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EXAMINING THE ROLE OF VICARIOUS MINORITY STRESS WITHIN A MINORITY STRESS FRAMEWORK

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Abstract

Examining the Role of Vicarious Minority Stress within a Minority Stress Framework

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Sexual and gender minority (SGM) youth and young people have a significantly higher prevalence of mental health challenges than their heterosexual, cisgender peers (Jonas et al., 2022). These disparities are largely linked to disparate experiences of victimization, discrimination, and microaggressions (Meyer, 2003; Mongelli et al., 2019). While most of the literature on this association between *minority stress* and mental health outcomes focuses on direct experiences of minority stress such as discrimination and victimization, less attention has been given to indirect experiences of minority stress, such as reading about SGM-directed violence on the news or in social media (Hatzenbeuhler et al., 2019; Hicks, 2019; Hughto et al., 2021). Understanding the effects of these *vicarious minority stressors*, or instances of discrimination and stigma inflicted on someone who shares a minority identity, not in the presence of the individual and without directly targeting the individual, seems increasingly necessary. Recent studies suggest that vicarious experiences of discrimination affect SGM mental well-being across the country (Maduro et al., 2020). The current study sought to extend and test minority stress theory by assessing the impact of minority-specific vicarious stressors - in this case reading about an instance of identity-based community violence - on young peoples' processing styles and mental health outcomes.

In part 1 of the current study, I used an experimental design and quantitative text analysis to assess whether a diverse sample (N = 575) of SGM participants ages 18 - 24 (*M* =

22.45, *SD* = 2.22) exhibited differences in affect and processing style when asked to read and respond to a short passage depicting violence directed toward an individual who shares their SGM identities as opposed to those in the control, who read an identical passage with a heterosexual, cisgender subject. Results indicated a greater increase in negative affect, greater likelihood of using negative emotions and anger words, and greater use of self-reference words among participants exposed to the vicarious minority stressor. In part 2, I used structural equation modeling to assess whether self-reported past experiences of minority stress, identity affirmation, and critical consciousness predicted negative affect change and processing style among exposure group participants (N = 402), and whether these in turn predicted depressive symptoms. I found that negative affect change negatively predicted depressive symptoms and use of negative emotions words positively predicted depressive symptoms. Minority stress, identity affirmation, and critical consciousness positively predicted negative emotions words and indirectly predicted depressive symptoms via negative emotions words. Critical consciousness also positively predicted negative affect change and self-reference words, and negatively, indirectly predicted depressive symptoms via negative affect change. Implications to minority stress theory and therapeutic intervention are discussed.

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Table of Contents

Chapter 1: Introduction……... 7

Chapter 2: Literature Review…….17

Chapter 3: Methods……45

Chapter 4: Results……..64

Chapter 5: Discussion…..……...78

References…..…….90

Tables……...122

Figures…….130

Appendices…..…….133

Chapter 1

Introduction

Sexual and gender minority (SGM) youth are at increased risk for mental health challenges. Compared to cisgender, heterosexual peers, SGM youth have a significantly higher prevalence of mental health challenges, according to a recent systematic review and meta-analysis (Jonas et al., 2022). Transgender youth have even higher rates of depressive symptoms and attempted suicide rates than their LGB cisgender counterparts (Johns et al., 2019). These disparities in mental health outcomes have largely been linked to disparate experiences of victimization, discrimination, and micro-aggressions on account of their sexual orientation or gender identity, or what scholars have termed minority stress (Meyer, 2003; Mongelli et al., 2019). Late adolescence and young adulthood in particular are a determinative time for mental well-being and identity development for SGM young people and so merit critical attention (Bilodeau & Renn, 2005). Even as public support for SGM rights increases, mental health disparities among SGM young adults have not declined in recent years (Russell & Fish, 2016).

Despite the robust literature on the association between minority stress and mental health outcomes, relatively little attention has been given to how an SGM youth's mental health may be affected by minority stressors directed at their peers and fellow members of the SGM community. SGM individuals see their identities connected to violence regularly on the news and in social media (Hatzenbeuhler et al., 2019; Hicks, 2019; Hughto et al., 2021). Understanding the effects of these *vicarious minority stressors*, or instances of discrimination and stigma inflicted on someone who shares a minority identity, not in the presence of the individual and without directly targeting the individual, seems increasingly necessary. In recent years, public violence toward SGM communities and national debates about LGBT individuals' right to protections

have intensified (Malazada, 2020; Williams, 2019). Emerging evidence suggests that vicarious experiences of discrimination affect LGBT mental health, as in the case of the Pulse Nightclub Shooting in which 49 SGM individuals were killed and 53 wounded (Maduro et al., 2020). The current study sought to extend and test minority stress theory by assessing the impact of minority-specific vicarious stressors—in this case reading about an instance of identity-based community violence—on youths' coping styles and mental health outcomes.

A Conceptual Model for the Effects of Minority Stress and Vicarious Stress

The Psychological Mediation Framework (PMF) provides insight into how stigma, or an external stressor, "gets under the skin" (Hatzenbeuhler, 2009). This mediational model, like other models of minority stress, aims to explain discrepancies in mental health between SGM and cisgender, heterosexual individuals through their differential experiences of victimization and stigma. PMF specifies that various stress responses mediate the association between minority stressors and mental health outcomes. In PMF, greater exposure to stress resulting from stigma exacerbates individuals' emotion dysregulation, social and interpersonal problems, and maladaptive cognitive processes. Emotion regulation normally involves strategies to enhance one's experience of positive emotions and decrease negative ones. A hyperfocus on negative emotions and rumination (i.e., perseveration on the negative emotions) may lead to emotion dysregulation due to a reduced bandwidth for emotional regulation from stress (Cicchetti & Toth, 2005). Further, PMF posits that individuals exposed to minority stressors may feel more isolated, fear rejection of their identities, and be more motivated to conceal their identities; these are intrapersonal, socially isolative processes. This may be due to the othering, socially exclusive messages that the stress carries (Hatzenbuehler, 2009; Link et al., 1997). Finally, individuals who are exposed to minority stress repeatedly may be more prone to feel a sense of helplessness and

hopelessness rather than maintaining cognitive distance and reasoning through a situation (Hatzenbeuhler, 2009). Stress has been shown to deplete internal resources for cognitive distance and to exacerbate negative cognitions (Brosschot et al., 2010; Hatzenbuehler, 2009; Sandi, 2013). These processes, in turn, elevate risk for psychopathology. Evidence supports these PMF processes among general and SGM populations (Hatzenbeuhler et al., 2009; Liao et al., 2015; Ngamake et al., 2016; Nolen-Hoeksema & Davis, 1999; Schwartz et al., 2016).

Largely, however, these studies have focused on direct minority stressors and relied on self-report measures and correlational designs. All of the studies referenced above in support of PMF used self-report scales of minority stress that asked about overt physical or verbal abuse related to SGM identity (Hatzenbeuhler et al., 2009; Liao et al., 2015; Ngamake et al., 2016; Nolen-Hoeksema & Davis, 1999; Schwartz et al., 2016) while none asked about exposure to stigma or discrimination in media. Further, these studies used self-report measures of participants' reactions to this perceived discrimination, such as rumination scales. This method assumes a high degree of self-awareness among participants of their response style, and it introduces the risk of recall and desirability bias. I address these gaps in the literature using an experimental design with novel, objective measures of participants' reactions to a stressor.

In the current study, I test an experimental model (see Figure 1) wherein I aim to examine whether these minority stress processes are activated when individuals are exposed to a *vicarious* minority stressor related to their SGM identities. In this case, the stressor reflects reading a passage that describes an instance of community violence directed against an individual who shares the participant's sexual and gender identities. As compared with SGM individuals who are exposed to an instance of *identity-irrelevant* community violence, those who are exposed to *identity-relevant* community violence may find that the exposure passage "hits closer to home."

Participants will read about the instance of violence and reflect on it in writing; these reflections will be analyzed using quantitative text analysis via Linguistic Inquiry Word Count (LIWC; Boyd et al., 2022; Pennebaker et al., 2015) software. Affect change before versus after exposure to this passage will also be assessed. In qualitative studies, SGM individuals reflecting on community violence have reported emotional distress, isolation, feeling that SGM-directed violence has personal significance, and connecting the given instance of violence to many other instances of violence against their community of which they are aware (Jackson, 2017; Ramirez et al., 2018). Thus, as shown in Figure 1, I expect that individuals exposed to the vicarious minority stress condition will report higher change in affect and will utilize more emotionally dysregulating (e.g., anger, anxiety, sadness words) and socially isolative language (e.g., more self-reference "I" words), as well as less cognitive distance (e.g., fewer cognitive processing words such as "think," "because," "maybe") than individuals exposed to the identity-irrelevant condition.

Pathways of Minority Stressors and Protective Factors

Among people exposed to vicarious minority stress, certain characteristics may predict the level of their stress response. An important implication of PMF is that minority stress operates via intrapsychic processes engendered by minority stressors; these processes result in mental health challenges (Hatzenbeuhler, 2009). Specifically, PMF posits emotion dysregulation (measured in the current study by affect change, negative emotions words), socially isolative processes (measured in the current study by self-reference words), and cognitive processes (measured in the current study by cognitive processing words) as mediators of the association between minority stress and mental health outcomes (Hatzenbeuhler, 2009). In the next part of the current study, I considered these intrapsychic pathways as mediators between past

experiences and mental health outcomes (see figure 2). This part of the study provides three important contributions to the literature. First, it is the only study of which I am aware that considers intrapsychic processes in response to a vicarious minority stress as mediating the association between minority stress and mental health outcomes. Second, the novel design and measures offer a more rigorous way to test the PMF model. Finally, I considered novel minority stress-related predictors of mental health.

While minority stress is a shared experience among SGM individuals, the frequency and intensity of these stressors, the social environment, and the way in which an individual understands and responds to these stressors, have importance implications for how they will respond to the next minority stressor they encounter. Those who have experienced more victimization and microaggressions may be more vulnerable to minority stress processes and their consequences (Baams et al., 2015; Hernandez & Villodos, 2020; Kaufman et al., 2017; Livingston et al., 2020). Conversely, many SGM individuals demonstrate resilience in the face of minority stressors through social support and adaptive strategies for responding to stressors (Meyer, 2015). This resilience may be explained in part by more adaptive intrapsychic processes as a result of this social support. Finally, emerging evidence suggests that the ability to externalize these factors as not reflecting one's own self-worth and responding to minority stress through action may be a protective factor (Godfrey et al., 2019). Identifying the experiences of SGM youth that are associated with adaptive intrapsychic processes and less adaptive processes could have important implications for prevention and intervention for the mental health of SGM youth. In the current study, among SGM youth in the vicarious minority stress condition, I consider whether their previous levels of identity stress, identity affirmation, and critical

consciousness predict how they respond to reading about an instance of identity-based community violence (see figure 2). I elaborate on these factors below.

Identity Stress

Prevailing minority stress models posit that stressors, including direct experiences of identity-based victimization and stigma, are the original source of mental health disparities between SGM individuals and their heterosexual, cisgender peers (Meyer, 2003; Hatzenbeuhler, 2009). Thus, identity stress is the stress that minoritized individuals face as a result of navigating a heterosexist, cissexist world with an SGM identity. Evidence supports the association between identity-directed victimization and microaggressions and mental health outcomes (Hernandez & Villodos, 2020; Kaufman et al., 2017; Livingston et al., 2020). This association may be mediated by maladaptive processing such as rumination and emotion reactivity (Kaufman et al., 2017; Livingston et al., 2020; Hernandez & Villodos, 2020). Therefore, I expect that greater identity-related stress will impede individuals' ability to cope with reading about stressful identity-related experiences (as reflected by greater change in affect, emotion dysregulating language, isolative language, and less cognitive distance). This may, in turn, predict negative mental health outcomes.

Identity Affirmation

Conversely, previous experiences of identity affirmation may protect against negative stress responses to a vicarious minority stressor. Identity affirmation has been shown to buffer against the effects of victimization and discrimination on depression among young adults (Bridges et al., 2019; Busby et al., 2020). This support for individuals might include having people around them who are proud of them for being SGM, who become involved in the SGM community with them, and who do not make the individual feel bad, mocked, or othered for their

identities. This identity-specific affirmation could reinforce adaptive intrapsychic processes. Identity affirmation may reduce the emotional weight of a minority stressor, counteract the social isolative processes associated with minority stress, and allow for greater cognitive processing of the meaning of such a stressor (Hatzenbeuhler, 2009; Meyer, 2015). I hypothesize, therefore, that greater identity affirmation will predict more adaptive processing styles and lower emotion reactivity to an identity-related stressful passage, and subsequently more positive mental health outcomes.

Critical Consciousness

How an individual makes meaning of minority stressors, whether directed at them or others, may be an important factor in their processing and emotional reaction to such stressors. I introduce critical consciousness as a framework of how minoritized individuals understand and respond to systems of oppression that affect them. In critical consciousness, a marginalized individual develops critical awareness in order to perceive the oppressive forces in society and resist them rather than internalize them (Diemer et al., 2016). New but growing evidence suggests that critical consciousness is associated with positive outcomes for young people, including lower levels of internalized oppression and improved outcomes of mental health interventions (Cadenas et al., 2021; Chan & Mak, 2020; Harper et al., 2022). I therefore hypothesize that individuals who report high levels of critical consciousness may utilize more adaptive processing styles and show less affect change, which may in turn predict better mental health outcomes.

Current Study

This study sought to examine the role of a vicarious stressor, in this case an instance of identity-based violence in the community, on minority stress processes and mental health

outcomes among SGM young adults. In part 1 of the study, I assessed whether reading about a vicarious minority stressor elicits greater minority stress processes and affect change than reading about an identity-irrelevant stressful event. In part 2 of the study, I considered whether these minority stress processes and affect change in response to the minority stressor mediate the association between minority stress and mental health outcomes. Taken together, the study aimed to establish how vicarious minority stress may affect how young SGM people process stressors, and how such processes in response to such stressors may be associated with mental health outcomes.

Specifically, I examined SGM individuals' stress responses to reading and reflecting on this stressor in terms of their processing styles and affect change (adaptive or maladaptive intrapsychic processes), compared with SGM individuals exposed to an identity-irrelevant stressor. A difference between these two groups would suggest unique, socially-based stress in response to a vicarious stressor, above and beyond the stress of reading about general (identity-irrelevant) community violence. This would provide support for the concept of vicarious minority stress. My hypothesis is as follows:

Hypothesis 1: I hypothesize that participants who are exposed to an identity-relevant stressful passage will use less adaptive processing styles (e.g., greater affect change, more negative emotions words, more isolative processing, less adaptive cognitive processing) than participants who are exposed to an identity-irrelevant stressful passage.

Next, I examined what risk and protective factors predict greater affect change and more negative processing styles among participants who were exposed to the identity-relevant stressor. My hypotheses for this portion of the current study are stated below.

Hypothesis 2a: I hypothesize that participants who report greater exposure to identity-related stressors, lower identity-specific affirmation by others, and lower critical consciousness will use less adaptive processing styles (greater affect change, more negative emotions words, more self-reference words, fewer cognitive processing words) in response to the identity-relevant stressful passage.

Hypothesis 2b: I hypothesize that processing styles will mediate the association between risk and protective factors and depressive symptoms.

As an additional analysis to add rigor to the current study, I tested a model using the self-report rumination and emotion reactivity scales commonly used in the PMF literature (Hatzenbeuhler, 2009) to assess whether I am able to replicate the model using these traditional scales.

Significance

The current study provides several important contributions. First, it aimed to identify the extent to which vicarious stressors contribute to minority stress. Second, the current study is one of the first to my knowledge to assess the PMF model using real-time mood-induction; two prior studies used mood-induction studies using PMF, but neither used a written passage and considered mental health outcomes (Mereish & Miranda, 2019; Seager et al., 2021). Another recent study used an experimental mood-induction design to assess emotional reaction and empathy response to an identity-relevant stressor, but it used self-report of reactions as opposed to text analysis, and it did not assess associations with mental health outcomes (Paterson et al., 2019). The current study is one of only a few studies to assess the PMF model using objective, real-time measures of affect change and processing styles rather than relying on self-report measures. The current study is also

the first to consider whether critical consciousness may be associated with mental health via processing styles.

Chapter 2

Literature Review

The sexual and gender minority (SGM) community has a long history of experiencing identity-based violence. Recent years have been no different: the Pulse Night Club shooting constituted a nationally visible hate crime against an SGM community, an openly hostile President led the country, and SGM employee protections were challenged in national debates (Gonzales & McKay, 2017; Stults et al., 2017; Valenti, 2021). This sociopolitical strain on the SGM community may particularly impact its young members. Indeed, recent research suggests that victimization of SGM youth may rise alongside the introduction and campaigning of anti-SGM legislation (Hatzenbeuhler et al., 2019). For instance, after the 2016 election, educators reported rises in identity-based victimization against SGM students (Costello, 2016). With recent anti-LGBT legislation on the rise, there is reason for concern about corollary homophobic and transphobic violence across the country (Diaz, 2022; GLSEN, n.d.; Jones & Navarro, 2022).

This increased risk of SGM-directed violence (e.g., open queerphobic physical or verbal aggression) has serious ramifications for youth development. Adolescence and young adulthood (ages 18-26) are a time of identity development, interpersonal exploration, and development of worldviews (Erikson, 1968; Flanagan, 2013; Yates & Youniss, 1998). SGM youths' environments at this age are largely determinative of future well-being (McConnell et al., 2018; Russell et al. 2014; Russell & Fish, 2016). Whereas an environment where youth can safely be "out" and receive support around their identities is associated with well-being into adulthood (McConnell et al., 2015; Russell & Bohan., 2014), victimization and hostile, anti-LGBT climate within a family, school, or community are associated with deleterious mental health outcomes,

including depression, anxiety, post-traumatic stress symptoms, and suicide (Russell & Fish, 2016).

Additionally, the effects of violence may extend beyond the individuals toward whom it was directed. News outlets report on violence and hate crimes against SGM individuals (BBC, 2022; Lavietes, 2022). Studies suggest that just exposure to these stories is associated with young people's mental health (Gonzalez & Gavulic, 2016; Otto et al., 2007). Despite the important role of news and social media in young people's stress levels and mental health outcomes (Abi-Jaoude et al., 2020; Kellerman et al., 2022), few studies have considered the impact of learning about SGM-directed violence on SGM young people's mental health. Yet, the rise of legislative antipathy toward the LGBT community and the concurrent rise in SGM youth victimization discussed above (Diaz, 2022; Hatzenbeuhler et al., 2019; Jones & Navarro, 2022) could affect SGM youth broadly, beyond their own direct experiences of victimization and anti-LGBT violence. Understanding this association of indirect violence with mental health will be valuable for prevention and intervention efforts to reduce SGM youths' mental health risks.

