were met, as the VIF between variables was between 1.07 – 1.55; values between 1 and 5 represent little intercorrelation. All continuous predictor variables were mean centered prior to analysis.

Primary Analysis

Main Effects

The first model was entered containing only main effects of community connectedness, emotion regulation difficulty and mindfulness. This model containing only main effects was statistically significant, though there were no statistically significant main effects of community connectedness, emotion regulation, or mindfulness on suicidal ideation. The model containing main effects had a moderate effect size and explained approximately 12% of the variance in suicidal ideation. See *Table 3* for model statistics, variable slopes, and statistical significance values.

Two-Way Interaction Effects

The second model was entered containing main effects of community connectedness, and emotion regulation difficulty, and the two-way interaction effect between community connectedness and emotion regulation difficulty. The model was statistically significant such that the main effects of community connectedness and emotion regulation difficulty were significant. There was no statistically significant two-way interaction between community connectedness and emotion regulation difficulty. The model containing the interaction term did not explain significantly more variance than the main effects model ($F[2, 136] = 0.58$, $p = .45$). This model with main effects and

the two-way interaction between community connectedness and emotion regulation difficulty had a moderate effect size and explained approximately 11% of the variance in suicidal ideation. See *Table 3* for model statistics, variable slopes, and statistical significance values.

The third model was entered containing main effects of community connectedness and mindfulness, and the two-way interaction effect between community connectedness and mindfulness. The model was statistically significant such that the main effect of mindfulness was significant. The main effect of community connectedness was not significant. There was no statistically significant two-way interaction between community connectedness and mindfulness. The model containing the interaction effect of community connectedness and mindfulness did not explain significantly more variance than the main effects model ($F[2, 139] = 0.22$, $p = .64$). This model with main effects and the two-way interaction between community connectedness and mindfulness had a moderate effect size and explained approximately 10% of the variance in suicidal ideation. See *Table 3* for model statistics, variable slopes, and statistical significance values.

Three-Way Interaction Effect

The fourth model was entered containing main effects, the two-way interaction effect between community connectedness and emotion regulation difficulty, the two-way interaction effect between community connectedness and mindfulness, and the three-way interaction effect between community connectedness, emotion regulation difficulty, and mindfulness. The model was statistically significant such that the main effect of emotion regulation difficulty remained significant even with addition of the three-way interaction

to the model. The main effects of community connectedness and mindfulness were not significant. There were no statistically significant two-way interaction effects, and no significant three-way interaction between community connectedness, emotion regulation difficulty, and mindfulness. The model containing the three-way interaction effect did not explain significantly more variance than models containing two-way interactions (F[2, 133] = 0.14, p = .94) or main effects (F[2, 137] = 0.17, p = .84). The model with main, two-way and three-way interaction effects had a moderate effect size and explained approximately 13% of the variance in suicidal ideation. See *Table 3* for model statistics, variable slopes, and statistical significance values.

Table 3 *Moderated Regression Results*

Predictor	β	*p*
$F(3, 138) = 6.12$, $R^2 = .12$, $p < .001$		
Community Connectedness	-0.15	.065
Emotion Regulation Difficulty	0.19	.059
Mindfulness	-0.16	.113
$F(3, 139) = 5.44$, $R^2 = .11$, $p = .001$		
Community Connectedness	**-0.19**	**.019***
Emotion Regulation Difficulty	**0.28**	**.001****
Community Connectedness x Emotion Regulation Difficulty	-0.06	.453
$F(3, 139) = 4.92$, $R^2 = .10$, $p = .003$		
Community Connectedness	-0.11	.188
Mindfulness	**-0.27**	**.001****
Community Connectedness x Mindfulness	0.06	.452
$F(7, 134) = 2.76$, $R^2 = .13$, $p = .010$		
Community Connectedness	-0.14	.151
Emotion Regulation Difficulty	**0.20**	**.042***
Mindfulness	-0.14	.172
Community Connectedness x Emotion Regulation Difficulty	-0.04	.703
Community Connectedness x Mindfulness	0.06	.553
Community Connectedness x Emotion Regulation Difficulty x Mindfulness	0.02	.849