Violence and Mental Health in the SGM Community

SGM individuals are at greater risk of experiencing and witnessing violence than the broader heterosexual, cisgender community (Juarez-Chavez et al., 2021). A meta-analysis of 53 studies, comprising over 500,000 participants, found that sexual minority individuals across age groups experience greater rates of victimization (including discrimination, physical assault, and school victimization) than heterosexual individuals (Katz-Wise & Hyde, 2012). Transgender and gender diverse individuals in particular are at greater risk of violence, including child abuse, gender-based violence, school-based violence, intimate partner violence, and hate crimes (Rodriguez-Madera et al., 2017; White Hughto et al., 2017; Wirtz et al., 2020).

A robust literature links experiences of identity-based violence and victimization to negative mental health outcomes (Hatchel et al., 2018; Salerno & Boekeloo, 2022). Importantly, bias-based victimization, in particular, that targets an individual's SGM identity is linked with negative outcomes; SGM youth who face anti-LGBT victimization, for instance, engage in more substance abuse and suicide attempts (Mereish et al., 2014; Poteat et al., 2011). Further, SGM youth who have experienced homophobic victimization report a lower sense of school belonging and greater perceived burdensomeness; this sense of isolation in turn predicts negative mental health outcomes (Baams et al., 2015). Several meta-analyses, one including 18 studies on sexual minority youth (Fedewa & Ahn, 2011), and another including 7 studies of sexual minority youth and young adults (Durrbaum & Sattler, 2020), found that greater levels of victimization, minority stress, and adversity were associated with myriad negative mental health outcomes. Another meta-analysis found similar patterns of risk factors among gender minority individuals: identity-specific stressors were correlated with elevated mental health challenges (Liu et al., 2019). Notably, in this study gender minority individuals had even greater risk for minority stress and negative outcomes than their sexual minority counterparts (Liu et al., 2019).

Of significance, strong evidence suggests that *witnessing* violence is as robustly linked to negative mental health outcomes among all youth as experiencing it (Flannery et al., 2004; Fowler et al., 2009; Zinzow et al., 2009). A quantitative meta-analysis of 114 studies on youth exposure to community violence provides evidence that witnessing community violence, and even simply hearing about it, is as strongly associated with post-traumatic symptoms as experiencing victimization (Fowler et al., 2009). Further, one study found that witnessing violence accounted for more variance in psychological distress among youth than direct victimization (Flannery et al., 2004). Another study of adolescents corroborates that witnessed

violence predicts post-traumatic symptoms as well as major depressive episodes (Zinzow et al., 2009). Beyond the literature on witnessing violence, few studies have taken the next step to consider the impact of knowledge of violence, obtained via media or reading. As noted previously in this chapter, there are some correlational studies that suggest exposure to media depicting hate crimes may be associated with youth's well-being (Gonzales & Gavulic, 2016; Otto et al., 2007). Importantly, one recent experimental study found a notable impact on participants' emotions of *reading* about a violent act, particularly when this act was a hate crime (Paterson et al., 2019).

This literature on the corollaries of witnessing community violence has a few important limitations. First, few studies have examined the impact of witnessing community violence among SGM young people. Additionally, extant evidence considers community violence in the context of a shared *physical* community, in that the violence occurred within the same community as the witness. In this case, witnessing violence may directly inform one's sense of safety. For SGM individuals, however, community may also be considered in the context of shared *identity*. The sense of group identity may enhance a sense of "shared suffering" even with those who are not physically proximal (Walters et al., 2020). In fact, one experimental study found that reading about an SGM-directed hate crime elicited a greater emotional response and more empathy for the victim among SGM participants than reading about a comparable act of identity-irrelevant violence (Paterson et al., 2019). In this case, while witnessing identity-directed violence may still have implications for an individual's safety, it may also activate other pathways of distress, such as increased empathy for the victim and heightened sense of danger for oneself (Lui & Quezada, 2019; Paterson et al., 2019; Swann et al., 2020). Understanding the role of identity-directed violence on mental health among SGM young people, as well as the

mechanisms involved, will be invaluable to addressing pervasive mental health challenges in the community.

Minority Stress Models

In order to examine the means by which indirect, identity-based violence, which I term *vicarious minority stress*, may affect the mental health of SGM young people, I situate the current study within a minority stress model framework. The Minority Stress Model, put forth originally by Meyer (2003), seeks to provide an explanation for the greater prevalence of mental health concerns among sexual minority individuals. Since then, the model has been extended to include gender minority stress (Tan et al., 2019) as well as multiple minority stress, which accounts for the intersections of sexual identity, gender identity, and racial/ethnic identity (Ramirez et al., 2019). Historically, the task of explaining the discrepancies in mental health outcomes among minoritized individuals was an important one because homosexuality and gender nonconformity were themselves considered mental disorders (Meyer, 2003). Meyers challenged this view by arguing that the heightened prevalence of mental health concerns in SM individuals was more likely associated with the greater amounts of stress they faced.

According to the minority stress model, stressors that are unique to SGM individuals, socially-based, and chronic, result in the discrepant mental health outcomes among SGM individuals (Meyer, 2003). This stress is unique in that it is the result of stigma and discrimination that cisgender, heterosexual individuals do not face. It is socially-based in that the stress comes from societal stigma, not from within the individual. Finally, it is chronic in that SGM individuals face this stress on a daily basis. Further, within the SGM community, greater levels of minority stress lead to greater mental health challenges (Cardona et al., 2022; Fulginiti et al., 2021; Salerno & Boekeloo., 2022). This model has garnered extensive support since its

conceptualization. Perceived discrimination, victimization, and family rejection (all cases of unique, socially based, ongoing stressors) have all been robustly linked to negative outcomes including anxiety, depression, post-traumatic symptoms, and suicidal ideation among sexual minority young people (Kelleher, 2009; McCarthy et al., 2014) as well as gender minority young people (de Lange et al., 2022; Fulginiti et al., 2021; Hatchel et al., 2019). Indeed, advances in this line of research have identified neurobiological mechanisms underlying these associations: chronic stress has been linked to neurobiological dysregulation through heightened cortisol levels and dysregulation of the hypothalamic-pituitary-adrenal (HPA) stress response system (Parra & Hastings, 2018). These physiological biomarkers of stress have been identified among SGM adolescents and adults (Juster et al., 2017; Parra & Hastings, 2020).

Considering Vicarious Minority Stress

The minority stress literature, with a few exceptions, has largely defined stress as direct. The minority stress model uses the term *distal* stressors to refer to direct experiences of discrimination, prejudice, and victimization (Meyer, 2003). Just a few studies examine what might be considered *far-distal* stressors such as structural stigma (e.g., stressors that may have a direct impact on the individual but are not physically present, such as homophobic political campaign messages and anti-LGBT legislation; Bartos et al., 2021; Horne et al., 2022). In the current study, I went a step further to consider minority stressors that are neither physically present nor directed specifically toward the individual: I term these *vicarious minority stressors*. For example, an individual's knowledge of violence perpetrated against a fellow SGM young person is not necessarily directed specifically toward that individual, yet it may still cause personal distress.

Evidence for vicarious minority stress may be found in recent studies on the association of national hate crimes with well-being among individuals in the SGM community across the United States. One of the most studied of these is the Pulse Nightclub Shooting. On June 12th, 2016, 49 people were killed and 53 more were injured in a mass shooting at Pulse, a gay nightclub in Orlando, Florida. The impact on the SGM community across the country was profound. Using data from a nationally representative sample, one study found that compared with heterosexual men, gay and bisexual men experienced a 7.8% greater increase in severe psychological distress, a 14.2% greater increase in depression, and a 6.2% greater increase in anxiety in the year following the tragedy (Gonzalez & Gavulic, 2016). SGM individuals perceived many of their peers to use alcohol and drugs to cope with the stress of the Pulse shooting (Boyle et al., 2017). SGM community members reported emotional distress, feeling personally affected, and feeling isolated, following the event (Jackson, 2017; Maduro et al., 2020; Ramirez et al., 2018). These studies suggest that vicarious minority stress (e.g., awareness of a hate crime having occurred elsewhere) may be associated with outcomes of the broader SGM community.

The literature on the response to the Pulse Nightclub Shooting has focused almost exclusively on SGM adults. This may be the result of the many systemic barriers to studying sexuality or violence among SGM youth (Fisher & Mustanski, 2014). However, evidence suggests that media depictions of community violence predicts stress and mental well-being among youth as well (Duarte et al., 2011; Otto et al., 2007). Therefore, SGM young people may be vulnerable to *vicarious minority stress*, thus necessitating the need to understand this process. Building on emerging qualitative and correlational data that suggests the association of vicarious minority stressors with mental health outcomes (Boyle et al., 2017; Gonzales & Gavulic, 2016;

Jackson, 2017; Maduro et al., 2020; Ramirez et al., 2018), as well as one experimental study of adults (Paterson et al., 2019), I utilize an experimental design to offer stronger empirical evidence of the causal effects of vicarious minority stressors, while also identifying some of the mechanisms underlying these effects.

Proximal Minority Stressors

In order to understand how vicarious minority stressors may resemble direct minority stress in their impact on SGM youth, I consider them in the context of *proximal* stressors. The minority stress model draws a distinction between *distal* stressors and *proximal* stressors. Distal stressors are external events and conditions that induce stress. These stressors are assumed to be chronic (e.g., ongoing family rejection) and acute (e.g., a homophobic slur) for minoritized individuals. As discussed previously, there is extensive support for the link between these objective, external events and mental health outcomes including anxiety, depression, and suicidal ideation (de Lange et al., 2022; Fulginiti et al., 2021; Hatchel et al., 2019; Kelleher, 2009; McCarthy et al., 2014).

In contrast to distal stressors, *proximal* stressors are intrapsychic and unique psychological experiences of sexual minority individuals. These include identity concealment (e.g., the choice not to disclose one's identity in a certain setting), expectations of rejection, and internalized homophobia (negative attitudes and assumptions about sexual identity, held by those who hold this identity; Szymansky & Chung, 2002). Evidence supports the link between these internalized stressors and mental health outcomes as well: identity-related distress, stigma consciousness, concealment, and internalized homophobia have all been linked to psychological distress, anxiety, depressive symptoms, and suicidal ideation (Kelleher, 2009; Ramirez & Paz Galupo, 2019; Rogers et al., 2021). Further, both distal and proximal stressors have been found

to account for a significant amount of variance in anxiety and depressive symptoms among a diverse group of SGM individuals (Ramirez & Paz Galupo, 2019).

Adding to the minority stress model, newer models such as the Psychological Mediation Framework (PMF; Hatzenbeuhler, 2009) have begun to consider proximal stressors as consequences of distal stressors (Fulginiti et al., 2021; Hatzenbuehler et al., 2008). For instance, according to PMF, youth who experience more rejection of their identities (distal stressor) will expect more rejection (proximal stressor) from others. This expectation may compound youths' sense of isolation (Choo et al., 2022; Rood et al., 2016). Similarly, a youth who experiences more microaggressions related to their identity (distal stressor) may be more emotionally reactive (proximal stressor) to another microaggression than a youth who experiences comparatively fewer microaggressions would be (e.g., a transgender boy who is constantly told "you look so young" may be more bothered by the comment and its implications than another who does not receive the same feedback as regularly; Kaufman et al., 2017; Livingston et al., 2020).

In part 1 of the current study, I assessed the association between exposure to a vicarious minority stressor and proximal stress (see figure 1). I exposed some participants to a media passage depicting an act of violence against a young person who shares the sexual and gender identities of the participant (exposure group) and other participants to a similar passage depicting an act of violence against an individual who does not share these identities (control group). I asked both groups of participants to reflect in writing on their personal reaction to the passage. In part 1 of the study, I examined between-group differences in minority stress processes. I hypothesized that participants exposed to the vicarious minority stressor would exhibit comparatively greater proximal minority stress reactions than those in the control condition. Because a general stressor would not hold the same personal significance as a minority stressor, I

hypothesized that participants exposed to an identity-irrelevant stressor will exhibit comparatively less proximal stress. Below, I elaborate on the specific proximal stressors I consider in the current study.

Psychological Mediation Framework

Hatzenbeuhler's Psychological Mediation Framework (PMF; Hatzenbeuhler, 2009) provides two important additions to the minority stress model. First, it specifies that proximal stressors mediate the association between distal stressors and mental health outcomes. Distal stressors (e.g., discrimination, stigma) lead to proximal stressors (e.g., concealment, internalized stigma), which, in turn, lead to mental health challenges. This is evidenced by numerous studies of minority stress and PMF processes (Fulginiti et al., 2021; Hatzenbuehler et al., 2008; Rogers et al., 2021). Second, PMF posits three specific pathways by which distal stressors lead to negative mental health outcomes. In PMF, greater exposure to stigma exacerbates individuals' emotion dysregulation (e.g., difficulty enhancing positive feelings or reducing negative ones), social and interpersonal problems (e.g., feelings of isolation and isolative behaviors), and maladaptive cognitive processes (e.g., reduced cognitive capacity to de-catastrophize or distance from negative emotions). According to PMF, emotion regulation comprises strategies individuals use to influence (increase, maintain, or decrease) specific components of their own emotional response. For instance, after learning about the Pulse Nightclub Shooting, an individual may feel both devastated by the harm done to others and grateful for the people who support and protect them. An emotionally regulatory response would involve modulating the negative feelings and reinforcing the feelings of gratitude and support. However, stress taxes an individual's personal resources and so reduces their capacity to effectively increase adaptive emotional responses and decrease maladaptive responses (Parra & Hastings, 2018). Social and interpersonal processes

within PMF capture proximal stressors as proposed in Meyer's minority stress model: expectations of rejection, concealment, and feelings of otherness and isolation (Hatzenbeuhler, 2009; Meyer, 2003). Finally, as stigma and stress wear on an individual's resources, the individual is more likely to have cognitions based in hopelessness and helplessness (Beck, 1993; Hatzenbeuhler, 2009).

In the present study, I assessed whether exposure to a vicarious minority stressor activates these processes. Specifically, in the first part of this study (see figure 1), I examined whether participants in the exposure group (who read a passage involving SGM-specific violence) exhibit greater emotion dysregulation, greater isolative interpersonal style, and less cognitive processing in their written reflections on the stressor, as compared with participants in the control group (who read a passage involving violence that is not specific to one's SGM identity). I review these hypotheses below.

Emotion regulation. As discussed above, emotion regulation is one proximal stress process affected by stigma and stress around an individual's identity. For example, one commonly studied form of emotion dysregulation is rumination: a maladaptive strategy in which one repetitively focuses on one's symptoms of distress (Hatzenbuehler, 2009; Kaufman et al., 2017; Schwartz et al., 2016). While rumination has often been studied using a rumination self-report scale (Hatzenbeuhler, 2009; Schwartz et al., 2016), in the current study I attempted to capture some of these processes through a more objective measure of linguistic styles in youths' reflections on stressful passages. Because rumination is characterized by a focus on one's distress, I considered the frequency with which SGM youth use negative emotion words as they reflect on a vicarious minority stressor. Negative emotion words are commonly studied in journaling and reflection studies in this way (Edwards et al., 2020; Lyons et al., 2018; Robertson

et al., 2021; Tackman et al., 2019). Additionally, I examined change in participants' affect before and after exposure to the stressor. Those with greater emotion regulation may modulate their negative reactions and so exhibit smaller change in affect in response to a stressor.

A minority stressor inflicted on someone who shares the identities of the participant may illicit more personal feelings of distress than a general stressor. Indeed, a recent study found that SGM youth exhibited greater emotional reactivity when reflecting on a personal experience of discrimination than their cisgender, heterosexual counterparts (Smith et al., 2020). Similarly, one experimental study found that SGM participants were more emotionally reactive to reading about an SGM-directed hate crime than to a similar, general stressor (Paterson et al., 2019). For this reason, I hypothesize that participants exposed to a vicarious minority stressor will use more negative emotion words and exhibit a greater change in affect, relative to participants exposed to a general stressor.

Social and interpersonal processes. Minority stress models emphasize the role of social and interpersonal processes in responding to minority stressors. They posit that in response to identity-related rejection and stigma, SGM individuals feel more alone, different from others, motivated to conceal their identities, and expectant of future rejection (Hatzenbuehler, 2009; Meyer, 2003). An important linguistic marker of social isolation may be the more frequent use of self-reference words (e.g., the use of "I" words), which have been studied extensively in the mental health literature (Fineberg et al., 2016; Hargitai et al., 2007; Li et al., 2014; Lyons et al., 2018). The use of self-reference words to measure isolation comes from social integration theory: as individuals distance themselves from the sources of their pain (often interpersonal in nature) and withdraw from social relationships, they become more self-oriented (Stirman & Pennebaker, 2001).

A similar maladaptive process may occur among SGM young people exposed to vicarious minority stressors. Individuals who experience an overload of stigma related to their identity may feel and become more isolated. For this reason, I hypothesize that participants exposed to the vicarious minority stressor will use more self-reference words than those exposed to a general stressor.

Cognitive processes. According to minority stress models, greater levels of stress require energy to cope with and so may reduce an individual's cognitive bandwidth to engage in more adaptive cognitive processes (e.g., reality testing, "It feels bad right now, but it's not all bad"; Beck et al. 1993; Hatzenbeuhler, 2009). Indeed, widely accepted cognitive-behavioral models suggest that feelings of hopelessness and helplessness stem from overly simplified and generalized negative cognitions (e.g., overgeneralizations, "this always happens," or personalization, "this happened because I deserve it"); the aim of cognitive-behavioral therapy therefore is to enhance cognitive complexity when dealing with negative emotions (Beck et al.,1993). Evidence supports the need for mental resources to cope with stressors (Parra & Hastings, 2018). In contrast, greater use of cognitive "distance," or more complex cognitive reasoning, has been found to protect against affective change and depressive thoughts in the face of stressors (Cohn et al., 2004; Jones et al., 2016; Margola et al., 2010).

Simply put, the difference between low cognitive distance and high cognitive distance is the difference between the statements, "The world hates gay people" and "Some people think being gay is wrong, but others understand that we are born that way." The first statement is overgeneralized and likely to elicit a more negative reaction. The second statement uses cognitive reasoning words such as "think" "but" and "understand," which facilitate a more nuanced understanding. As explained above, however, cognitive reasoning requires mental

resources, which may be depleted by the more personal stress that comes with minority stressors. Therefore, I expect that participants exposed to the vicarious minority stressor will use fewer cognitive reasoning words than those exposed to a general stressor.

Part 2: Pathways of Minority Stress

Thus far in this chapter, I have presented the theoretical and empirical foundation for part 1 of the current study, in which I assessed whether participants exposed to a vicarious minority stressor will exhibit greater proximal minority stress processes than those exposed to an identity-irrelevant stressor. Findings to part 1 of the study may provide evidence for vicarious minority stress as a factor in traditional minority stress models. In part 2 of the current study, I considered pathways of minority stress (see figure 2). Among those who were exposed to the vicarious minority stressor, do their processing styles explain the association between minority stressors and protective factors and mental health outcomes? In this part of the study, I used a correlational design to consider whether past experiences of minority stress and protective factors predict proximal stress reactions to the vicarious minority stressor read by the participants, and whether these, in turn, predict mental health outcomes.