Note. *p < .05, **p < .01, ***p < .001

Exploratory Analyses of Subscales

Several exploratory analyses were conducted to analyze effects of specific subscales of emotion regulation difficulty and mindfulness on suicidal ideation. Only subscales that had a significant correlation with suicidal ideation when running descriptive statistics (see *Table 4*) were included. Evidence from prior studies supported the use of emotion regulation difficulty (Garofalo et al., 2020; Williams et al., 2015) and mindfulness subscales (Iani et al., 2018; Garofalo et al., 2020; Tomfohr et al., 2015). Independent regression models were run analyzing main effects of nonacceptance, goals, impulse, awareness, and strategies emotion regulation difficulty subscales combined with nonjudging of experience and acting with awareness subscales of mindfulness on suicidal ideation. Due to the number of statistical tests performed, it is important to note that there may be a chance of inflated error in exploratory analyses. However, is suggested that statistically it is more appropriate to conceptualize the familywise error rate as the number of statistical tests that are performed on the name null hypothesis, not the number of hypotheses that are tested (Rubin, 2017). Due to each statistical test being performed on a different hypothesis and the nature of hypotheses as exploratory, analyses were conducted as planned.

Table 4 *Subscale Correlations to Outcome Variable*

Variable	Suicidal Ideation
1. DERS nonacceptance	**.25****
2. DERS goals	**.27****
3. DERS impulse	**.28*****
4. DERS awareness	**-.20***
5. DERS strategies	**.37*****
6. DERS clarity	-.08
7. FFMQ Observe	.05
8. FFMQ describe	.11
9. FFMQ action	**-.29*****
10. FFMQ nonjudgement	**-.33*****
11. FFMQ nonreactivity	.08

Note. DERS = Emotion Regulation Difficulties scale, FFMQ = Mindfulness scale. *$p < .05$, **$p < .01$, ***$p < .001$

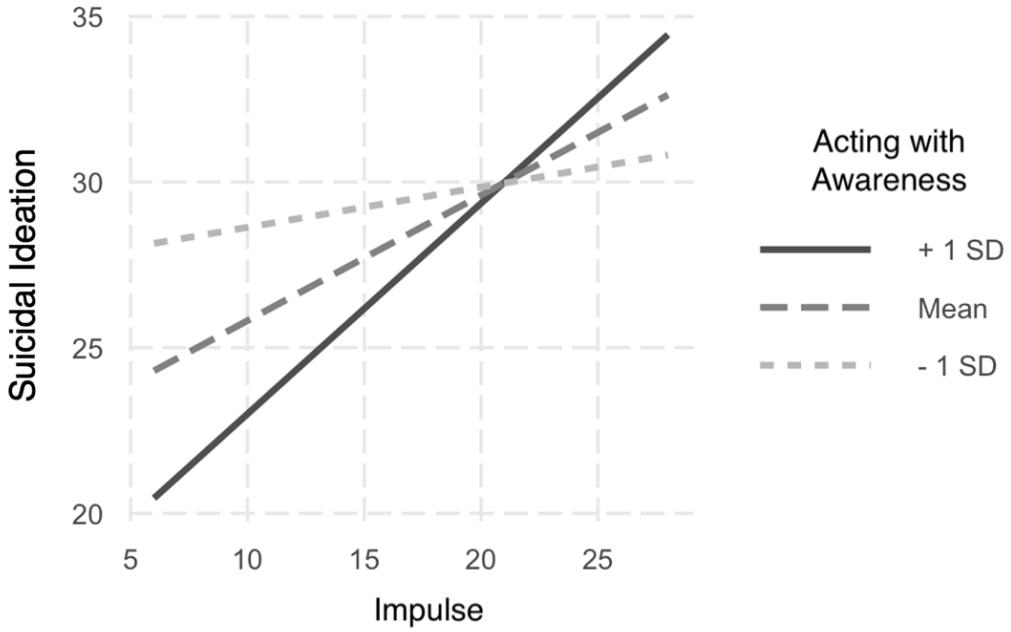
In the model testing the effects of emotion nonacceptance and acting with awareness on suicidal ideation, the main effect of acting with awareness were significant. In the model with main effects of impulsiveness, and acting with awareness, there was a significant main effect of acting with awareness and a significant interaction effect between impulsiveness and acting with awareness such that increased impulsiveness and increased acting with awareness was associated with the highest levels of suicidal ideation (see *Figure 5*). All other main and interaction effects not listed were not significant. See *Table 5* for model and variable statistics.

Table 5 *Exploratory Regression Analyses of Subscales on Suicidal Ideation*

Variable	β	p
$F(4, 140) = 6.96, R^2 = .17, p < .001$		
ERD Nonacceptance	-0.26	.507
Mindful Aware Action	**-0.46**	**.034***
Nonacceptance x Aware Action	0.43	.241
$F(4, 139) = 6.35, R^2 = .15, p < .001$		
ERD Nonacceptance	-0.11	.724
Mindful Nonjudgement	-0.40	.058
Nonacceptance x Nonjudgement	0.11	.612
$F(4, 140) = 6.26, R^2 = .15, p < .001$		
ERD Awareness	0.17	.652
Mindful Aware Action	0.06	.889
Awareness x Aware Action	-0.49	.391
$F(4, 139) = 6.56, R^2 = .16, p < .001$		
ERD Awareness	0.01	.975
Mindful Nonjudgment	-0.20	.621
Awareness x Nonjudgment	-0.17	.779
$F(4, 139) = 8.42, R^2 = .20, p < .001$		
ERD Strategies	0.43	.196
Mindful Nonjudgment	-0.03	.924
Strategies x Nonjudgment	-0.13	.613
$F(4, 140) = 9.06, R^2 = .21, p < .001$		
ERD Strategies	0.29	.438
Mindful Aware Action	-0.19	.497
Strategies x Aware Action	0.02	.964
$F(4, 139) = 6.70, R^2 = .16, p < .001$		
EDR Goals	-0.29	.468
Mindful Aware Action	-0.64	.081
Goals x Aware Action	0.48	.231
$F(4, 138) = 6.71, R^2 = .16, p < .001$		
ERD Goals	-0.10	.774
Mindful Nonjudgment	-0.48	.178
Goals x Nonjudgment	0.19	.530
$F(4, 140) = 7.93, R^2 = .18, p < .001$		
ERD impulse	-0.57	.094
Mindful Aware Action	**-0.80**	**.002****
Impulse x Aware Action	**0.77**	**.024***
$F(4, 139) = 6.62, R^2 = .16, p < .001$		
ERD impulse	0.09	.789
Mindful Nonjudgment	-0.29	.280
Impulse x Nonjudgment	0.02	.949

Note. ERD = Emotion Regulation Difficulty, Mindful = Mindfulness. Nonacceptance = nonacceptance of emotions, Goals = difficulty with goal-directed behavior when distressed, Impulse = impulse control issues when distressed, Aware = lack of emotional awareness, Strategies = limited access to emotion regulation strategies, Clarity = lack of emotional clarity. Aware Action = Acting with awareness, Nonjudgment = nonjudgment of experience. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Figure 5. Interaction Effect Between Impulse Control Issues and Acting with Awareness



Note. Impulse = impulse control issues when distressed (emotion regulation difficulties subscale); acting with awareness = mindfulness subscale

CHAPTER IV – **DISCUSSION**

In the present study, there was no significant correlation between community connectedness and suicidal ideation, which contradicts current literature (Kaniuka et al., 2019; McLaren & Castillo, 2021; Power et al., 2021). It may be that there is a mediating effect of a third variable on the relationship between community connectedness and suicidal ideation such that their relationship alone is not significant, given that community connectedness was significantly associated with suicidal ideation when other variables were included in the model. There were no significant main effects of community connectedness, emotion regulation difficulty, or mindfulness on suicidal ideation in the main effects only model. However, there were main effects of community connectedness, emotion regulation difficulty, and mindfulness in various models that also accounted for the interaction effects between these variables.

There were main effects of community connectedness and emotion regulation difficulty on suicidal ideation when in a model with their two-way interaction. This relationship was such that increased community connectedness was associated with decreased suicidal ideation and increased emotion regulation difficulty was associated with increased suicidal ideation, as hypothesized. There is robust literature to support current findings of a relationship between connectedness and suicidal ideation (Joiner, 2005), particularly within the LGBTQ+ community (Kaniuka et al., 2019; Taylor et al., 2020), such that connectedness is protective. This relationship being significant in the context of emotion regulation difficulty is consistent with the current literature, given that emotion regulation is associated with increased connectedness (Winter et al., 2018).