Vicarious Minority Stress and Mental Health Outcomes

In this study, I assessed associations between vicarious minority stress and mental health outcomes, namely depressive symptoms. Minority stress models provide a general pathway by which minority stress leads to mental health outcomes. Chronic stress, in this case minority stress, wears on the mind and body, reducing an individual's capacity to cope effectively with subsequent stressors (Meyer, 2003; Hatzenbeuhler, 2009; Parra & Hastings, 2018). Over time, these stressors and maladaptive coping compound to result in greater risk for mental health challenges such as depressive symptoms (Meyer, 2003; Sroufe, 2013; Zuckerman, 1999).

Further, repeated encounters with stigma at multiple levels (e.g., interpersonal bullying, homophobic school policies, etc.) can accumulate to become what scholars have recently termed traumatic invalidation, leading to increased risk of mental health challenges (Cardona et al., 2021). According to a recent review, depression is one of the most studied outcomes in the context of minority stress (Mongelli et al., 2019).

Given the evidence I reviewed above, I hypothesized that vicarious minority stress would behave in a similar manner as direct minority stressors. If this relationship does exist, it would further be necessary to understand the pathways by which vicarious minority stress may bring about distress to SGM young people. Understanding these pathways is essential to enhancing resilience and well-being among young people who are exposed to vicarious minority stress. Indeed, more recently minority stress models have been used to consider within-group differences in depressive symptoms (Cardona et al., 2021; Fulginiti et al., 2021; Salerno et al., 2022), suggesting that minoritized individuals who face more identity-related stress may have more negative outcomes than those who face less identity-related stress. For this reason, I hypothesize that participants who report greater levels of identity-related stress will also report greater mental health challenges.

Proximal Stressors as Mediators

In part 2 of the current study, I considered proximal stressors as mediators of the association between past experiences of identity-related stress and mental health outcomes. As established above, the association between identity-related stress and mental health is well-documented. In part 2, I considered whether proximal stress reactions to a vicarious minority stressor mediates the association between previous experiences of minority stress and mental health outcomes. Below, I review the proximal stressors I considered in this study (emotion

regulation, social and interpersonal processing, and cognitive processing) with regard to how they may mediate the association between minority stress and mental health outcomes.

Emotion Regulation

According to minority stress models, including PMF, greater levels of stress wear on an individual's capacity to cope with additional stress. In a longitudinal study, rumination mediated the association between sexual minority status and psychological outcomes (Hatzenbeuhler et al., 2008). Further, these models are supported by neurobiological studies, which corroborate how stress responses are dysregulated by chronic stress activation (Parra & Hastings, 2018). Support also comes from the microaggressions literature, whereby those who have experienced more microaggressions exhibit greater emotional reactivity to subsequent microaggressions, in turn leading to psychological distress (Kaufman et al., 2017; Livingston et al., 2020). Given this evidence, I hypothesize that negative emotions words and affect change from reading about a vicarious minority stressor will mediate the association between previous experiences of minority stress and mental health outcomes.

Social Isolation and Self-reference

Extensive evidence supports the role of socially isolative processes in mediating the relationship between minority identity and negative mental health outcomes (Baams et al., 2018; Barnett et al., 2019; Branstorm & Pachankis, 2021; Choo et al., 2022; Felner et al., 2020; Frost & Bastone, 2008; Newwheiser & Barreto, 2014; Newheiser et al., 2017; Pate & Anestis, 2020). Indeed, socially isolative language has been associated with mental health outcomes among SGM populations (Newell et al., 2018). More specifically, gay men who report high levels of chronic and acute stress, as well as depressive symptoms, also use greater self-reference (Newell et al., 2017). Some evidence suggests that greater self-reference is also associated with anxiety

symptoms (Fast & Funder, 2010) and with worsening symptoms following a traumatic experience (Hoyt & Pasupathi, 2008). Further, the link between increased self-reference and mental health outcomes has been strongly supported as a predictor of depression and suicide (Fineberg et al., 2016; Hargitai et al., 2007; Li et al., 2014; Lyons et al., 2018).

Previously in this chapter, I presented evidence supporting my hypothesis that encountering an instance of minority stress may induce socially isolative processes. Here, I suggest that this process compounds over time, leading to more chronic social isolation, as well as negative mental health outcomes (Baams et al., 2018; Barnett et al., 2019; Stirman & Pennebaker, 2001). Therefore, I hypothesize that self-reference words in response to a vicarious minority stressor will mediate the association between previous minority stress and mental health outcomes.

Cognitive Processing

Cognitive processing may also play an integral role in minority stress and mental health among SGM youth. PMF suggests that minority stress may lead to cognitive appraisals of hopelessness (e.g., “The world is bad”) and helplessness (e.g., “I can’t change it”), through a combination of negative, stressful experiences and reduced cognitive bandwidth to grapple with these experiences (Hatzenbeuhler, 2009). Hopelessness is a well-supported mediator of the association between minority stress and mental health outcomes (Fulginiti et al., 2021; Hirsch et al., 2017) while self-efficacy to overcome stressful experiences is an important protective factor for mental health outcomes (Poteat et al., 2020). Similarly, cognitive processing and re-appraisal is a fundamental component of cognitive-behavioral therapy to reduce depression, anxiety, and post-traumatic symptoms (Kazantis et al., 2018; McCartney et al., 2021). Given this evidence, I

expect that use of cognitive words in response to a vicarious minority stressor will mediate the association between previous minority stress and mental health outcomes.

Protective Factors against Vicarious Minority Stress

Above I describe hypothesized antecedents that may exacerbate proximal minority stress processes. It is equally important, however, to consider previous experiences that may reduce youth's proximal minority stress processes in response to a vicarious minority stressor. These negative predictors of proximal minority stress may be particularly important to inform prevention and intervention efforts. I spend the rest of the chapter positioning resilience in my model as a protective factor against minority stress.

Defining Resilience

Resilience may be understood as positive adaptation in the face of adversity (Herrman et al., 2011). Importantly, whereas early researchers considered resilience as a static, personal trait (e.g., a person was either characterologically "resilient" or not), contemporary scholars add that resilience has a dynamic and systemic dimension. That is, resilience is an interactional process of adjustment to one's environment, and it may derive from various supportive systems, including peer and family support, community factors, and policy (Herrman et al., 2011). Today, the resilience literature comprises personal and biological factors of resilience, such as one's personality, identity, and propensity for stress response, as well as environmental and systemic factors such as social support, schools, community, and opportunities for positive development such as sports, arts, and advocacy (Herrman et al., 2011).

Resilience in the SGM community

Resilience may be particularly important for SGM young people, who face additional adversity such as family rejection, school victimization, and community stigma, which may have

implications for their development (Freitas et al., 2017; Kwon, 2013; Zeeman et al., 2017). Systematic reviews suggest that research on resilience in the SGM community is inconsistent in its definition and measurement of resilience, and consequently in associated outcomes, largely due to focus on personal traits rather than environmental and systemic sources of resilience (Colpitts & Gahagan, 2016; Freitas et al., 2017). However, evidence does suggest that social and community support have important protective associations among SGM young people against adversity (Colpitts & Gahagan, 2016; Marx & Kettrey, 2016). Seeking and establishing supportive social contexts, developing a positive sense of identity, and engaging in activism and resistance of harmful messages have all been found to be socially-based sources of resilience for SGM young people in qualitative studies (Asakura, 2016; DiFulvio, 2011; Schmitz & Tyler, 2019; Scourfield et al., 2008), as well as studies considering the potentially protective role of family and school cultures around SGM issues (Poteat et al., 2016; Parodi et al., 2022). SGM resilience frameworks also note that explicit social support of SGM identity and supportive contexts that accept all aspects of identity are particularly important for SGM young people's positive development (Kwon, 2013).

Resilience in Minority Stress Models

The evidence presented above reflects much of the theory in minority stress models on resilience. Minority stress models emphasize the communal nature of resilience: while they recognize that personality and genetic factors may play a role, they note that community resources are particularly important to the resilience of SGM people (Hatzenbeuhler, 2009; Meyer, 2003; Meyer, 2015). Community may be understood as both tangible resources (e.g., LGBT Resource Center, GLSEN, Gender-Sexuality Alliance) and intangible resources (e.g., like-minded peers/mentors, or peers/mentors with a shared identity, with whom to commiserate,

support, and reframe experiences; Meyer, 2003; Meyer, 2015). Community, according to minority stress models, affords the opportunity to develop a positive SGM identity, to connect with others around SGM identity and SGM identity-related experiences, to re-appraise stressful, negative experiences of minority stress into stories of strength and resilience, and to organize and resist oppressive societal forces (Meyer, 2015). For this reason, I considered two sources of resilience in the current study: identity affirmation, which is the identity-specific social support an individual receives, and critical consciousness, which is the community-oriented awareness and resistance of oppressive societal forces.

Identity Affirmation

Identity affirmation is the degree to which SGM young people perceive their SGM identities to be supported and praised by others (Busby et al., 2020; Haas & Lannutti, 2021; Verelli et al., 2019). Evidence strongly suggests that social support of SGM identity from peers, family, and community is an important protector against the deleterious effects of minority stress across a myriad of outcomes (Busby et al., 2020; Haas & Lannutti, 2021; McConnell et al., 2018; McLemore, 2018; Verelli et al., 2019). Sexual identity affirmation has been associated with positive identity development and psychological well-being (Bridges et al., 2020; Ghavami et al., 2011). In fact, identity affirmation has been considered a mechanism by which those with minority identities may achieve psychological well-being (Ghavami et al., 2011). Similarly, gender identity affirmation by loved ones, peers, community, and healthcare providers has been linked to positive identity development and well-being (Glynn et al., 2016; Nuttbrock et al., 2012; Pullen Sansfacon et al., 2020; Sevelius, 2013).

There has been less focus on the association between identity affirmation and intrapsychic factors such as processing styles and affect change. However, a youth who has

received consistent identity-related support may be more likely to modulate their emotional reaction than one who has perceived a dearth of identity-related support (Parra & Hastings, 2018). Thus, a stress response may be activated less intensely and for less duration, allowing greater bandwidth for the young person to engage in adaptive processing and emotion regulation. This is aligned with minority stress models, in which more experiences of stress result in greater reactions to stress over time (Hatzenbeuhler, 2009; Livingston et al., 2020). Therefore, I hypothesize that identity affirmation will predict less proximal stress processing (e.g., less affect change, fewer negative emotion words, less self-reference, more cognitive reasoning words). I expect that identity affirmation will be indirectly associated with mental well-being via these proximal stress processes.

Critical Consciousness

Critical consciousness is the awareness and resistance of oppressive societal forces (Diemer et al., 2016). Critical consciousness is a well-developed theory, made famous by Brazilian educator Paulo Freire's liberational work on how marginalized populations understand and respond to oppression. Critical consciousness comprises three components: critical awareness, critical motivation, and critical action (Diemer et al., 2016). Critical awareness is the knowledge of, and ability to recognize, oppressive societal forces (e.g., endorsing that "poor people have fewer chances to get ahead"). Critical motivation is the sense of self-efficacy and drive to resist oppressive forces (e.g., endorsing that "it is my responsibility to get involved and make things better for society"). Finally, critical action is the active resistance of oppressive forces, such as through activism (e.g., participating in civil rights groups, political demonstrations, or otherwise creating social change). Below, I consider how each of these components may be related to SGM young people's response to a vicarious minority stressor.

Although the aim of critical consciousness is primarily empowerment and action, increasing attention has been given to the role of critical consciousness in mental health and well-being among marginalized young people (Cadenas et al., 2021; Chan & Mak, 2020; Diemer et al., 2021; Harper et al., 2022). Emerging evidence supports the association between critical consciousness and positive outcomes for young people, including grit and academic performance (Cadenas et al., 2021). Further, empirical evidence suggests that higher critical consciousness is associated with lower levels of internalized oppression (negative attitudes toward one's own marginalized identities) and internalized domination (negative attitudes toward another's marginalized identities), both of which are associated with negative outcomes (Chan & Mak, 2020). Critical consciousness is also associated with higher self and collective efficacy to resist societal challenges (Chan & Mak, 2020). Recent work suggests that incorporating critical consciousness into health and mental health interventions may improve outcomes for minoritized individuals (Harper et al., 2022).

While critical consciousness was originally conceptualized as a means for racial/ethnic minorities and economically disadvantaged individuals to become aware of and resist oppression, recent scholarship has increasingly considered it in the context of sexual and gender minorities (Burson & Godfrey, 2020; Chan & Mak, 2020; Godfrey & Burson, 2018; Ibrahim et al., 2022; Poteat et al., 2020). Indeed, scholars have posited critical consciousness as a theory of sociopolitical development that has the potential to integrate disparate research on experiences and outcomes across minoritized groups (Burson & Godfrey, 2020). Below, I consider how each of these components may be related to SGM young people's response to a vicarious minority stressor.

Critical awareness. Critical awareness is the ability to recognize oppressive forces. Someone with high critical awareness would recognize the structural ways in which marginalized groups face barriers to economic and psychological well-being. Critical awareness may be conceptualized as the starting point of critical consciousness. Freire uses the term "conscientization" to refer to the process of becoming aware of systemic injustice (Yep, 1998); one must be conscious of these forces before one can resist them. Critical awareness was found in one study to predict lower levels of internalized oppression (e.g., stigma against one's own identity) and lower levels of internalized domination (e.g., stigma against another's identity), both of which are associated with negative mental health outcomes (Chan & Mak, 2020). This is precisely the mechanism by which one might expect critical awareness to protect against harmful effects: awareness of the source of oppression as outside of oneself may protect a young person from internalizing stigmatized messages.

In the current study, a participant who reports higher critical awareness may be able to protect oneself from the exposure to a vicarious minority stressor by recognizing that identity-directed violence is a reflection of society's pathology, not of their own. In this way, critical awareness may allow for less emotion dysregulation by empowering the individual to focus on the external source of the violence rather than on one's own distress. It may allow the youth to understand who may be dangerous to them and who may be safe, thus protecting them from isolating. Finally, because the youth with high critical awareness is likely to understand the violence from a critical lens, they will likely use more cognitive reasoning words in their response. Essentially, for those with greater critical awareness, the vicarious minority stressor may *hit less close to home*. For this reason, I expect that participants who report greater levels of critical awareness will use more adaptive processing styles and report less affect change. Further,

I hypothesize that greater critical awareness will indirectly predict mental health via processing styles and affect change.

Critical motivation. Critical motivation is the belief in one's own ability to combat oppressive forces, and in the value of doing so. More simply, people with high critical motivation believe that they can and should enact change. A recent systematic review of critical consciousness and well-being among young people found that studies most consistently supported the association between critical motivation and mental well-being, of all three components (Maker Castro et al., 2022). The authors of this review posit that this may be expected, as critical motivation is a form of empowerment that is often associated with well-being (Chan et al., 2021; Maker Castro et al., 2022). A youth who feels more empowered may be less likely to focus on their negative emotions and so use fewer negative emotions words and exhibit less affect change. A youth who feels more empowered may also be less likely to feel isolated in response to stress and so use fewer self-reference words. Finally, a youth with higher critical motivation may be more likely to maintain cognitive distance rather than becoming consumed and overwhelmed by the stress. Thus, I hypothesize that participants who report greater levels of critical motivation will utilize more adaptive processing styles and report less affect change. I expect that critical motivation will indirectly predict mental health via processing styles and affect change.

Critical action. Critical action is the resistance of oppressive forces through action. Some examples of critical action may include attending a protest or political demonstration or campaigning on any level (local or national) against anti-LGBT legislation. Evidence suggests that activism can be particularly beneficial for the well-being of marginalized youth, particularly for SGM youth of color and gender minority youth (Frost et al., 2019). Indeed, in a recent study,

collective action negatively moderated the association between perceived discrimination among sexual minority individuals and depressive symptoms (Chan & Mak, 2021).

SGM adults report that they feel more empowered and more connected to the SGM community when they are actively engaged in advocacy (Leviit et al., 2009). Advocacy is also associated with sociopolitical self-efficacy among SGM youth (Poteat, Godfrey et al., 2020). This efficacy includes ability to describe and talk about issues of social justice (Poteat et al., 2020). For these reasons, individuals who report high levels of critical action may be less likely to focus on their negative emotions and exhibit negative emotional reactions in response to the stress the face in the context of advocacy. They may also be less likely to feel isolated and so use fewer self-reference words. Finally, youth who engage in more advocacy may be more likely to respond to vicarious minority stress with cognitive reasoning. For these reasons, I hypothesize that participants who report greater levels of critical action will utilize more adaptive processing styles and show less affect change in response to a vicarious minority stressor. Further, I expect that greater levels of critical action will indirectly predict mental health via processing styles and affect change.

Summary

While extensive evidence supports the association between direct experiences of stigma and prejudice and mental health outcomes, and new evidence suggests a similar link with structural stigma such as discriminatory policies, fewer studies have considered the role of distal and indirect stressors (vicarious minority stressors), such as learning about stigma or prejudice enacted against someone who shares the individual's identity in a different community. I considered these vicarious minority stressors in the current study. Specifically, I considered

SGM young people's responses to reading about and reflecting on an act of violence against a person who shares their sexual and gender identities.

In the current study, I tested two models. First, I utilized an experimental design in which some participants read a passage describing an act of violence against an individual who shares their sexual and gender identities, whereas others read a passage describing the same act of violence against an individual who does not share their sexual and gender identities. I assessed whether the participants who are exposed to the vicarious minority stressor utilized less adaptive processing styles (e.g., greater affect change, more negative emotion words, more isolative language, less cognitive language). I hypothesized that participants in the exposure group will be exposed to an additional minority stress above and beyond the general stress of reading about an act of violence; thus, I expected they would utilize less adaptive processing styles. This result would provide evidence for the role of vicarious minority stressors in minority stress processes.

In the second model, I utilized a correlational design to assess predictors of processing styles in response to the vicarious minority stressor. I also assessed whether processing styles mediate the association between SGM risk and protective factors and mental health outcomes. Based on the literature reviewed here, I hypothesized that individuals with a history of greater minority stress, and lower levels of identity affirmation and critical consciousness, would utilize less adaptive processing styles. I expected that less adaptive processing styles, in turn, would predict worse mental health outcomes. Below are my research questions and hypotheses:

Research Question 1: Will SGM participants who are exposed to a vicarious minority stressor exhibit less adaptive processing styles (e.g., greater affect change, more negative emotions words, more isolative processing, less cognitive processing) than participants who are exposed to a similar, identity-irrelevant stressful passage?