There was no main effect of community connectedness on suicidal ideation when in a model with mindfulness and either two-way interaction; however, there was a main effect of mindfulness in this model without accounting for emotion regulation difficulties. The lack of significant main effect of community connectedness is incongruent with the literature findings of mindfulness to be linked to increased social connectedness (Don et al., 2022; Fagioli et al., 2023; Teoh et al., 2021). Mindfulness may be soaking up significant variance in this model, and the relatively high mean scores of community connectedness may have masked a main effect. It may also be that the effect size of community connectedness was smaller than what the present study was powered to detect, and thus a relationship between community connectedness and suicidal ideation may have been missed. The main effect of mindfulness in this model with community connectedness and their two-way interaction was such that increased mindfulness was associated with decreased suicidal ideation, as hypothesized. This finding is supported by robust literature on mindfulness being closely linked to suicidal ideation (Liang et al., 2022; Nowakowska-Domagala et al., 2022; Per et al., 2022).

In the model containing main effects of community connectedness, emotion regulation difficulty, and mindfulness, as well as their two-way and three-way interactions, there was a significant main effect of emotion regulation difficulty, but not of mindfulness or community connectedness. The main effect of emotion regulation difficulty was such that high emotion regulation difficulty was associated with increased suicidal ideation, as hypothesized. This finding is aligned with the extensive literature supporting the relationship between emotion regulation difficulty and increased suicidal

ideation (Colmenero-Navarrete et al., 2022; Lynch et al., 2004; Neacsiu 2018; Rajappa et al., 2012; Shelef et al., 2015; Turton et al., 2021).

In the model with all three main effects, two-way, and three-way interactions, it is unexpected that there is no significant main effect of mindfulness on suicidal ideation. Literature indicates that mindfulness is associated with increased emotion regulation (Heppner et al., 2015) and may even play a causal role in enhancing effective emotion regulation (Roemer et al., 2015). Further, mindfulness has even been found to play a role in the relationship between emotion regulation difficulty and suicidal ideation in the LGBTQ+ community (Wedell et al., 2022). However, the lack of significant main effect of mindfulness when in the model with emotion regulation difficulty may be indicative of emotion regulation mediating mindfulness and suicidal ideation, as opposed to the past finding of mindfulness as a mediator, as in a mediating relationship of emotion regulation on mindfulness and suicidal ideation, it is expected that the impact of mindfulness on suicidal ideation would no longer reach significance. It may also be that the impact of emotion regulation difficulty on suicidal ideation is greater than the impact of mindfulness such that emotion regulation difficulty is absorbing most of the variance.

There were no significant two-way or three-way interaction effects between community connectedness and emotion regulation difficulty, community connectedness and mindfulness, or community connectedness, emotion regulation difficulty, and mindfulness. While there have not been studies at the time of this writing that have specifically examined a three-way interaction between community connectedness, emotion regulation difficulty, and mindfulness on suicidal ideation, the substantial evidence reviewed supports relationships between these four variables. It may be that the

effects of these variables are not multiplicative but rather additive, such that the combined effect of community connectedness, emotion regulation difficulty, and mindfulness on suicidal ideation is not larger than the sum of their individual effects. It may also be that the effect size of these interactions was much smaller than what the present study was powered to detect.

Exploratory Analysis

Exploratory analysis showed that specific facets of emotion regulation difficulty and mindfulness had significant impacts on suicidal ideation. Past literature also suggests that some facets of emotion regulation, but not others, are associated with decreased suicidal ideation (Flores-Kanter et al., 2019; Hasani & Miraghaie, 2012). In the present study, there was a main effect of acting with mindful awareness on suicidal ideation such that decreased acting with mindful awareness was associated with increased suicidal ideation. There was an interaction effect between acting with mindful awareness and impulsivity (facet of emotion regulation difficulty) such that impulsivity changed the direction of the relationship between acting with mindful awareness and suicidal ideation. Specifically, at high levels of acting with mindful awareness and high impulsivity was associated with the greatest increase in suicidal ideation (B = 0.680, SE = 0.207, p =.001). Moderate levels of acting with mindful awareness also interacted with high levels of impulsivity associated with increased suicidal ideation (B = 0.408, SE = 0.134, p = .003). All other interaction combinations (low mindful awareness with low impulsivity, low mindful awareness with moderate impulsivity, low mindful awareness with high impulsivity, high mindful awareness with low impulsivity, and high mindful awareness with moderate impulsivity) were all statistically nonsignificant.

One potential explanation is that individuals may act with mindful awareness in everyday life, *and* when distressed, tend to act impulsively. It could be that individuals who are impulsive have high trait, but low state mindfulness, such that their general baseline is to act with high mindful awareness but in certain emotion states have low mindful awareness. Awareness of impulsivity in and of itself may be distressing, similar to literature that demonstrated the psychological tension of awareness of deficient coping skills during a crisis was associated with increased suicide deaths (Zhang & Lester, 2008). It could also be that the dissonance between acting with mindful awareness in some situations but acting impulsively in others could prompt strong feels of shame from one's ability to control impulses not generalizing across situations, and risk for suicidal ideation may be higher due to the relationship between high shame and suicidality (Bryan et al., 2013; Cameron et al., 2020). Additionally, increased mindfulness of distress combined with the inability to regulate such distress could result in hopelessness, which is also associated with increased suicidal ideation (Flores-Kanter et al., 2019).

Limitations

A primary limitation of the present study is homogeneity in sample demographics, particularly race and gender, as a majority of participants identified as White, Cisgender Female and Bisexual. This limits the extent to which these findings can be generalized to different sexual orientations and more racially and gender-diverse populations. The affiliation that most participants had with the LGBTQ+ community is identifying as a sexual orientation minority, which limits the generalizability of these findings to transgender populations. Transgender individuals make up a significant portion of the LGBTQ+ community and are often not equally represented in LGBTQ+ research and

policy issues. Another limitation of this study is the cross-sectional design, as we cannot draw causal inference from cross-sectional data. Cross-sectional data provides insight into relationships between variables at one point in time; exploration of the trends of these variables over time and ways in which there may be temporal fluctuation would provide valuable insight into longer-term risk for suicidal ideation (Bryan et al., 2020).

Additionally, the mean scores of community connectedness in this sample were relatively high. A cluster of high scores on the community connectedness scale may indicate a potential ceiling effect that masked community connectedness's relationship when put in a model with mindfulness and multiple interactions. It may also be that the effect size of community connectedness when in a model with mindfulness and multiple interactions was too small to be detected in the current sample. Because there was a significant main effect of community connectedness before mindfulness and the three-way interaction were added into the model, it may be that as more variance was accounted for by other variables, the effect size of community connectedness decreased to a range the present sample was not powered to detect. If community connectedness had a small effect size (e.g., $f^2 = .02$) in the models with mindfulness and multiple interactions, then the current sample would not have been sufficiently powered (power = .17) to detect it; to detect a small effect, the present study would have needed a sample of $n = 725$. However, there may be limited clinical significance of such small effect sizes (Funder & Ozer, 2019).

Clinical Implications

Despite limitations, the results of this study give useful insight into clinical case conceptualization and potential clinical intervention targets that might reduce suicidal

ideation in the LGBTQ+ community. Given findings that emotion regulation difficulty was associated with increased suicidal ideation even when accounting for various other factors, emotion regulation may be an important area to assess as a potential risk factor for suicidal ideation. Accordingly, interventions that include emotion regulation skill-building are worth exploring within the LGBTQ+ population. Specifically, Dialectical Behavior Therapy (DBT; Linehan, 1993) is a gold-standard evidence-based treatment for chronic suicidality and is a treatment that is heavily skills-based and emotion-focused. A portion of full-model DBT is weekly DBT skills training groups in which patients build and practice effective skills for emotion regulation among other areas. DBT skills have been successfully used in short-term cognitive behavior therapy interventions with suicidal individuals (Rudd et al., 2001). DBT skills training alone has been found to decrease instances of nonsuicidal self-injury (Linehan et al., 2015) and improve mood and affect stability (Neacsiu et al., 2014; Soler et al., 2009), providing a promising direction for future research on intervention. Emotion regulation skills have been shown to improve rejection sensitivity, internalized stigma, and concealment of LGBTQ+ identity in LGBTQ+ veterans (Cohen et al., 2021) which are factors also related to suicidal ideation. Emotion regulation skills training may also reduce impulsivity (Fleming et al., 2015), which the present study found to be associated with suicidal ideation in the context of mindful awareness.