Hypothesis 1: I hypothesized that SGM participants who are exposed to the identity-relevant stressful passage will use less adaptive processing styles (e.g., greater affect change, more negative emotions words, more isolative processing, less adaptive cognitive processing) than participants who are exposed to the identity-irrelevant stressful passage.

Research Question 2a: Among participants in the exposure group, will participants who also reported greater exposure to SGM risk factors (e.g., sexual identity stress, gender identity stress) and less exposure to protective factors (e.g., identity-specific affirmation, and critical consciousness) use less adaptive processing styles (e.g., greater affect change, more negative emotions words, more self-reference words, fewer cognitive processing words) in response to the exposure passage than participants who report fewer risk factors and greater protective factors?

Hypothesis 2a: Among participants in the exposure group, participants who report greater SGM risk factors and fewer protective factors will use less adaptive processing styles in response to the exposure passage than participants who report fewer risk factors and greater protective factors.

Research Question 2b: Among participants in the exposure group, will processing styles in response to a vicarious minority stressor mediate the association between SGM risk and protective factors and depressive symptoms?

Hypothesis 2b: I hypothesized that processing styles will mediate the association between SGM risk and protective factors and depressive symptoms.

I also attempted to replicate the original PMF model using the self-report rumination and emotion reactivity scales often cited in the PMF literature (Hatzenbeuhler, 2009) in order to add rigor to the current findings and shed light on how the new measures utilized in the current study may capture novel aspects of the minority stress process.

The current study contributes to the existing literature in several important ways. First, significant results in model 1 would suggest that vicarious minority stressors play a role in exacerbating minority stress processes. Second, significant results in model 2 would provide evidence that PMF could be extended to vicarious minority stressors. Further, the current study used several novel approaches to studying minority stress. Few studies have utilized an experimental design to assess minority stress-induced mood changes. Whereas one experimental study determined that distraction was more effective than rumination in attenuating mood change after a discriminatory stressor, the distraction and rumination groups were experimentally manipulated and so did not provide the opportunity to assess how these strategies related to individuals' real-world tendencies (Hatzenbeuhler et al., 2009). Further, most studies of minority stress processes using PMF rely on self-report measures of emotion reactivity and rumination; in contrast, I utilized linguistic analysis software to measure the language of participants' written responses to the stressor in order to assess processing styles more objectively. Significant findings, therefore, would not only extend the existing literature by considering vicarious minority stressors, but they would also provide additional support for PMF and minority stressors by utilizing novel, objective measures of participants' real-time responses to a stressor. Finally, I am not aware of other studies that have considered how identity affirmation and critical consciousness inform how young people process events. These findings could shed led light on mechanisms by which these constructs could be beneficial for SGM young people's well-being.

Chapter 3

Methods

The current study examined the role of a vicarious stressor on minority stress processes and mental health outcomes among SGM youth. In part 1 of the study, I used an experimental design to assess whether a vicarious minority stressor elicits stronger minority stress responses and affect change, as compared with an identity-irrelevant stressor. In part 2, I considered these processes in the context of previous minority stress experiences and current mental health outcomes among participants. Specifically, I considered whether minority stress experiences, as well as protective factors such as identity affirmation and critical consciousness, were associated with mental health outcomes, and whether these associations were mediated by minority stress processes and affect change in response to a vicarious minority stressor.

Recruitment

Participants were recruited online using social media sites including Facebook, Instagram, and Reddit, as well as the data collection platform, Prolific. Facebook, Instagram, and Reddit constituted popular social media outlets with cost-effective avenues for research dissemination that allowed for broad targeting of participants of certain ages and demographics. Prolific was added during the data collection process in order to allow for more targeted sampling in terms of sexual, gender, and racial identities in order to ensure an appropriately diverse sample. Participants were recruited between April and July 2023. The sampling strategy was convenient in that participants exposed to the survey ad were able to opt in, but it was targeted in that the ad was directed toward participants of relevant demographic identities. Online recruitment of SGM participants is recommended to obtain more representative samples of SGM young people in particular, as they are a “hidden population” that is hard to target in-

person and that presents unique challenges to in-person data collection (such as not being able to collect data in politically unsafe regions and the risk of outing participants; Schrager et al., 2019). Furthermore, the vast majority of young people use the internet daily (over 92%), and this figure is even higher among SGM young people (Schrager et al., 2019).

Participants were required to be between the ages 18 and 26. Young people at this age are at a formative time of development, during which they become increasingly independent, establish long-lasting social connections, explore more explicitly their moral development, expand and solidify their worldviews and social identities, and engage with sociopolitical news and world events (Erikson, 1968; Flanagan, 2013; Yates & Youniss, 1998). Further, youth in the later stages of adolescence and young adulthood have more developed cognitive processing and affect modulation processes (Yurgelun-Todd, 2007). This is conducive to capturing the processes of interest in the current study and may result in greater variation in these constructs than at earlier developmental periods. For similar reasons, the primary outcome measure (Linguistic Inquiry Word Count (LIWC) quantitative text analysis) may be more appropriate for older adolescents and young adults, who may tend to write more, and more complexly, in their reflections (Jones et al., 2019; Mustanski, 2011; Schrager et al., 2019).

The current study focused on SGM young people. Participants who self-identified as both heterosexual and cisgender were not eligible. Participants who self-identified with a sexual minority identity (gay, lesbian, bisexual, pansexual, asexual, or queer) AND/OR a gender minority identity (transgender man, transgender woman, non-binary, gender fluid, genderqueer, agender) were eligible to complete the survey. The inclusion of sexual and gender minority youth in the current study aligns with the literature on minority stress models, which posit similar pathways of stress for sexual minority and gender minority young people (Cardona et al., 2022;

Goldbach et al., 2014; Tan et al., 2019). This design also addresses a paucity of literature on gender minority stress and mental health (Puckett et al., 2016; Testa et al., 2015). Descriptive statistics of participants by sexual, gender, and racial identities are included in Table 1. Because some of the concepts measured in the linguistic analysis are difficult to validate across languages, and because manual coding was conducted by an English-speaker, the survey was available in English only; thus, participants were English-speaking SGM young people. Participants were recruited through online advertisements to SGM individuals living in the United States.

Participants completed two surveys. Participants completed the time 1 survey on Qualtrics and received a $10 Amazon Gift Card, or a $10 donation to one of several charity options, following completion of this survey. All participants who completed the time 1 survey received a follow-up email with the second survey approximately 2-3 weeks following completion of the first survey. Participants were entered into a raffle to win one of ten $100 Amazon Gift Cards for completion of the second survey. Participants who completed the time 1 survey were excluded if they failed any of three attention check questions throughout the survey, and if their written personal reflection exhibited any nonsensical qualities (e.g., unrelated to the prompt, jumbled words, copied and pasted pieces from the prompt), or who had multiple responses from the same IP address (Storozuk et al., 2020). Twenty-four participants from the exposure group were also excluded from the analyses because their open responses suggested they assumed the subject of the passage shared their SGM identities (when in fact the subject was heterosexual and cisgender). Further elaboration on the reasons and implications of this decision are included in Appendix D.

Participants

A total of 1,100 people navigated to the first page of the survey, of which 575 were eligible for the study and completed it meaningfully. Of these, 401 (69.%) completed the time 2 survey as well, with approximately 31% attrition. A total of 296 participants were recruited via Prolific and 303 participants were recruited via other social media outlets. Overall, with regard to sexual orientation, 19.87% of participants identified as gay, 15.19% as lesbian, 41.07% as bisexual, 1.17% as heterosexual, 8.35% as pansexual, 5.01% as asexual, and 9.35% as queer. Regarding gender identity, 36.06% identified as men, 44.91% as women, 10.35% as non-binary, 5.18% as genderqueer, 2.67% as gender fluid, and 0.83% as agender. Regarding transgender identity, 60.60% identified as cisgender, 30.55% identified as transgender, and 8.85% were questioning. With regard to racial identity, 47.13% identified as White, 20.27% as Black, 6.59% as Asian, 10.14% as Latinx, 14.85% as multiracial, 1.01% as Native American, and 1.01% as "other." Finally, 17.57% of the sample reported that their most highly educated parent had a high school education or less, 52.88% reported that their parents had less than a four-year college degree, 33.28% reported that their parents had a four-year college degree, and 13.85% reported that at least one of their parents had advanced degrees.

It is notable that the Prolific sample differed from the sample of participants from other social media outlets in terms of sexual identity ($X^2 = 120.33$, $p < 0.001$), gender identity ($X^2 = 57.74$, $p < 0.001$), transgender identity ($X^2 = 65.10$, $p < 0.001$), socioeconomic status ($X^2 = 49.69$, $p < 0.001$), and racial identity ($X^2 = 68.94$, $p < 0.001$). In terms of sexual identity, Prolific participants were more likely to identify as bisexual (OR = 9.00, $p < 0.001$), pansexual (OR = 14.78, $p < 0.001$), asexual (OR = 9.33, $p < 0.001$), and queer (OR = 6.22, $p < 0.001$). Regarding gender identity, Prolific participants were more likely to identify as women (OR = 2.81, $p < 0.001$) and non-binary (OR = 3.72, $p < 0.001$). Regarding transgender identity, Prolific

participants were less likely to identify as transgender (OR = 0.21, $p < 0.001$). Regarding socioeconomic status, Prolific participants generally reported higher levels of parental education (b = 0.64, $p < 0.001$). Regarding racial identity, Prolific participants were more likely to identify as Black (OR = 1.91, $p = 0.003$), Asian (OR = 6.94, $p < 0.001$), Latinx (OR = 2.88, $p < 0.001$), and multiracial (OR = 5.94, $p < 0.001$). Prolific participants also reported lower levels of identity affirmation ($M = 1.56$, $SD = 0.030$; $M = 2.43$, $SD = 0.032$; $t(573) = 19.67$, $p < 0.001$, $d = 1.64$), lower levels of minority stress ($M = 1.38$, $SD = 0.026$; M = 2.26, $SD = 0.37$; $t(575) = 19.58$, $p < 0.001$, $d = 1.63$), and lower levels of critical consciousness ($M = 4.31$, $SD = 0.050$) than those recruited from other outlets ($M = 4.53$, $SD = 0.054$; $t(575) = 3.13$, $p < 0.001$, $d = 0.26$).

There were no significant differences in racial identity, gender identity, transgender identity, socioeconomic status, critical consciousness levels, identity affirmation levels, or minority stress levels between the exposure group and the control group. However, there was a significant difference in sexual identity between the groups, with exposure group participants being less likely to identify as bisexual (OR = 0.45 $p = 0.005$), heterosexual (OR = 0.18, $p = 0.03$), or agender (OR = 0.36, $p = 0.022$) than as gay. Because participants were randomized to exposure and control groups and reported their sexual identity before being assigned to a group, these differences are presumably due to statistical anomaly. Notably, heterosexual participants and agender participants accounted for a very small portion of the overall sample (1.22% and 5.22% respectively).

Demographic descriptive data are included in Table 1. There were no significant differences in critical consciousness, socioeconomic status, cisgender vs. transgender identity, or control vs. exposure group assignment between those who completed only the first survey and those who completed both surveys. However, sexual orientation ($X^2 = 43.42$, $p < 0.001$) was

related to attrition. Specifically, lesbian (OR = 0.46, p = 0.006), bisexual (OR = 0.29, p < 0.001), pansexual (OR = 0.18, p < 0.001), asexual (OR = 0.16, p < 0.001), and queer (OR = 0.32, p = 0.001) participants were less likely to attrit than gay participants. Gender identity was also significantly associated with attrition (X^2= 36.99, p < 0.001). Participants who identified as women (OR = 0.41, p < 0.001) and non-binary (OR = 0.27, p < 0.001) were less likely to attrit than male participants. Racial identity was also associated with attrition (X^2= 14.46, p = 0.025). Participants who identified as Latinx (OR = 0.44, p = 0.016) and multi-racial (OR = 0.42, p = 0.004) were less likely to attrit than White participants. Finally, participants from Prolific were also significantly less likely to attrit (OR = 0.13, p < 0.001).

Procedure

The study was administered entirely online via Qualtrics. Online administration allowed for the collection of a larger and more diverse sample than would otherwise have been possible. It also simulated the most likely setting in which young people are exposed to reports of identity-based violence: online news media outlets (Stefanita & Buf, 2021). Following consent to the study, participants were asked about their sexual and gender identities and their current affective state. This was necessary such that these identities could be piped into the exposure passage so the subject of this passage would share the sexual and gender identities with the participant.

Participants were randomly assigned to the exposure condition (n = 402) or the control condition (n = 197). This was created using a simple, weighted random assignment algorithm in Qualtrics to assign two participants to the exposure group for every one participant assigned to the control group. Because participants were recruited individually online, there was no need to adjust for interdependence among participants.

Survey Procedure

Participants assigned to the control group were presented with, and asked to respond in writing to, an identity-irrelevant passage on the mugging of an ostensibly heterosexual man (signaled through a reference to his wife, as heterosexual identity is rarely named explicitly in the news). Importantly, while not all participants would identify equally with the heterosexual man (e.g., a gay cisgender man may share a gender identity with a heterosexual man while a lesbian woman or trans non-binary individual would not), it was important that the subject of the control passage be perceived as part of the "dominant group." Indeed, while a gay cisgender man may have gender in common with the heterosexual man, he may in fact identify and empathize more with a heterosexual woman, as a fellow "subordinated" identity (Paterson et al., 2019; Hoskin, 2019).

Participants assigned to the exposure condition were presented with, and asked to respond in writing to, an identity-relevant passage on the mugging of a young person who shared the participant's sexual and gender identities. In order to maximize salience, the exposure passage was accompanied with a stock image of a Pride flag (to prime identity), while the control passage was accompanied by a stock image of a generic alley (a plausible location for the depicted events; see Appendix A). The passage was piloted in an internal study among psychology researchers and students and was workshopped with approximately 20 researchers to ensure clarity.

Participants were asked to read the passage they were assigned and to take 5 minutes to reflect in writing on the prompt, "Describe your personal reaction to this passage." Participants were provided with a small countdown clock to give them a sense of this timeframe. This procedure was adapted from other studies that have used written mood induction to examine discrimination (Bastian et al., 2011; Smith et al., 2020), which also used personal writing and

similarly open-ended reflection prompts. Written autobiographical reflection has been established as an effective strategy for mood induction (Baker & Guttfreund, 1993). The full passage is provided in Appendix A. Using the demographic information provided at the beginning of the survey, the participant's sexual and gender identities were piped into the passage for the exposure group. Thus, exposure-group participants read about someone who shared their sexual and gender identities. This is important because of many perceived in-groups and out-groups within the SGM community (Zosky & Alberts, 2016).

Following the written reflection, participants were asked to report their current affective state for a second time. Next, participants were given a short (11 seconds), humorous video to reset their mood. A short description and link to this video is provided in Appendix B. This mood reset was also piloted using a group of 20 psychology researchers and students prior to use in the study.

Following the mood reset, participants were asked to complete a series of self-report scales about their experiences of sexual- and gender-identity related stressors, identity affirmation, critical consciousness, and mental health outcomes. The order of these questions was randomized in order to minimize bias from the mood induction as well as bias in attrition and missingness. The stem of identity stressors, affirmation, and critical consciousness measures indicated that participants should reflect on these experiences over the course of the past 6 months. The stem of the mental health measures indicated that participants should reflect on their mental health over the course of the past 2 weeks. These time-references in the stem were bolded to ensure that participants were aware of the difference between these two timeframes. This allowed for some temporal precedence between predictors in the hypothesized model and mental

health outcomes. The average time taken to complete the entire survey was approximately 16 minutes.

Only age, sexual identity, gender identity, and affect were asked of participants before reading and reflecting on their assigned passage. This was done in order to minimize bias of this passage. All other questions were asked following the completion of the mood induction and after the mood reset video.

Participants were sent a second survey with the same survey questions but without the mood induction, 2-3 weeks after completing the first survey. The average time to complete this survey was approximately 12 minutes. Responses on these measures did not differ significantly between time 1 and time 2 surveys within participants, with the exception of critical consciousness, whose mean was higher at time 2 ($M = 4.71$, $SD = 0.043$) than time 1 ($M = 4.41$, $SD = 0.042$; $t(396) = -1.93$, $p = 0.027$, $d = -0.053$). This provides suggestive evidence that the mood induction did not significantly affect participants' responses.

Measures

Below is an explanation of all measures used in the study. All survey measures and their items can be found in Appendix C.

Demographic Information

Youth were asked to report their age, racial/ethnic background (participants checked all that applied: White or European American; Black or African American; Asian or Asian American; Latino/a/x; Bi/Multi-racial; Native American; Middle Eastern/Arab or Arab-American, were participants who reported multiple racial identities were recoded into the "multi-racial" category such that racial categories were mutually exclusive), geographic location (zip code where participant spent the majority of their time), and parents' highest education level

(participants checked one: Less than high school; some high school; high school diploma or GED; some college; associate's degree; bachelor's degree; advanced degree; scored1 to 7).

Youth were also asked to report their sexual and gender identities. For sexual identity, participants were asked which identity BEST described their sexual identity from the options of gay, lesbian, heterosexual, bisexual, pansexual, asexual, and queer. For gender identity, participants were asked which identity BEST described their gender identity from the options of man, woman, questioning, non-binary, gender fluid, genderqueer, and agender. While best practices for asking about sexual and gender identities stipulate asking in a manner that allows participants to pick more than one identity option and allow for open response specification (Baker et al., 2023), participants could only choose one sexual identity and one gender identity, because these responses were piped into the exposure passage. A follow up question asked whether the person identified as transgender (response options were *1* "yes, I identify as transgender," *2* "No" and *3* "Questioning"). This aligns with current best practices around collecting meaningful gender identity information in a manner that is respectful of participants' identities (Baker et al., 2023). Gender identity was piped into the exposure passage using both the gender identity and transgender items. For instance, an individual who reported identifying as pansexual, non-binary, and transgender who was assigned to the exposure group would read about a "pansexual, transgender, non-binary person" who was mugged. A cisgender individual who identifies as a pansexual woman would read about a "pansexual woman." Participants who reported "questioning" whether they identify as transgender did not see the word "transgender" describing the victim in the passage.