It is important to note that while the factor examined in the present study that is unique to the LGBTQ+ community (community connectedness) had a significant impact on suicidal ideation when in a model with emotion regulation difficulty, it was *not* found to have a significant effect on suicidal ideation when in a model with mindfulness and

three-way interactions. There could be potential benefits to tailoring skills groups for LGBTQ+ populations by having skills group that are made up of only LGBTQ+ clients, which could increase community connectedness that has been shown to be protective against suicidal ideation. However, tailoring skills groups to the LGBTQ+ population may not alone be sufficient to effectively decrease suicidal ideation. It may be that there are other factors unique to the LGBTQ+ community that are more strongly associated with suicidal ideation, such as sexual minority stress and family conflict (Chu et al., 2013). Given prior findings that nonsuicidal self-injury severity and sexual orientation independently, but not together, were associated with increased suicide risk (Jacobson et al., 2023), it may also be that factors unique to the LGBTQ+ community influence suicidal ideation, but not amplify it when combined with more generalized risk factors. The present findings suggest that standard emotion regulation skills and mindfulness skills would be beneficial to LGBTQ+ individuals in reducing suicidality, and tailoring skills teaching to the LGBTQ+ community may not necessarily be more effective than standard DBT skills training.

Exploratory analysis provided interesting directions that could be pursued in future clinical research. The impulsivity facet of emotion regulation and acting with mindful awareness facet of mindfulness that were significantly associated with suicidal ideation may be starting points for future investigation into clinical intervention of specific skills that may be helpful. Within the DBT skills framework (Linehan, 2015), there are specific skills that map on to these findings. Specifically, to decrease impulsivity, the mindfulness skill of Wise Mind, emotion regulation skills of Opposite Action and Mindfulness of Current Emotion, and distress tolerance skills of Stop and

Pros and Cons are in part designed to help clients avoid acting on ineffective or harmful impulsive urges. Additionally, the mindfulness skills of Participate, One-Mindfulness, and Wise Mind are likely to help clients increase acting with mindful awareness, which alone was associated with lower suicidal ideation. Even though the interaction between high mindful awareness and impulsivity was associated with higher suicidal ideation, increasing these mindfulness skills alongside emotion regulation skills are likely to decrease suicidal ideation as impulsivity would simultaneously decrease.

Taken together, findings pertaining to emotion regulation difficulty's effect on suicidal ideation pose more evidence to suggest that emotion-regulation centered clinical interventions such as DBT and DBT skills training could be pursued as clinical interventions for emotion regulation deficits that have been demonstrated to be associated with suicidal ideation in the LGBTQ+ community. Additionally, these findings may indicate that for LGBTQ+ clients already in DBT treatment, it may be most beneficial for them to start with the emotion regulation skills module as emotion regulation difficulty was found to have the most consistent relationship to increased suicidal ideation. The findings of this study also demonstrate a significant relationship between connectedness to the LGBTQ+ community and suicidal ideation, but only when accounting for emotion regulation difficulty. The relationship between community connectedness and suicidal ideation was not significant when mindfulness was introduced to the model. This may indicate that connectedness to the LGBTQ+ community may not be as critical of an intervention target as emotion regulation difficulty to reduce suicidal ideation, as emotion regulation difficulty was consistently associated with increased suicidal ideation regardless of what other variables and interactions were in the model.

Future Directions

Based on this study, future research should further examine the relationship between connectedness to the LGBTQ+ community and suicidal ideation, as literature to date has conflicting findings (Kaniuka et al., 2019; Rogers et al., 2021) regarding the relationship between these variables. The present study supported some current literature, as community connectedness was negatively associated with suicidal ideation in a model with emotion regulation which supports literature of community connectedness being protective (Kaniuka et al., 2019). However, literature of community connectedness being associated with *increased* suicidal ideation (Rogers et al., 2021) was not supported. Present findings of no significant relationship between community connectedness and suicidal ideation when accounting for mindfulness does not support any of the current literature. Future research should also seek to further differentiate general interpersonal risk factors such for suicidal ideation such as thwarted belongingness and perceived burdensomeness (Joiner, 2005) from LGBTQ+ specific ones such as connectedness to the LGBTQ+ community. It could be that lack of LGBTQ+ community connectedness has significant overlap and/or interaction with thwarted belongingness and perceived burdensomeness.

Future research should continue to identify clinical intervention targets for this population by testing efficacy of evidence-based treatments for suicidality (e.g., DBT) in LGBTQ+ samples and examine potential benefits to tailored intervention (e.g., LGBTQ+-specific skills groups) by comparing outcomes of standard DBT skills training with tailored DBT skills training. In addition, utilizing qualitative data from LGBTQ+ individuals to identify risk factors that could be treatment targets as well as areas

currently being targeted in treatment that are the most impactful may also be of utility. Together, this could help determine whether existing evidence-based treatment is just as effective in LGBTQ+ samples as it is the general population, or if more work is needed to tailor such interventions to the LGBTQ+ community to address identity-specific factors. Finally, future research could continue to investigate relationships between suicidal ideation, community connectedness, emotion regulation, and mindfulness in the LGBTQ+ population longitudinally as to identify which of these factors present an acute risk for suicidal ideation versus which factors present a chronic, long-term risk.