LIWC Quantitative Text Analysis

Linguistic Inquiry Word Count (LIWC; Boyd et al., 2022) is a method of text analysis aimed at capturing psychologically meaningful constructs. Most importantly for the purposes of this study, LIWC has been used to identify negative emotions words (e.g., "bad," "hurt," "tired"), first-person singular words (e.g., "I," "me," etc.), first-person plural words (e.g., "we," "our," etc.), and cognitive processing words (e.g., "think," "because," etc.). The entire LIWC dictionary comprises over 12,000 words. Word categories are generated by a team of experts and organized conceptually before being rated by 3-4 judges for their goodness of fit in a category. These categories are then iteratively evaluated for statistical and psychometric validity. Because of high variation in base rates of use of these words, the Kuder-Richardson formula is considered a better measure of internal consistency than Cronbach's Alpha, and all constructs I utilized in the current study have KR scores ranging from 0.78 (self-reference words) to 0.99 (cognitive processing words; Boyd et al., 2022). The LIWC program works by iterating through a piece of writing and counting measures of designated word categories incrementally as it identifies word matches to these categories. The program also counts total words and punctuation. The resulting variable, therefore, is a percentage of total words that fall into the given dictionary (e.g., percent of the participant's entire written reflection that is self-reference words). Before running the LIWC program on the text analysis, I read through written responses and cleaned them to ensure that words were spelled and used correctly and therefore identified accurately by the program. LIWC has been used widely by linguistic and psychology scholars (Boyd et al., 2022; Cohn et al., 2004; Pennebaker et al., 2015; Stirman & Pennebaker, 2001).

Previous studies have used LIWC as a method for analyzing effects of mood inductions and various interventions (Campenni & Hartman, 2020; Fuchs & Taubner, 2019; Hancock et al., 2008; Sloan, 2005). These have included studying the effects of a mindfulness intervention such

as a mandala project on mood, anxiety, and mindfulness (Campenni & Hartman, 2020), considering attachment activation as it relates to mentalization (Fuchs & Taubner, 2019), as well as considering the association of self-focused language with depressive mood (Sloan, 2005), and the effect of studying online readings on emotional processing (Hancock et al., 2008). Importantly, LIWC has been used to study minority stress experiences among SGM individuals (Saha et al., 2019; Karami & Webb, 2020; Kim, 2019; Zhao et al., 2020). A recent study validated the use of LIWC to examine an open response to a minority stress mood induction with sexual minority adults (Seager et al., 2021). Other minority stress mood induction studies have utilized retrospective reflections on an experience of discrimination and analyzed mood change in response to these reflections (Smith et al. 2020). These studies have found significant effects of discrimination on mood change.

LIWC Processing Styles

To assess processing styles, I primarily used Linguistic Inquiry Word Count (LIWC; Boyd et al., 2022; Pennebaker et al., 2015) software. LIWC software includes dictionaries of words related to various constructs. The software uses these dictionaries to count the relative proportion of a participant's written reflection that uses a certain kind of word.

Emotion Regulation. To assess emotion regulation, I used the LIWC dictionary of 744 negative emotion words (e.g., "hurt, ugly, nasty"), which has three subcategories of 116 anxiety words (e.g., "Worried, fearful"), 230 anger words (e.g., "hate, kill, annoyed"), and 136 sadness words (e.g., "crying, grief, sad"). The measure can be understood as the relative proportion of a youth's reflection that utilizes negative emotions words. KR internal consistency of negative emotions words is 0.95, with alphas of 0.80 0.82, and 0.80 for each subcategory respectively, as determined by validation studies conducted by the LIWC developers (Boyd et al., 2022).

Because the LIWC software developed these measures using a vast quantity of linguistic input, and the software calculates these measures as composite scores, it was not possible to calculate internal consistency on these measures within the current study. This measure has been used in the literature on linguistic styles and mental well-being frequently (Lyons et al., 2018; Li & Samp, 2019). Because this score denotes the percentage of the full written passage that constituted negative emotion words, the possible scores ranged from 0 to 100, and actual scores ranged from 0 to 33.3. For the purposes of part 1 analyses, which use zero-inflated beta regressions to predict skewed proportion data, bounded between 0 and 1, and inclusive of 0 and 1, these scores were scaled by a factor of 1/100 to range from 0 to 0.333.

Social Isolation. To assess social isolation, I used the LIWC dictionary for self-reference words, which includes 24 first-person, singular words (e.g., "I, me, mine") and has a KR-20 of 0.85. As above, it was not possible to calculate internal consistency on this individual study, as the LIWC software creates a singular "self-reference words" variable without the 24 single components. This dictionary has also been used frequently in the literature and is rigorously linked to various negative mental health outcomes (Fineberg et al., 2016; Hargitai et al., 2007; Li et al., 2014; Lyons et al., 2018). As with emotion words, possible scores ranged from 0 to 100 and actual scores ranged from 0 to 21.1. These were also scaled by a factor of 1/100 in the part 1 analyses.

Cognitive Processing. Finally, to assess cognitive processes I used the dictionary of 797 cognitive processing words (e.g., "cause, know, ought"). The measure can be understood as the relative proportion of a youth's reflection that utilizes cognitive processing words, or words that are used to express a thought. More specifically, these are words that might be used to show insight (e.g., "know", "think"), to speculate on causation (e.g., "because", "why"), to identify a

discrepancy (e.g., “would”, “could”) or to differentiate ideas (e.g., “but”, “if”). Studies suggest that individuals who are able to process and express their feelings from a more “distanced” cognitive perspective show lower susceptibility to affective change and depressive thoughts in the face of stressors (Cohn et al., 2004; Jones et al., 2016; Margola et al., 2010). The KR-20 for this dictionary is 0.99 (Pennebaker et al., 2015). As above, an internal consistency for this measure within the current study was not possible to calculate. As with the other LIWC variables, possible scores ranged from 0 to 100 and actual scores ranged from 0 to 36.1. These scores were also scaled by a factor of 1/100 to represent a proportion rather than percentage for the purposes of part 1 analyses.

Affect Change. In the current study I measured affect change by asking participants to fill out the Positive and Negative Affect Schedule (PANAS) short form (Thompson, 2007) before and after the mood induction. This is a 10-item scale using the stem, “Thinking about yourself and how you feel right now, to what extent do you feel:” and includes negative items such as “upset” “alert” and “hostile” and positive items such as “determined” “inspired” and “attentive.” Response options range from 1 *Very Little / Not at all* to 5 *Extremely*. Cronbach’s alpha is about 0.82 (Thompson, 2007). Negative and positive affect scales are calculated as the sum of the responses to the five items in each scale, respectively. During the part 1 analyses, affect measured before the mood induction was included in the regression predicting affect measured after the mood induction, thus predicting relative *change* in affect. Modeling post-exposure outcomes and controlling for pre-test is best practice, particularly when there is significant correlation among variables (Betticher et al., 2013; O’Connell et al., 2018). However, due to the setup of the SEM model, in part 2 analyses, a negative affect change score was calculated directly as post-exposure negative affect minus pre-exposure negative affect. This

modeling technique best fits the theory tested in part 2 and should not be expected to have significantly poorer fit than the technique used in part 1, as lagged and change scores generally perform similarly, particularly with larger sample sizes (O'Connell et al., 2018). Change scores were most appropriate to best approximate emotion reactivity to the exposure passage, which is a construct frequently studied in PMF models (Hatzenbeuhler et al., 2009). The Cronbach's alpha for negative affect in this study was 0.87 before the mood induction and 0.86 after. The Cronbach's alpha for positive affect was 0.85 before and 0.86 after, which is comparable to previous studies.

Self-report rumination. Additionally, I included a more traditional measure of maladaptive processing to utilize as a sensitivity analysis for my findings. I included the 5-item brooding subscale of the Response Styles Questionnaire (Treynor et al., 2003) to assess propensity to ruminate. Items indicated how often participants "Think about a recent situation, wishing it had gone better" or "Think 'what am I doing to deserve this?'" Response options ranged from 1 *Almost never* to 4 *Almost always*. This scale is the same one Hatzenbeuhler and colleagues (2009) used in their longitudinal study of rumination through a PMF model. Responses were averaged to create this scale, which had a Cronbach's alpha of 0.80 at time 1 and 0.84 at time 2, which was comparable to the internal consistency found for this measure in other studies (Treynor et al., 2003).

Self-report emotion reactivity. I also included the 21-item Emotional Reactivity Scale (Nock et al., 2008) as a more traditional self-report measure to compare with change in affect when participants are exposed to the stressful passage. This was asked following the mood reset and again in the follow-up time 2 survey. This scale comprises items such as "I experience emotions very strongly" and "I tend to get very emotional very easily." Response options are on

a Likert scale that ranges from 0 *Not at all like me* to 4 *Completely like me*. The Cronbach's alpha for this scale has been 0.94 in prior studies, as tested on an adolescent and young adult population (Nock et al., 2008). In order to ensure a manageable-length online survey for participants, I used the 10 items of this scale with the strongest factor loadings as calculated in Nock and colleagues' study, which uses a sample of adolescents and young adults similar to the expected sample in the current study (Nock et al., 2008). Selecting ten items served to cut the time to complete the scale in half while maintaining enough items to capture variation in responses. Responses were averaged to create the final scale, which had a Cronbach's alpha in this study was 0.93 at both time points, which was comparable to previous studies.

Identity-related stressors. I assessed both sexual identity-related stressors as well as gender identity-related stressors using microaggressions scales. For sexual identity stress, I utilized the Sexual Orientation Microaggression Inventory Short Form (SOMI-SF; Swann et al., 2022). This was asked following the mood reset and again in the follow-up time 2 survey. All participants were asked to complete this scale. The stem was adjusted to ask whether any of these items happened because participants "were, or were perceived to be a sexual minority." This aligns with evidence that homophobic bullying can be directed toward an individual regardless of their actual sexual identity (Poteat & Russell, 2013). This scale has 8 items, including "You were told not to act so gay, butch, queer, etc." and "You were told you were overreacting when you talked about a negative experience you had because of your sexual orientation." Participants are asked to rate how frequently they experienced each micro-aggression in the past 6 months on a 5-point scale: 0 *Not at all*, 1 *A Few Times*, 2 *About every Month*, 3 *About Every Week*, and 4 *About Every Day*. Responses were totaled to create a total composite of the items, which had a Cronbach's alpha for this scale was 0.93 at both time points.

For gender identity stress, I utilized the Gender Identity Microaggressions Scale (GIMS; Nadal, 2018). This was asked following the mood reset and again in the follow-up time 2 survey. Similar to the SOMI-SF, all participants were asked to complete this scale regarding whether these items occurred because they "were, or were perceived as, a gender minority" (Lessard et al., 2020). This scale comprises 14 items, including "A loved one has told me that my gender nonconformity is just a phase" and "Someone avoided sitting next to me in a public or government setting." Participants were asked whether each microaggression had happened to them at least once in the past 6 months. Response options are 0 *No* or 1 *Yes*. Responses were totaled to create a composite scale with a Cronbach's alpha for this scale was 0.91 at both time points. A total composite of items was calculated; higher scores indicate more experiences of microaggressions.

For parsimony, sexual identity stress and gender identity stress were combined into a total composite score that was weighted such that each contributed equally to the score. Specifically, because total scores for sexual identity stress ranged from 0 to 40 (M = 17.65, SD = 8.73) and gender identity stress ranged from 0 to 14 (M = 7.03, SD = 5.36), the latter was scaled to range from 0 to 40 (M = 24.32, SD = 7.66) such that when the two were combined into a total composite score, each score would contribute equally.

Identity Affirmation. I used a modified version of the Accepting LGBTQ Attitudes scale (Eisenberg et al., 2020; Ryan et al., 2020) which assesses 4 positive behaviors and 4 negative behaviors related to LGBTQ identity. I modified the stem, which originally asked "How much/how often does your family…" to include a broader range of social support: "How much/often do people in your life…" Items include positive items such as "Get involved in the larger LGBTQ community" and negative items such as "Say negative comments about you being

an LGBTQ person." Response options ranged from 0 *Never*, 1 *Rarely*, 2 *Sometimes*, to 3 *Often*. Negative experience items were reverse coded. This was asked following the mood reset and again in the follow-up time 2 survey. The Cronbach's alpha was 0.84 at time 1 and 0.87 at time 2. A mean composite score was calculated; higher scores represent greater levels of affirmation.

Critical Consciousness. Participants were asked their level of critical consciousness using several different scales. Critical consciousness was assessed following the mood reset and again in the time 2 survey. To assess their critical motivation, or self-efficacy, I used a modified version of the "critical agency" subscale of the Measure of Adolescent Critical Consciousness, which comprises seven items such as "It is important to fight against social and economic inequality" and "I can make a difference in my community." Response options ranged from 1 *Strongly Disagree* to 4 *Strongly Agree*. The Cronbach's alpha for this scale was 0.91 at both time points. I adjusted items to name "heterosexism and cissexism" in place of "racism and discrimination" in order to make the measure more relevant to the content of the current study.

To assess participants' critical action, I used the "critical behavior" subscale of the Measure of Adolescent Critical Consciousness (McWhirter & McWhirter, 2016), which comprises three items such as "I am involved in activities or groups that promote equality and justice" and "I am involved in activities or groups against heterosexism and cissexism." Response options ranged from 1 *Strongly Disagree* to 4 *Strongly Agree*. The Cronbach's alpha was 0.89 at time 1 and 0.91 at time 2.

In order to measure critical awareness, I used the "perceived inequality" subsection of the Critical Consciousness Scale – short form (CCS-S; Rapa et al., 2020). This scale comprises 3 items, such as "Certain racial or ethnic groups have fewer chances to get ahead." Response options ranged from 1 *Strongly Disagree* to 6 *Strongly Agree*. Cronbach's alpha for this scale

was 0.92 at time 1 and 0.95 at time 2. I altered the items to “Certain sexual minority groups have fewer chances to get ahead” and “Certain gender minority groups have fewer chances to get ahead” in order to ensure the relevance of the construct to the current study. I included all three components as a composite score (averaged across the three components) in the model. This fits with existing literature suggesting that the components of are associated theoretically and empirically (Diemer et al., 2017; Godfrey et al., 2019). This also allowed for the most parsimonious model to test my hypotheses, as the relationship of the components of critical consciousness to each other is beyond the scope of this study.

Depressive symptoms. To assess depressive symptoms, I utilized the 10-item Center for Epidemiological Studies Depression Scale (brief version; Radloff, 1991), which comprises items such as “I felt lonely” and “I felt depressed”. Response options ranged from 0 *Rarely or none of the time (<1 day),* 1 *Some or a little of the time (1-2 days),* 2 *Occasionally or moderate amount of the time (3-4 days),* and 3 *All of the time (5-7 days).* Cronbach’s Alpha for this scale was 0.83 at time 1 and 0.86 at time 2. Higher total scores indicate greater depressive symptoms.

Chapter 4

Results

In this chapter, I review the results of the analyses. First, I examine the descriptives of the variables and differences in the data by demographics. Next, I review part 1 analyses and part 2 analyses. Finally, I describe sensitivity analyses I conducted. Table 1 depicts a breakdown of the samples for part 1 (full sample; N = 575) and part 2 (exposure group, N = 402) respectively, by sexual orientation, gender identity, transgender identity, racial/ethnic identity, socioeconomic status, and age. Table 2 presents the mean, range, and skewness of all continuous variables in the part 1 models and part 2 models respectively. Further, Table 3 depicts correlation coefficients and significance levels for all continuous variables used in part 1 models, and Table 4 depicts correlation coefficients and significance levels for all continuous variables used in part 2 models.

I also tested whether there were mean differences in these variables by identity. An ANOVA revealed that there were significant differences in critical consciousness by gender identity ($\lambda = 0.98$, $F(5, 571) = 2.65$, $p = 0.022$, $h^2 = 0.023$). Post-hoc pairwise comparisons revealed that individuals who identified as non-binary reported higher levels of critical consciousness than those who identified as men ($\Delta = 0.37$, $SD = 0.13$) or women ($\Delta = 0.39$, $SD = 0.13$). An ANOVA also revealed a difference in critical consciousness by parental education ($\lambda = 0.95$, $F(6, 570) = 4.77$, $p < 0.001$, $h^2 = 0.048$). Post-hoc pairwise comparisons revealed that individuals whose parents had graduate degrees reported higher levels of critical consciousness than those whose parents had a 2 year degree of less (less than high school, $\Delta = 0.65$, $SD = 0.29$; some high school, $\Delta = 0.61$, $SD = 0.26$; high school, $\Delta = 0.49$, $SD = 0.14$; some college, $\Delta = 0.40$, $SD = 0.12$; 2 year degree, $\Delta = 0.38$, $SD = 0.15$), and those whose parents had a 4 year degree reported higher levels of critical consciousness than individuals whose parents had

education levels between some high school and a 2 year degree (some high school, $\Delta = 0.51$, *SD* = 0.25; high school, $\Delta = 0.40$, *SD* = 0.12; some college, $\Delta = 0.31$, *SD* = 0.10; 2 year degree, $\Delta = 0.28$, *SD* = 0.13). Additionally, an ANOVA revealed a significant difference in critical consciousness level by transgender identity ($\lambda = 0.99$, $F(2, 574) = 3.59$, $p = 0.028$, $h^2 = 0.012$). Post-hoc pairwise comparisons revealed that individuals who identified as transgender reported higher levels of critical consciousness than those who identified as cisgender ($\Delta = 0.22$, *SD* = 0.08). Finally, an ANOVA revealed differences in critical consciousness levels by race ($\lambda = 0.96$, $F(6, 570) = 3.85$, $p < 0.001$, $h^2 = 0.039$). Post-hoc pairwise comparisons revealed that individuals who identified as multiracial reported higher levels of critical consciousness than those who identified as Black ($\Delta = 0.30$, *SD* = 0.13), Asian ($\Delta = 0.35$, *SD* = 0.17) , and Latinx ($\Delta = 0.50$, *SD* = 0.15) and those who identified as White reported higher levels of critical consciousness than those who identified as Black ($\Delta = 0.23$, *SD* = 0.10) or Latinx ($\Delta = 0.43$, *SD* = 0.13).

With regard to identity affirmation, ANOVAs revealed differences in levels of identity affirmation by sexual identity ($\lambda = 0.87$, $F(6, 568) = 13.59$, $p < 0.001$, $h^2 = 0.13$), transgender identity ($\lambda = 0.89$, $F(2, 572) = 34.47$, $p < 0.001$, $h^2 = 0.11$), and race ($\lambda = 0.95$, $F(6, 568) = 4.58$, $p < 0.001$, $h^2 = 0.46$). Post-hoc pairwise comparisons revealed that individuals who identified as bisexual ($\Delta = -0.46$, *SD* = 0.07), pansexual ($\Delta = -0.54$, *SD* = 0.11), asexual ($\Delta = -0.76$, *SD* = 0.13), and queer ($\Delta = -0.47$, *SD* = 0.11) reported lower levels of identity affirmation than those who identified as gay, and those who identified as pansexual ($\Delta = -0.53$, *SD* = 0.11), asexual ($\Delta = -0.76$, *SD* = 0.14), and queer ($\Delta = -0.46$, *SD* = 0.11) also reported lower levels of identity affirmation than those who identified as lesbian. Participants who identified as asexual also reported lower levels of identity affirmation than those who identified as bisexual ($\Delta = -0.30$, *SD* = 0.13), heterosexual ($\Delta = -0.67$, *SD* = 0.27), or queer ($\Delta = 0.49$, *SD* = 0.06). Further,

participants who identified as transgender (Δ = 0.23, *SD* = 0.10) reported higher levels of identity affirmation than those who identified as cisgender. Finally, individuals who identified as White reported higher levels of identity affirmation than those who identified as Black (Δ = 0.23, *SD* = 0.08), Asian (Δ = 0.40, *SD* = 0.12), Latinx (Δ = 0.27, *SD* = 0.10), or multi-racial (Δ = 0.32, *SD* = 0.09).

With regard to minority stress, ANOVAs revealed differences in minority stress levels by sexual orientation ($\lambda = 0.95$, $F(6, 592) = 5.38$, $p < 0.001$, $h^2 = 0.05$), gender identity ($\lambda = 0.97$, $F(5, 593) = 4.3$, $p < 0.001$, $h^2 = 0.03$), $F(2, 596) = 37.53$, $p < 0.001$, $h^2 = 0.11$), and race ($\lambda = 0.97$, $F(6, 585) = 3.31$, $p = 0.003$, $h^2 = 0.03$). Post-hoc pairwise comparisons revealed that individuals who identified as gay reported higher levels of minority stress than those who identified as bisexual (Δ = 7.02, *SD* = 1.68), pansexual (Δ = 8.63, *SD* = 2.53), or asexual (Δ = 8.69, *SD* = 3.07), and those who identified as lesbian reported higher levels of minority stress than those who identified as bisexual (Δ = 6.46, *SD* = 1.84), pansexual (Δ = 8.07, *SD* = 2.64), or asexual (Δ = 8.12, *SD* = 3.16). Further, participants who identified as heterosexual reported higher levels of minority stress than those who identified as pansexual (Δ = 12.56, *SD* = 6.05) or asexual (Δ = 12.62, *SD* = 6.30). Participants who identified as women reported lower levels of minority stress than those who identified as men (Δ = -4.88, *SD* = 1.38), non-binary (Δ = -5.43, *SD* = 2.13), or genderfluid (Δ = -12.09, *SD* = 3.89). Those who identified as genderfluid reported higher levels of minority stress than those who identified as genderqueer (Δ = 9.95, *SD* = 4.66). Finally, individuals who identified as White reported higher levels of minority stress than those who identified as Black (Δ = 3.17, *SD* = 1.59), Asian (Δ = 8.46, *SD* = 2.49), Latinx (Δ = 4.56, *SD* = 2.07), or multi-racial (Δ = 5.47, *SD* = 1.82). Individuals who identified as Black also reported higher levels of minority stress than those who identified as Latinx (Δ = 5.29, *SD* = 2.68).

Part 1 Analytic Strategy

In part 1 of the current study (full sample, N = 575), I assessed whether participants in the exposure group used less adaptive processing styles and exhibited greater post-exposure affect than those in the control group. In order to assess difference in affect (both positive and negative), which was measured using a count variable, I used Poisson regressions, which are most appropriate for count variables that may be skewed (Hayat & Higgins, 2014). In order to assess participants' use of processing styles (negative emotions words, anger words, self-reference words, and cognitive processing words), which were percentage variables, zero-inflated beta regressions were the most appropriate statistical analysis (Buis, 2010). These allow for separate predictions of likelihood of 0 and 1 outcomes as well predicting proportions for data that were not at these extremes. Zero-one inflated beta regressions allow for predictions of proportions bounded between 0 and 1 and including 0 and 1 as discrete variables. They allow for the possibility of a qualitative difference between those who score 0 or 1 and those who have proportional data (Grace-Martin, n.d.; Smithson & Verkuilen, 2006). In this case, there may be a meaningful difference between those who use *no* negative emotions words and those who use some. All outcome measures were skewed with the exceptions of positive affect and cognitive processing words. Missingness was 2% or less for all models, and so data were not imputed in this part of the analyses (Rubin, 2018). Analyses were conducted in Stata. Results are displayed in Table 5.

Research Question 1: Do participants who are exposed to the identity-relevant stressful passage use less adaptive processing styles (e.g., greater affect change, more negative emotions words, more self-reference words, and less cognitive words) than participants who are exposed to the identity-irrelevant passage?

Post-Exposure Affect. To assess difference in affect, both positive and negative affect were assessed before (pre-) and after (post-) exposure to the assigned passage and written reflection on this passage. The exposure and control groups did not differ in terms of baseline negative affect (M = 1.86, SD = 0.076; M = 1.83, SD = 0.051; t(597) = 0.36, p = 0.72) or baseline positive affect (M = 2.88, SD = 0.078; M = 2.92, SD = 0.053; t(591) = -0.46, p = 0.64). Poisson regressions assessed the association between assignment to the exposure group and post-exposure affect, controlling for pre-exposure affect along with demographic variables including sexual orientation, gender identity, transgender identity, age, SES, and race, all of which were included as categorical variables. Poisson regressions revealed that there was a small but significant increase in positive affect among participants in the exposure group (b = 0.050, p = 0.017). Exponentiated, this suggests a 5% greater increase in positive affect among exposure group participants relative to control group. A t-test of pre-exposure and post-exposure positive affect separately by group shows that positive affect did not change among the control group (M = 2.83, SD = 0.082; M = 2.87, SD = 0.078; t(192) = -0.78) but that there was a slight increase in positive affect among exposure group participants (M = 2.98, SD = 0.054; M = 2.93, SD = 0.053; t(397) = 1.63, p = 0.103 [two-sided]).

However, individuals in the exposure group also exhibited greater negative affect than those in the control group (b = 0.075, p = 0.017). Exponentiated, this suggests an 8% greater increase in negative affect in the exposure group. A t-test of pre-exposure and post-exposure negative affect separately by group shows that negative affect appears to increased significantly in both the control and exposure groups, with a greater increase in the exposure group (M = 2.56, SD = 0.056; M = 1.83, SD = 0.051; t(400) = 15.26, p < 0.001) than the control group (M = 2.42, SD = 0.089; M - 1.86, SD = 0.077; t(195) = 7.71, p < 0.001). Because pre-exposure negative

affect was skewed (skewness = 1.40, $p < 0.001$; kurtosis = 4.60, $p < 0.001$) and pre-exposure positive affect was borderline but not significantly skewed (skewness = 0.19, $p = 0.062$; kurtosis = 2.27, $p < 0.001$), I ran sensitivity analyses in which pre-exposure affect was log transformed in both Poisson regressions. Results did not differ in magnitude, direction, or statistical significance.

Negative emotions words. To assess all LIWC variables, I used zero-one inflated beta regressions to account for the outcome variables constituting percentages, which are generally skewed (Liu & Eugenio, 2018). Zero-inflated beta regressions produce two separate estimations: one predicting the magnitude of the percentage given that any words in this category were used, and one predicting the likelihood of a 0%, or no words from this category were used. All regression models controlled for demographic variables, including sexual orientation, gender identity, transgender identity, age, SES, and race, included as categorical covariates as in the Poisson models above. Because the LIWC outcomes were not assessed using a pre-post test design, but rather were measured by analyzing the written reflection participants provided, it is not possible to assess baseline equivalence between the exposure and control groups with regard to these outcome measures. With regard to negative emotions words, exposure to the identity-relevant passage did not predict the number of negative emotions words ($b = 0.078$, $p = 0.273$), but it did significantly reduce the likelihood that participants would use zero negative emotions words (OR = 0.584, $p = 0.012$) by nearly half. I conducted further analyses in an exploratory manner to assess whether certain negative emotions words were driving this effect. The LIWC measure of negative emotions words can be parsed into sad words, anxiety words, and anger words. Assignment to the exposure group did not significantly predict the frequency of sad or

anxiety words. However, participants in the exposure group were nearly 75% less likely to use zero anger words (OR = 0.153, $p < 0.001$) than participants in the control group.

Self-reference words. With regard to self-reference words, a zero-inflated beta regression revealed that being in the exposure group did not predict the likelihood of using any self-reference words (versus using none), but it did predict a significantly greater proportion of self-reference words used ($b = 0.139$, $p = 0.013$). Exponentiated, this suggests that participants in the exposure group used approximately 15% more self-reference words than those in the control group.

Cognitive processing words. Finally, I assessed whether exposure to the identity-relevant passage was associated with changes in use of cognitive processing words. Assignment to the exposure group was not associated with greater frequency of cognitive processing words or with a changed likelihood of using any cognitive processing words.

Sensitivity analyses. As noted in chapter 3, there were 24 participants in the control group who exhibited the misunderstanding that the victim in the passage shared their SGM identities and so were excluded from analyses. A sensitivity analysis in which these 24 participants were included from analyses yielded the same patterns in terms of direction and significance-level of effects across all outcomes.

Part 2 Analytic Strategy

In part 2 of the current study (exposure group, N = 402), I used a within-groups model to assess associations between past experiences of minority stress and protective factors, proximal stressors, and mental health outcomes. Specifically, I tested a path analysis in which I hypothesized that identity-related stress, identity affirmation, and critical consciousness would predict depressive symptoms by way of proximal stressors (greater affect change, more negative

emotions words, more self-reference words, and fewer cognitive processing words; see figure 2). Only the 402 participants assigned to the exposure group were included in this model. Predictor and mediator variables were measured at time 1 and depressive symptoms was measured at time 2.

First, because having participants complete a survey immediately following a mood induction experiment presents the risk of a mood bias, I repeated measures t-tests to assess whether responses to the same scale differed at time 1 and time 2 among the respondents who participated at both time points. Responses on measures of minority stress, identity affirmation, critical consciousness, and depressive symptoms did not differ across time points. Overall, this provides some evidence that the mood induction did not significantly affect participants' responses to subsequent measures.

Given this, I decided to use a path model employing time 1 reports of predictors (minority stress, identity affirmation, and critical consciousness) and time 2 reports of the outcome variable (depressive symptoms) in order to allow for some temporal precedence. Because using time 2 variables introduced greater missingness into the model due to attrition, I used multiple imputation for part 2 analyses. The time 1 predictor variables had low missingness (3.5-3.7%), but time 2 depressive symptoms had higher missingness (32.8%). Because attrition could be significantly predicted by some demographic and survey measures, the data could not be assumed to be missing completely at random. Therefore, I used MPlus to model and impute data to these variables using both demographic variables (age, gender, transgender, sexual orientation, SES, race) and survey measures (minority stress, identity affirmation, critical consciousness, negative emotions words, cognitive processing words, self-reference words, negative affect change, and time 1 depressive symptoms) to create 50 imputed datasets.

In order to assess the path model, I estimated a structural equation model with all variables as manifest variables, using the multiply-imputed data in MPlus. I used the maximum likelihood robust (MLR) estimator in order to account for the skewness of the data (Maydeu-Olivares, 2017). Specifically, the MLR estimator in MPlus calculates estimates with standard errors and a chi-square test statistic that are robust to non-normality and non-independence of observations. This method is recommended instead of transformation of variables in MPlus in order to maintain interpretability along with a robust model (Rosseel, 2010; Maydeu-Olivares, 2017). In the original model (see figure 2), predictor variables (minority stress, identity affirmation, critical consciousness) predicted proximal stressors (negative emotions words, self-reference words, cognitive processing words, negative affect change), which, in turn predicted time 2 depressive symptoms. Direct pathways from predictor variables to depressive symptoms were not included in the model. All predictor variables and proximal stressors, respectively, were originally allowed to covary with each other, and all covariances were significant. Figure 3 depicts technical model of this final model with all pathways and covariances. The results of this model are depicted in Table 6, model 1. Notably, the model fit indices indicated that this model was a poor fit for the data (RMSEA = 0.152, CFI = 0.705, SRMR = 0.077).

I ran a second model which included a dichotomous variable for negative emotions words (whether participants used *no* negative emotions words versus using any). This was done for several reasons. First, the zero-inflated portion of the model of negative emotions words in part 1 was significant but the proportion portion of the model was not. This suggests that the meaningful difference in participants' responses in these data was between using *no* negative emotions words versus *any*. This difference also has face validity, in that, for instance, a person who feels angry would likely use at least one angry word, whereas a person who uses no angry

words may be experiencing a completely different emotional response. Finally, using a dichotomous variable reduced the skewness in the model. This model is presented in Table 6, model 2. This fit was significantly improved (RMSEA = 0.115, CFI = 0.941, SRMR = 0.036) and so I use model 2 as the main model. All coefficients reported are standardized.

Finally, I ran a Monte Carlo simulation analysis on these models in order to determine the coverage and power of the pathways I examined. Coverage was above at least 0.93 for all pathways, and over 80% of iterations had significant coefficients for all significant pathways, with the exception of the associations between identity affirmation and negative emotions words. Results of this analyses are displayed in Table 7.

Research Question 2a: Do participants who report greater identity-related stressors, lower identity-specific affirmation by others, and lower critical consciousness use less adaptive processing styles (greater affect change, more negative emotions words, more self-reference words, fewer cognitive processing words) in response to the identity-relevant stressful passage?

First, I assessed whether reports of minority stress, identity affirmation, and critical consciousness in the past predicted processing styles when participants were presented with the exposure passage. As hypothesized, minority stress predicted use of negative emotions words (β = 0.22, p = 0.005, power = 1.000). This suggests a 0.7% increase in likelihood of using negative emotions words for every point of minority stress endorsed. Contrary to hypotheses, identity affirmation also positively predicted use of negative emotions words (β = 0.16, p = 0.017, power = 0.385). Additionally, contrary to hypotheses, critical consciousness significantly and positively predicted the use of negative emotions words (β = 0.198, p < 0.001, power = 0.991), proportion

of self-reference words used (β = 0.117, p = 0.001, power = 0.910), and negative affect change (β = 0.186, p < 0.001, power = 0.956).

Research Question 2b: Do processing styles mediate the association between risk and protective factors, and depressive symptoms?

First, it is notable that, in line with my hypotheses, use of negative emotions words was positively associated with depressive symptoms (β = 0.490, p < 0.001). Contrary to hypotheses, negative affect change, which I posited as a proximal stressor, negatively predicted depressive symptoms (β = -0.330, p < 0.001, power = 1.000).

Next, I examined whether there were significant indirect associations of predictor variables on depressive symptoms via processing styles. In this study, indirect associations may be interpreted as the degree to which predictor variables are associated with depressive symptoms by means of their associations with proximal stressors. As hypothesized, minority stress predicted depressive symptoms indirectly via the use of negative emotions words (β = 0.105, p = 0.011, power = 1.000). Contrary to hypotheses, identity affirmation was also positively associated with depressive symptoms via negative emotions words (β = 0.080, p = 0.02, power = 0.368). Additionally, critical consciousness had a positive indirect association with depressive symptoms via negative emotions words (β = 0.097, p = 0.001, power = 0.991) and a negative indirect association with depressive symptoms via negative affect change (β = -0.061, p = 0.002, power = 0.819).

I also considered the total effects of the predictor variables on depressive symptoms. The total effect may be interpreted as the summation of all indirect associations. The total effects of identity affirmation (β = 0.049, p = 0.078) and critical consciousness (β = 0.048, p = 0.11, power

= 0.250) were positive but insignificant. The total effect of minority stress was positive and significant (β = 0.103, p = 0.019, power = 0.998).

Sensitivity Analyses. To test the robustness of the findings presented above, models were also run using all time 1 variables, with and without imputing missing values, as well as a model using time 2 depressive symptoms without imputation. Results presented above did not differ across any of these models in terms of statistical significance or directionality of the associations.

Further, given the skewness of the mediators, I also ran sensitivity analyses in which all mediators were log transformed. This model was a relatively worse fit to the data (RMSEA = 0.204, CFI = 0.678, SRMR = 0.07), so I opted to open a direct path from minority stress to depressive symptoms, which improved the fit (RMSEA = 0.112, CFI = 0.933, SRMR = 0.025). R-squared values remained low in this model, with R^2 = 0.11 for depressive symptoms, R^2 = 0.03 for negative emotions words, R^2 = 0.02 for cognitive processing words, R^2 = 0.06 for self-reference words, and R^2 = 0.06 for negative affect change. The results did change in this model. All coefficients reported are standardized. Minority stress predicted depressive symptoms directly (β = 0.32, p < 0.001), but no mediators predicted depressive symptoms. Critical consciousness still predicted negative emotions words (β = 0.13, p = 0.009), negative affect change (β = 0.25, p < 0.001), and self-reference words (β = 0.19, p < 0.001), but minority stress and identity affirmation did not predict any mediators. There were no significant indirect effects.

Further, because previous studies have largely used self-report measures of rumination and emotion reactivity, I assessed whether the experimental, in vivo measures of linguistic style and affect change used in this study were comparable to the traditionally used emotion reactivity

and rumination scales used in the minority stress literature. I assessed pairwise correlations. Self-reference words and negative emotion words were significantly correlated with the Emotion Reactivity Scale, but the magnitudes were small for both ($r = 0.11$, $p = 0.009$; $r = 0.09$, $p = 0.03$, respectively). This suggests that the self-report measures may not capture the same aspects of this construct and so the current study contributes novel information to this literature by assessing in vivo reactions to minority stressors using these new measures.

Further, because I collected self-report measures of rumination and emotion reactivity that have been traditionally used in PMF models (Hatzenbeuhler et al., 2009), I was also able to replicate the original PMF model using these self-report scales. For this model, I conducted the same pathways analysis in MPlus that I used above, but with self-report emotion reactivity and self-report rumination as the mediators. Results are presented in Table 8.

This model had a somewhat better fit to the data than model 2 (RMSEA = 0.069, CFI = 0.981, SRMR = 0.036). Similar to the previous model, direct pathways between predictor variables and depressive symptoms were not included, and all predictors and proximal stressors respectively were allowed to covary. Both emotion reactivity ($\beta = 0.24$, $p < 0.001$, power = 1.00) and rumination ($\beta = 0.36$, $p < 0.001$, power = 1.00) positively predicted depressive symptoms. Further, previous reports of minority stress ($\beta = 0.23$, $p = 0.003$, power = 0.964) and critical consciousness ($\beta = 0.28$, $p < 0.001$, power = 1.00) positively predicted emotion reactivity, and minority stress ($\beta = 0.32$, $p < 0.001$, power = 0.996) and critical consciousness ($\beta = 0.18$, $p < 0.001$, power = 0.961) positively predicted rumination. Further, minority stress had an indirect association with depressive symptoms via both emotion reactivity ($\beta = 0.05$, $p = 0.02$, power = 0.928) and rumination ($\beta = 0.11$, $p = 0.001$, power = 0.995). The total effect of minority stress on depressive symptoms was positive and significant ($\beta = 0.17$, $p < 0.001$, power = 0.998).

Similarly, critical consciousness had a significant indirect association with depressive symptoms via both emotion reactivity ($\beta = 0.069$, p = 0.002, power = 0.997) and rumination ($\beta = 0.065$, p = 0.001, power = 0.949). The total effect of critical consciousness on depressive symptoms was positive and significant ($\beta = 0.13$, $p < 0.001$, power = 0.997).