Conclusions

Despite limitations, the present study helps to enhance knowledge regarding suicidal ideation in the LGBTQ+ community by examining the relationship between community connectedness, emotion regulation difficulty, mindfulness, and suicidal ideation. The findings of this study indicate that emotion regulation difficulty contributes to suicidal ideation in the LGBTQ+ community, even when other combinations of factors are being accounted for. While community connectedness was only identified to have a significant relationship with suicidal ideation when in a model with emotion regulation difficulty, more research is needed on this topic to fill the gaps in the literature to help determine if the findings of this study are indicative of a pattern of findings regarding community connectedness and suicidal ideation. Additionally, more research is needed to determine whether these findings are indicative of potential mediating effects of emotion regulation difficulty or mindfulness.

The present findings raise interesting implications for clinical treatment, suggesting that some of the same treatment targets shown to be effective in treating

suicidality (e.g., emotion dysregulation; Linehan, 1993) could be of utility to the LGBTQ+ community, and LGBTQ+ specific factors such as community connectedness may be less effective to target. Taken together, these findings provide a helpful empirical base on which to build in order to begin identifying effective treatment targets in this population to reduce the disproportionate percentages of LGBTQ+ people experiencing suicidal ideation, making suicide attempts, and ultimately dying by suicide.

APPENDIX A – **IRB Approval Letter**

Thursday, August 10, 2023 at 15:04:23 Eastern Daylight Time

Subject: RE: IRB Application
Date: Wednesday, July 19, 2023 at 7:20:22 PM Eastern Daylight Time
From: Rivera, Peter
To: Jacobson, Samantha
CC: Righetti, Ashley, !SPFC_IRB, Law, Keyne
Attachments: image002.png, image003.jpg

Samantha,

Your research project titled, "Examining Emotional Experiences of LGBTQ+ Adults" has been approved under exempt IRB review. This study was approved under exempt review as it met the following criteria:

45 CFR 46.101(b)(2)

2. _x_ Research uses **survey** or interview procedures or observations (including observations by participants) of public behavior AND at least one of the following conditions exist:
   a. x___ Human participants cannot be identified directly or through identifiers code or numbers

   OR

   b. _x_ The participants[1] responses or the observations recorded, if they became known outside research, cannot reasonably place the participant at risk of criminal or civil liability or be damaging to the participant[1]s financial standing or employment

   OR

   c. X The research does not deal with sensitive aspects of the participant[1]s own behavior, such as illegal conduct, drug use, sexual behavior, or use of alcohol use.

Your study has been assigned the IRB tracking number 222308015 and expiration date 7/19/2024 . As part of your IRB approval, you are required to use this number and expiration date on any information regarding this study. You must make copies of the consent document with the IRB seal and distribute these to your participants. To complete your documents, add your IRB # and expiration date to any of your study's other written documents.

Please contact me when you have completed collecting data for your study so that I can close your file. If you need more than one year to complete data collection, you must file a request for an extension with me six weeks before the expiration date of this study. Your request for an extension can be written or communicated through e-mail and must include a report on the status of your study. Otherwise, you will need to file a new IRB application to continue with data collection after the expiration date. If you plan to make changes in the protocol, you are required to submit a memo to me outlining the proposed changes. You may not change any protocol until you receive permission from the IRB. As part of its review and oversight charter, members of the SPU IRB may request to inspect the data collection process and the confidential records from this research project.

If a subject experiences any adverse effect as part of this research protocol, you must contact the chair of the IRB at IRB@spu.edu immediately, detailing the adverse effect and the action that you took as the

principal investigator. Failure to report an adverse effect within 24 hours may lead to the suspension this study. By collecting data under this IRB application, you agree to be in compliance with Federal and SPU policies regarding the conduct of research with human subjects. Failure to comply with requirements associated with this study must be reported immediately to the Chair of the Institutional Review Board. Failure to comply with IRB policies may lead to adverse consequences as noted in the SPU IRB policies. This is the only documentation that you will receive regarding your study's approval. Please print it out and add this to your study's documentation. Please use your study number and expiration date in any further communication regarding this study.

Best wishes in the completion of your research.

Peter M. Rivera, Ph.D., LMFT

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