Chapter 5

Discussion

In the current study, I sought to address a gap in the literature on the role of *vicarious minority stress*, or knowledge of discrimination and stigma directed at a person who shares one's SGM identities, within a Psychological Mediation Framework. In Part 1, I used an experimental design to assess whether exposure to a passage depicting violence toward a person who shares one's sexual and gender identities predicts greater proximal stress reactions than exposure to a similar passage wherein the subject is cisgender and heterosexual. I found that participants exposed to the vicarious minority stress passage exhibited greater negative affect following the passage as compared with those exposed to the control passage. Those in the exposure group also exhibited slightly greater positive affect than those in the control group. Further, participants in the exposure group were significantly more likely to use negative emotions words, and in particular anger words. Finally, participants in the exposure group used more self-reference words than those in the control.

In part 2, I used a within-group design to assess a PMF model wherein I hypothesized that past experiences of minority stress and protective factors (e.g., identity affirmation, critical consciousness) would predict the proximal stress reactions considered in part 1, which, in turn, would predict depressive symptoms. I found that self-reported minority stress did predict greater likelihood of using negative emotions words, which, in turn predicted greater depressive symptoms. Contrary to hypotheses, I found that self-reported identity affirmation also predicted greater likelihood of using negative emotions words. Also contrary to hypotheses, I found that whereas use of negative emotions words predicted greater depressive symptoms, greater negative affect change predicted fewer depressive symptoms. Finally, findings related to critical

consciousness were mixed. I found that contrary to hypotheses, critical consciousness predicted greater likelihood of using negative emotions words and indirectly predicted greater depressive symptoms via negative emotions words. However, critical consciousness also predicted greater negative affect change, and indirectly predicted fewer depressive symptoms via negative affect change. Critical consciousness also predicted greater use of self-reference words, although self-reference words did not significantly predict depressive symptoms.

Finally, I also examined a PMF model using more traditional PMF measures (e.g., emotion reactivity, rumination) and was able to replicate this model, in which minority stress predicted both greater emotion reactivity and greater rumination, as well as greater depressive symptoms indirectly via both mediators. In this model, too, critical consciousness also predicted greater emotion reactivity and greater rumination, which, in turn, predicted greater depressive symptoms.

Exposure to Vicarious Minority Stress is Associated with Greater Proximal Stress Reactions

In the current study, I found that participants in the exposure group reported an average of 8% greater negative affect after the exposure, above and beyond the negative affect change reported by those in the control group. Those in the exposure group were also nearly 50% more likely to use negative emotions words, and 75% more likely to use angry words, in their written reflections on the passage, and they used 16% more self-reference words on average than those in the control group.

These findings align with existing literature that suggests that individuals in a minoritized group may feel a greater level of "shared suffering" with those who identify similarly (Paterson et al., 2019; Walters et al., 2020). Participants reading passages about a survivor who shares their

identities may be more likely to connect the passage to their personal experiences or imagine themselves in a similar situation. Consequently, they may use more self-reference words and feel greater negative emotions and affect. Further, the findings fit with the minority stress literature that suggests that a greater amount of minority stress reduces an individual's bandwidth to modulate one's emotions, leading to greater focus on negative symptoms of distress such as negative emotions and negative affect change (Kaufman et al., 2017; Robertson et al., 2021; Schwartz et al., 2016). Similarly, the findings may be understood in the context of literature suggesting that minority stress also leads to socially-isolative processes, as self-reference words are associated with social isolation and negative mental health outcomes (Fineberg et al., 2016; Hargitai et al., 2007; Li et al., 2014; Lyons et al., 2018). Finally, because participants exhibited greater negative affect levels and used more proximal stressors (e.g. greater use of negative emotions words, greater frequency of self-reference words) in response to the exposure passage, these findings provide support that *vicarious minority stress* contributes to minority stress in a similar manner as more direct experiences of discrimination and stigma.

These findings may have important implications for how vicarious minority stress may be addressed in young people. The findings provide evidence that even relatively minor exposure to minority stress, such as through reading about it online, may have implications for how SGM young people are thinking and processing their experiences. They may be more likely to respond with negativity, anger, and self-isolation. It is important for therapists and other support providers not to pathologize these negative feelings and processes, but rather to recognize that they are reactions to young people's stressful contexts, however invisible these stressors may be to providers (Giannou & Ioakimidis, 2020). Providers may benefit from becoming curious about these negative feelings and self-isolative processes and about current stressors, vicarious and

direct, that may be contributing to these experiences on a daily basis (Cardona et al., 2022; Kauth, 2022).

The Role of Emotional Reactions and Depressive Symptoms

I found that use of negative emotions words was associated with greater depressive symptoms. This aligns with my hypotheses and with extant literature on emotion dysregulation and focus on one's symptoms of distress as an important factor in the development of psychopathology (Hatzenbuehler, 2009; Kaufman et al., 2017; Schwartz et al., 2016). Essentially, young people who are better able to regulate their attention away from negative stressors, and so perhaps focus on other aspects of the current passage than their own negative emotions regarding it, may experience fewer depressive symptoms.

Notably, the same association did not hold true for change in affect in response to the vicarious minority stress. A greater change in negative affect (e.g., endorsing more negative affect following reflection on passage as compared with before reading the passage) was in fact associated with fewer depressive symptoms. This finding was contrary to my hypotheses and does not align with extant literature on the role of emotion reactivity in psychopathology (Hernandez & Villodos, 2020; Livingston et al., 2020), as well as the role of minority stress in increasing that emotion reactivity (Baams et al., 2015; Hernandez & Villodos, 2020).

However, it may be possible to situate in another literature this positive association of negative affect change, in contrast to the negative association of negative emotions words, with depressive symptoms. It may be, for instance, that anger and negative emotions, appropriately acknowledged and expressed, could be protective in the face of minority stress. Feminist theories suggest that the greatest risk of discrimination is internalizing it (Brown, 2018). Brown describes minority stressors as like acid rain; if one does not see or feel the stress as it occurs, one remains

in the rain and eventually gets burned. Feminist therapy often emphasizes the importance of bolstering awareness of small messages that minoritized individuals receive daily about their safety, and their worth (Carr et al., 2015). Whereas accepting these messages may be easier in the moment, in the long run they may lead to greater levels of depression (Brown, 2018; Carr et al., 2015). Indeed, a recent study on this subject found that *repressed* anger represented a risk factor for mental health challenges following minority stress in a way that *expressed* anger did not (Hendy et al., 2016).

These findings may have important implications for providers and supporters of SGM young people. It is important to be aware of the dialectic balance between ruminative focus on negative emotions and the potential value of self-affirming or appropriate expression of negative emotions. SGM-focused therapies have increasingly moved to incorporate activism and self-empowerment for similar reasons (Freeman-Cappadge & Langroudi, 2021; Raj, 2014).

The Roles of Minority Stress and Identity Affirmation in Emotional Reactions and Depressive Symptoms

I found that previous reports of minority stress were associated with greater likelihood of using negative emotions words. In addition, minority stress predicted greater depressive symptoms indirectly via negative emotions words. Emotion reactivity and rumination were also associated with greater depressive symptoms in model 3. This aligns with the minority stress literature that has established a clear association between minority stress and mental health outcomes (Baams et al., 2015; Hernandez & Villodos, 2020; Kaufman et al., 2017; Livingston et al., 2020). It also aligns with the PMF model, in which experiences of minority stress may reduce an individual's bandwidth to regulate their emotions and so, in turn, lead to psychopathology (Hatzenbeuhler, 2009).

Surprisingly, however, I also found that identity affirmation predicted greater likelihood of using negative emotions words, and, in turn, greater depressive symptoms. This fact may point to a pattern noted in the literature of *identity centrality* that may be captured in the current study. Identity centrality is the importance an individual gives to their SGM identity in defining who they are. The literature on identity centrality and mental health is mixed for precisely the pattern reflected in the current model: identity centrality enhances an individual's access to identity-related support and affirmations, but the centrality of the identity may also heighten perceived in-group threat and result in more experiences and perceptions of discrimination. Indeed, a recent meta-analysis confirmed that identity centrality is associated across the literature with identity-relevant affirmations as well as greater perceptions and experiences of discrimination, with mixed results regarding mental well-being (Hinton et al., 2022). It seems likely that the identity affirmation measure in the current study may indirectly be capturing identity centrality and so may act in the model more as a diluted minority stress construct than solely as affirmation. Similarly, it may be that individuals who have experienced more minority stress will subsequently seek out spaces and groups where they receive affirmation (Hendricks, 2022). However, it should also be noted the direct pathway associating identity affirmation and negative emotions words had lower power (power = 0.385), as did the indirect association between identity affirmation and depressive symptoms via negative emotions words (power = 0.368), so these findings should be interpreted with caution. Further, in support of the above interpretation, identity affirmation and minority stress were highly correlated ($r = 0.75$, $p < 0.001$).

The Role of Critical Consciousness

I found that critical consciousness predicted several proximal stressors, including negative emotions words, negative affect change, and self-reference words, and its association

with depressive symptoms was mixed. First, contrary to my hypotheses, critical consciousness predicted greater likelihood of using negative emotions words, and, in turn, predicted greater depressive symptoms. Similarly, in the more traditional PMF model, critical consciousness predicted greater depressive symptoms via both emotion reactivity and rumination. Although this does not fit with emerging evidence on the benefits of critical consciousness (Cadenas et al., 2021; Chan & Mak, 2020; Harper et al., 2022), it may nevertheless be situated in other critical consciousness literature. It is important to remember that critical consciousness was developed with the intention of social liberation, not of mental well-being. In fact, critical consciousness scholars have warned that a critical awareness may be detrimental to mental health if not meaningfully coupled with critical action because awareness of large oppressive forces without action against them may engender negative feelings such as hopelessness among young people (Diemer et al., 2021; Godfrey et al., 2019). While considering each component of critical consciousness separately was beyond the scope of the model, it is possible that this is one of the processes captured in the model through the association of critical consciousness with depressive symptoms via negative emotions words.

Critical consciousness was also positively associated with greater use of self-reference words. Higher levels of critical consciousness were associated with greater use of self-reference words. This may align with the theory on critical consciousness, which emphasizes becoming aware of how oppressive forces affect the self and fostering an agentic role in impacting those forces (Diemer et al., 2016). In this way, one might expect that a greater critically conscious orientation may facilitate an individual to individuate and reaffirm themself in response to an instance of oppression. Further, whereas self-reference words are associated with poor mental health in the literature (Fineberg et al., 2016; Hargitai et al., 2007; Li et al., 2014; Lyons et al.,

2018), this was not the case in the current study. Self-reference words did not predict depressive symptoms, nor did critical consciousness predict depressive symptoms indirectly via self-reference words. This suggests that the process by which critical consciousness is associated with self-reference words may be different from that by which minority stress is associated with self-reference words. Whereas minority stress may lead to *isolative* processes, it could be that critical consciousness contributes to *individuating* processes, in which the self is reaffirmed in order to resist internalizing oppression (Chan & Mak, 2019). This may not be directly related to mental health outcomes but could have other benefits regarding awareness and action. Recent studies confirm that different forms of self-focus may be disparately beneficial or harmful to mental well-being among SGM individuals (Taber et al., 2023).

Finally, critical consciousness was also positively associated with negative affect change. As noted above, this change in affect in response to the vicarious minority stress may be understood as an appropriate expression of negative emotions (Brown, 2018, Carr et al., 2015; Hendy et al., 2016). It may be that critical consciousness could play a protective role by enhancing appropriate expression of negative emotions when one perceives injustice. In the framework of feminist therapy, it may be understood as appropriately externalizing the stressor (Brown, 2018). That is, perceiving the stressor as oppressive, wrong, and not reflective of one's own worth as someone who shares an SGM identity with the victim may be a more adaptive response in the long run than perceiving the stressor as normal or deserved. Notably, the total effect of critical consciousness on depressive symptoms was not significant.

These findings point to the need for further exploration of the role of critical consciousness in young people's well-being. It appears that the role of critical consciousness is complex and multimodal, and so further understanding of the factors at play may enhance

practitioners' ability to use critical consciousness in a way that maximizes its benefits and minimizes its risks to young people.

Comparing Experimental and Self-Report Models

The current study endeavored to utilize new, more rigorous and in-vivo measures of minority stress responses. Another contribution the study provided was the opportunity to compare this new model with the PMF model utilizing the original self-report measures. Using these self-report measures of emotion reactivity and rumination, it is notable that the fit of the model was somewhat better than the fit for the model using the new measures. Previous reports of minority stress positively predicted both emotion reactivity and rumination, which, in turn, predicted depressive symptoms. This is very much in line with the PMF model and the evidence that supports it (Fulginiti et al., 2021; Hatzenbeuhler et al., 2009; Rogers et al., 2021).

There is one important difference between the measures used in the main model in the current study (model 2) and in the self-report PMF model (model 3). First, the mediators for model 2 measured responses to a discrete vicarious minority stressor that had been presented to participants in real time whereas model 3 asked about participants' self-perceptions of their own general tendencies to respond in a certain way. The former therefore offers a more in-vivo and objective measure of individuals' responses. Notably, in model 2 there emerged a difference between use of negative emotions words and negative affect change, which did not emerge in model 3. I discussed the potentially differences between the constructs these measures capture above. This distinction merits further exploration and may not be captured by self-report measures, as in model 3.

Limitations and Future Directions

The current findings should be understood in the context of the limitations of this study. Although I made numerous efforts to ensure the diversity of the sample, certain groups, such as individuals with more educated parents, were nevertheless overrepresented. It was not possible to ensure a truly representative sample, and so results should be generalized with caution. Further, there is the potential that participants were primed to think about their SGM identities while reading and reflecting on the passage, as they reported their identities before reading and responding to the passage. Additionally, while I took steps to attenuate potential biasing effects of the mood induction on subsequent self-report measures, including a mood reset and statistical analyses suggesting that there was not a large effect, some more subtle effects of the mood induction may still have impacted participants' responses. For instance, participants might have continued to keep the instance of SGM-directed violence in their minds, and it might have made feelings of hopelessness or conviction for the need of action more salient as they were responding to subsequent measures, such as the critical consciousness scale. Finally, part 2 of the study utilizes a mediational model that is correlational in nature and so causation should not be assumed. Indeed, despite some temporal precedence of the predictors reported at time 1 before depressive symptoms reported at time 2, because depression can be long lasting, the possibility of two-way effects remains, such as depression leading to blunted affect change in response to the vicarious minority stressor. Future research should continue to parse out these relationships to better understand distal and proximal minority stressors as they relate to mental health outcomes.

Findings point to several directions for future research. For instance, the current study points to vicarious minority stress as a component of minority stress. The current study utilized a written passage depicting SGM-directed violence and a written reflection. Future studies could

consider whether these findings differ among different types of media (e.g., videos, memes, social media posts) or different types of stress depicted (e.g., anti-SGM political rhetoric, anti-SGM legislation, or anti-SGM jokes in media). Further, the current study prompted participants to reflect on the passage in writing for 5 minutes. However, some participants may have been naturally inclined to reflect on the passage for 1 minute while others might have dwelled on it for 10 minutes. Allowing natural variation might be another way to study within-group differences in processing style and the impact this may have on outcomes. Finally, future research should consider how perception, reaction, and processing of stressors may impact different outcomes, such as anxiety, advocacy, career/education choices, or civil participation.

Implications for Practice

The findings of the current study have several potential implications for therapeutic intervention. First, findings from part 1 models indicate that, regardless of past experiences, SGM young people who are exposed to vicarious minority stress, even simply by reading a short passage, may experience increased levels of negative affect and may tend to process these experiences differently than they might process other identity-irrelevant stressors. Practitioners might consider being curious about the degree to which SGM young people are exposed to or engage with online or written stressors, help participants become aware of how these stressors may impact them, and encourage clients to be intentional about their engagement with these issues. Practitioners may also be aware of overly self-focused processing styles in response to such stressors and consider encouraging greater affiliative processing (Taber et al., 2023).

Findings from part 2 further suggest that responses to vicarious minority stressors may mediate the association between past experiences and mental health outcomes. Therefore,

practitioners may want to increase attention they pay to current, ongoing, vicarious stressors, in addition to past experiences (Seo et al., 2021).

Practitioners may also be aware of how critical consciousness is a multifactorial factor in therapy that may have benefits in certain ways (e.g., challenging internalized depression, resisting discriminatory practices) while having mixed results regarding mental health (Diemer et al., 2021; Godfrey et al., 2019). Practitioners may also benefit from navigating carefully the dialectic between the costs of rumination and general emotion reactivity and the potential benefits of appropriately expressed anger (Brown, 2018, Carr et al., 2015; Hendy et al., 2016) as they may relate to critical consciousness.

Conclusion

The current study examined the role of a vicarious minority stressor in impacting proximal stress responses. I found that participants exposed to vicarious minority stress exhibited greater change in affect, greater use of negative emotions words and anger words, and greater self-reference. I also situated these reactions to a vicarious minority stressor within in the Psychological Mediation Framework and found that responses to the vicarious minority stressor mediated the association between past experiences and depressive symptoms. These findings may have valuable implications for practitioners working with SGM young people. The study also points to exciting new directions for research on SGM stress, including new ways of studying PMF models and new directions for further study of the role of critical consciousness in mental health.

References

Abi-Jaoude, E., Naylor, K. T., & Pignatiello, A. (2020). Smartphones, social media use and youth mental health. *Cmaj*, *192*(6), E136-E141.

Anderson, M. A., & Maxwell, N. (2018). Baseline Equivalence: What it is and Why it is Needed. *Submitted to AmeriCorps by Mathematica. Chicago, IL, September*.

Asakura, K. (2016). It takes a village: Applying a social ecological framework of resilience in working with LGBTQ youth. *Families in Society*, *97*(1), 15-22.

Baams, L., Grossman, A. H., & Russell, S. T. (2015). Minority stress and mechanisms of risk for depression and suicidal ideation among lesbian, gay, and bisexual youth. *Developmental Psychology*, *51*(5), 688.

Baker, K. E., Compton, D. L., Fechter-Leggett, E. D., Grasso, C., & Kronk, C. A. (2023). Will clinical standards not be part of the choir? Harmonization between the HL7 gender harmony project model and the NASEM measuring sex, gender identity, and sexual orientation report in the United States. *Journal of the American Medical Informatics Association*, *30*(1), 83-93.

Baker, R. C., & Guttfreund, D. O. (1993). The effects of written autobiographical recollection induction procedures on mood. *Journal of Clinical Psychology*, *49*(4), 563-568.

Barnett, A. P., Molock, S. D., Nieves-Lugo, K., & Zea, M. C. (2019). Anti-LGBT victimization, fear of violence at school, and suicide risk among adolescents. *Psychology of Sexual Orientation and Gender Diversity*, *6*(1), 88.

Bartos, S. E., Noon, D. W., & Frost, D. M. (2021). Minority stress, campaign messages and political participation during the Australian marriage plebiscite. *Sexuality Research and Social Policy*, *18*(1), 75-86.

Bastian B, Jetten J, & Fasoli F (2011). Cleansing the soul by hurting the flesh: The guilt-reducing effect of pain. *Psychological Science*, 22, 334–335. 10.1177/0956797610397058

Batterham, P. J. (2014). Recruitment of mental health survey participants using Internet advertising: content, characteristics and cost effectiveness. *International Journal of Methods in Psychiatric Research*, *23*(2), 184-191.

BBC. (2022). LGBT tolerance 'going backwards as hate crimes up. *BBC.* < https://www.bbc.com/news/uk-wales-60257602>

Beck, A. T. (1993). Cognitive therapy: past, present, and future. *Journal of Consulting and Clinical Psychology*, *61*(2), 194.

Beck, A. T., Epstein, N., Brown, G., & Steer, R. (1993). Beck anxiety inventory. *Journal of Consulting and Clinical Psychology*.

Berna, C., Leknes, S., Holmes, E. A., Edwards, R. R., Goodwin, G. M., & Tracey, I. (2010). Induction of depressed mood disrupts emotion regulation neurocircuitry and enhances pain unpleasantness. *Biological Psychiatry*, *67*(11), 1083-1090.

Bethlehem, J. (2010). Selection bias in web surveys. *International Statistical Review*, *78*(2), 161-188.

Betticher DC, Delmore G, Breitenstein U, et al. (2013) Efficacy and tolerability of two scalp cooling systems for the prevention of alopecia associated with docetaxel treatment. *Support Care Cancer* 21: 2565–2573.

Blevins, C. A., Weathers, F. W., Davis, M. T., Witte, T. K., & Domino, J. L. (2015). The posttraumatic stress disorder checklist for DSM-5 (PCL-5): Development and initial psychometric evaluation. *Journal of Traumatic Stress*, *28*(6), 489-498.

Bilodeau, B. L., & Renn, K. A. (2005). Analysis of LGBT identity development models and implications for practice. *New Directions for Student Services*, *2005*(111), 25-39.

Boyd, R. L., Ashokkumar, A., Seraj, S., & Pennebaker, J. W. (2022). The development and psychometric properties of LIWC-22. *Austin, TX: University of Texas at Austin*.

Boyle, S. C., LaBrie, J. W., Costine, L. D., & Witkovic, Y. D. (2017). "It's how we deal": Perceptions of LGB peers' use of alcohol and other drugs to cope and sexual minority adults' own coping motivated substance use following the Pulse nightclub shooting. *Addictive Behaviors*, *65*, 51-55.

Bränström, R., & Pachankis, J. E. (2021). Country-level structural stigma, identity concealment, and day-to-day discrimination as determinants of transgender people's life satisfaction. *Social Psychiatry and Psychiatric Epidemiology*, *56*(9), 1537-1545.

Brewin, C. R., Rose, S., Andrews, B., Green, J., Tata, P., McEvedy, C., ... & Foa, E. B. (2002). Brief screening instrument for post-traumatic stress disorder. *The British Journal of Psychiatry*, *181*(2), 158-162.

Briere, J. N., & Scott, C. (2014). *Principles of trauma therapy: A guide to symptoms, evaluation, and treatment (DSM-5 update)*. Sage Publications.

Bridges, J. G., Tyler Lefevor, G., Schow, R. L., & Rosik, C. H. (2020). Identity affirmation and mental health among sexual minorities: A raised-Mormon sample. *Journal of GLBT Family Studies*, *16*(3), 293-311.

Brosschot, J. F., Verkuil, B., & Thayer, J. F. (2010). Conscious and unconscious perseverative cognition: is a large part of prolonged physiological activity due to unconscious stress?. *Journal of Psychosomatic Research*, *69*(4), 407-416.

Brown, L. S. (2018). *Feminist therapy*. American Psychological Association.

Carvalho, S. A., Castilho, P., Seabra, D., Salvador, C., Rijo, D., & Carona, C. (2022). Critical issues in cognitive behavioural therapy (CBT) with gender and sexual minorities (GSMs). *The Cognitive Behaviour Therapist*, *15*, e3.

Burns, M. N., Kamen, C., Lehman, K. A., & Beach, S. R. (2012). Minority stress and attributions for discriminatory events predict social anxiety in gay men. *Cognitive Therapy and Research*, *36*(1), 25-35.

Burson, E., & Godfrey, E. B. (2020). Intraminority solidarity: The role of critical consciousness. *European Journal of Social Psychology*, *50*(6), 1362-1377.

Busby, D. R., Horwitz, A. G., Zheng, K., Eisenberg, D., Harper, G. W., Albucher, R. C., ... & King, C. A. (2020). Suicide risk among gender and sexual minority college students: The roles of victimization, discrimination, connectedness, and identity affirmation. *Journal of Psychiatric Research*, *121*, 182-188.

Cadenas, G. A., Liu, L., Li, K. M., & Beachy, S. (2021). Promoting critical consciousness, academic performance, and persistence among graduate students experiencing class-based oppression. *Journal of Diversity in Higher Education*.

Campenni, C. E., & Hartman, A. (2020). The effects of completing mandalas on mood, anxiety, and state mindfulness. *Art Therapy*, *37*(1), 25-33.

Cardona, N. D., Madigan, R. J., & Sauer-Zavala, S. (2022). How minority stress becomes traumatic invalidation: An emotion-focused conceptualization of minority stress in sexual and gender minority people. *Clinical Psychology: Science and Practice*, *29*(2), 185.

Carr, E. R., Green, B., & Ponce, A. N. (2015). Women and the experience of serious mental illness and sexual objectification: Multicultural feminist theoretical frameworks and therapy recommendations. *Women & Therapy*, *38*(1-2), 53-76.

Chan, R. C., & Mak, W. W. (2020). Liberating and empowering effects of critical reflection on collective action in LGBT and cisgender heterosexual individuals. *American Journal of Community Psychology*, *65*(1-2), 63-77.

Chaudoir, S. R., Wang, K., & Pachankis, J. E. (2017). What reduces sexual minority stress? A review of the intervention "toolkit". *Journal of Social Issues*, *73*(3), 586-617.

Chodzen, G., Hidalgo, M. A., Chen, D., & Garofalo, R. (2019). Minority stress factors associated with depression and anxiety among transgender and gender-nonconforming youth. *Journal of Adolescent Health*, *64*(4), 467-471.

Choo, S., Lee, H., Yi, H., & Kim, S. S. (2022). Expectation of Rejection and Its Association with Health Care Avoidance and Delay Among 2175 Korean Lesbian, Gay, and Bisexual Adults: A Nationwide Cross-Sectional Survey. *LGBT Health*.

Cicchetti, D., & Toth, S. L. (2005). Child maltreatment. *Annual Review of Clinical Psychology(2005)*, *1*(1), 409-438.

Cohn, M. A., Mehl, M. R., & Pennebaker, J. W. (2004). Linguistic markers of psychological change surrounding September 11, 2001. *Psychological Science*, *15*(10), 687-693.

Colpitts, E., & Gahagan, J. (2016). The utility of resilience as a conceptual framework for understanding and measuring LGBTQ health. *International Journal for Equity in Health*, *15*(1), 1-8.

Costello, M. (2016). *After Election Day The Trump Effect: The impact of the 2016 Presidential election on our nation's schools*. Southern Poverty Law Center.

Curran, P. J., & Bauer, D. J. (2007). Building path diagrams for multilevel models. *Psychological Methods*, *12*(3), 283.

de Lange, J., Baams, L., van Bergen, D. D., Bos, H. M., & Bosker, R. J. (2022). Minority stress

and suicidal ideation and suicide attempts among LGBT adolescents and young adults: a meta-analysis. *LGBT Health*.

De Vries, J., & Van Heck, G. L. (2013). Development of a short version of the Dutch version of the Spielberger STAI trait anxiety scale in women suspected of breast cancer and breast cancer survivors. *Journal of Clinical Psychology in Medical Settings*, *20*(2), 215-226.

Diaz, Jaclyn. "Florida's Governor Signs Controversial Law Opponents Dubbed 'Don't Say Gay'." *NPR*, NPR, 28 Mar. 2022, https://www.npr.org/2022/03/28/1089221657/dont-say-gay-florida-desantis.

Diemer, M. A., Rapa, L. J., Park, C. J., & Perry, J. C. (2017). Development and validation of the critical consciousness scale. *Youth & Society*, *49*(4), 461-483.

Diemer, M. A., Rapa, L. J., Voight, A. M., & McWhirter, E. H. (2016). Critical consciousness: A developmental approach to addressing marginalization and oppression. *Child Development Perspectives*, *10*(4), 216-221.

DiFulvio, G. T. (2011). Sexual minority youth, social connection and resilience: From personal struggle to collective identity. *Social Science & Medicine*, *72*(10), 1611-1617.

Duarte, C. S., Wu, P., Cheung, A., Mandell, D. J., Fan, B., Wicks, J., ... & Hoven, C. W. (2011). Media use by children and adolescents from New York City 6 months after the WTC attack. *Journal of Traumatic Stress*, *24*(5), 553-556.

Dunbar, M. S., Siconolfi, D., Rodriguez, A., Seelam, R., Davis, J. P., Tucker, J. S., & D'Amico, E. J. (2022). Alcohol use and cannabis use trajectories and sexual/gender minority disparities in young adulthood. *Psychology of Addictive Behaviors*.

Dürrbaum, T., & Sattler, F. A. (2020). Minority stress and mental health in lesbian, gay male, and bisexual youths: A meta-analysis. *Journal of LGBT Youth*, *17*(3), 298-314.

Dusek, G. A., Yurova, Y. V., & Ruppel, C. P. (2015). Using social media and targeted snowball sampling to survey a hard-to-reach population: A case study. *International Journal of Doctoral Studies, 10,* 279-299. Retrieved from http://ijds.org/Volume10/IJDSv10p279-299Dusek0717.pdf

Dyar, C., Sarno, E. L., Newcomb, M. E., & Whitton, S. W. (2020). Longitudinal associations between minority stress, internalizing symptoms, and substance use among sexual and gender minority individuals assigned female at birth. *Journal of Consulting and Clinical Psychology*, *88*(5), 389.

Edwards, E. R., Shivaji, S., Micek, A., & Wupperman, P. (2020). Distinguishing alexithymia and emotion differentiation conceptualizations through linguistic analysis. *Personality and Individual Differences*, *157*, 109801.

Eisenberg, M. E., Puhl, R., & Watson, R. J. (2020). Family weight teasing, LGBTQ attitudes, and well-being among LGBTQ adolescents. *Family & Community Health*, *43*(1), 17-25.

Erikson, E. H. (1968). *Identity: Youth and Crisis* (No. 7). WW Norton & company.

Fast, L. A., & Funder, D. C. (2010). Gender differences in the correlates of self-referent word use: Authority, entitlement, and depressive symptoms. *Journal of Personality*, *78*(1), 313-338.

Fedewa, A. L., & Ahn, S. (2011). The effects of physical activity and physical fitness on children's achievement and cognitive outcomes: a meta-analysis. *Research Quarterly for Exercise and Sport*, *82*(3), 521-535.

Feinstein, B. A., Davila, J., & Dyar, C. (2017). A weekly diary study of minority stress, coping, and internalizing symptoms among gay men. *Journal of Consulting and Clinical Psychology*, *85*(12), 1144.

Felner, J. K., Wisdom, J. P., Williams, T., Katuska, L., Haley, S. J., Jun, H. J., & Corliss, H. L. (2020). Stress, coping, and context: Examining substance use among LGBTQ young adults with probable substance use disorders. *Psychiatric Services*, *71*(2), 112-120.

Figueroa, W. S., Zoccola, P. M., Manigault, A. W., Hamilton, K. R., Scanlin, M. C., & Johnson, R. C. (2021). Daily stressors and diurnal cortisol among sexual and gender minority young adults. *Health Psychology*, *40*(2), 145.

Fineberg, S. K., Leavitt, J., Deutsch-Link, S., Dealy, S., Landry, C. D., Pirruccio, K., ... & Corlett, P. R. (2016). Self-reference in psychosis and depression: a language marker of illness. *Psychological Medicine*, *46*(12), 2605-2615.

Fisher, C. B., & Mustanski, B. (2014). Reducing health disparities and enhancing the responsible conduct of research involving LGBT youth. *Hastings Center Report*, *44*(s4), S28-S31.

Flanagan, C. A. (2013). *Teenage citizens: The political theories of the young*. Harvard University Press.

Flannery, D. J., Wester, K. L., & Singer, M. I. (2004). Impact of exposure to violence in school on child and adolescent mental health and behavior. *Journal of Community Psychology*, *32*(5), 559-573.

Fowler, P. J., Tompsett, C. J., Braciszewski, J. M., Jacques-Tiura, A. J., & Baltes, B. B. (2009). Community violence: A meta-analysis on the effect of exposure and mental health outcomes of children and adolescents. *Development and Psychopathology*, *21*(1), 227-259.

Freeman-Coppadge, D. J., & Langroudi, K. F. (2021). Beyond LGBTQ-affirmative therapy: Fostering growth and healing through intersectionality. *Queer Psychology: Intersectional*

Perspectives, 159-179.

Freitas, D. F., Coimbra, S., & Fontaine, A. M. (2017). Resilience in LGB Youths: A Systematic Review of Protection Mechanisms1. *Paidéia (Ribeirão Preto)*, *27*, 69-79.

Frost, D. M., & Bastone, L. M. (2008). The role of stigma concealment in the retrospective high school experiences of gay, lesbian, and bisexual individuals. *Journal of LGBT Youth*, *5*(1), 27-36.

Frost, D. M., Fine, M., Torre, M. E., & Cabana, A. (2019). Minority stress, activism, and health in the context of economic precarity: Results from a national participatory action survey of lesbian, gay, bisexual, transgender, queer, and gender non-conforming youth. *American Journal of Community Psychology*, *63*(3-4), 511-526.

Fuchs, N. F., & Taubner, S. (2019). Exploring the interplay of attachment and attachment-related mood on short-term change in mentalization: A pilot study. *Personality and Individual Differences*, *144*, 94-99.

Fulginiti, A., Rhoades, H., Mamey, M. R., Klemmer, C., Srivastava, A., Weskamp, G., & Goldbach, J. T. (2021). Sexual minority stress, mental health symptoms, and suicidality among LGBTQ youth accessing crisis services. *Journal of Youth and Adolescence*, *50*(5), 893-905.

Ghavami, N., Fingerhut, A., Peplau, L. A., Grant, S. K., & Wittig, M. A. (2011). Testing a model of minority identity achievement, identity affirmation, and psychological well-being among ethnic minority and sexual minority individuals. *Cultural Diversity and Ethnic Minority Psychology*, *17*(1), 79.

Giannou, D., & Ioakimidis, V. (2020). ‘Neither invisible nor abnormal!’Exploring the invisibility

and pathologisation of LGBT people in the Greek National Health System. *Critical Social Policy*, *40*(3), 370-388.

GLSEN. (n.d.). LGBTQ History Timeline Reference. <https://www.glsen.org/sites/default/files/LGBTQ-History-Timeline-References.pdf>

Glynn, T. R., Gamarel, K. E., Kahler, C. W., Iwamoto, M., Operario, D., & Nemoto, T. (2016). The role of gender affirmation in psychological well-being among transgender women. *Psychology of Sexual Orientation and Gender Diversity*, *3*(3), 336.

Godfrey, E. B., & Burson, E. (2018). Interrogating the intersections: How intersectional perspectives can inform developmental scholarship on critical consciousness. *New Directions for Child and Adolescent Development*, *2018*(161), 17-38.

Godfrey, E. B., Burson, E. L., Yanisch, T. M., Hughes, D., & Way, N. (2019). A bitter pill to swallow? Patterns of critical consciousness and socioemotional and academic well-being in early adolescence. *Developmental Psychology*, *55*(3), 525.

Goldbach, J. T., Tanner-Smith, E. E., Bagwell, M., & Dunlap, S. (2014). Minority stress and substance use in sexual minority adolescents: A meta-analysis. *Prevention Science*, *15*(3), 350-363.

Gonzales, G., & Gavulic, K. (2016). Impacts of the Orlando Pulse Nightclub Shooting on Mental Health of Sexual Minority Populations. *APHA's 2019 Annual Meeting and Expo (Nov. 2 - Nov. 6)*.

Gonzales, G., & McKay, T. (2017). What an emerging Trump administration means for lesbian, gay, bisexual, and transgender health. *Health Equity*, *1*(1), 83-86.

Gootnick, A. T. (1974). Locus of control and political participation of college students: A comparison of unidimensional and multidimensional approaches. *Journal of Consulting*

and Clinical Psychology, 42, 54-58.

Grace-Martin, K. (n.d.). *Zero-one Inflated Models for Proportion Data.* The Analysis Factor. <https://www.theanalysisfactor.com/zero-one-inflated-beta-models-for-proportion-data/>

Guhn, A., Sterzer, P., Haack, F. H., & Köhler, S. (2018). Affective and cognitive reactivity to mood induction in chronic depression. *Journal of Affective Disorders*, *229*, 275-281.

Gurin, P., Gurin, G., Morrison, B. M. (1978). Personal and ideological aspects of internal and external control. *Social Psychology, 41*, 275-296.

Haas, S. M., & Lannutti, P. J. (2021). The impact of minority stress and social support on positive relationship functioning in same-sex relationships. *Health Communication*, *36*(3), 315-323.

Hagan, M. J., Sladek, M. R., Luecken, L. J., & Doane, L. D. (2020). Event-related clinical distress in college stu- dents: Responses to the 2016 US Presidential election. Journal of American College Health, 68(1), 21–25. https://doi.org/10.1080/07448481.2018.1515763.

Hancock, J. T., Gee, K., Ciaccio, K., & Lin, J. M. H. (2008, November). I'm sad you're sad: emotional contagion in CMC. In *Proceedings of the 2008 ACM Conference on Computer Supported Cooperative Work* (pp. 295-298).

Hargitai, R., Naszódi, M., Kis, B., Nagy, L., Bóna, A., & László, J. (2007). Linguistic markers of depressive dynamics in self-narratives: Negation and self-reference. *Empirical Text and Culture Research*, *3*, 26-38.

Harper, G. W., Cherenack, E. M., Slye, N., Jadwin-Cakmak, L., & Hudgens, M. (2022). Pilot

Trial of a Critical Consciousness-Based Intervention for Black Young Gay and Bisexual Men Living with HIV: Mobilizing Our Voices for Empowerment (MOVE). *Journal of Racial and Ethnic Health Disparities*, 1-19.

Hatchel, T., Espelage, D. L., & Huang, Y. (2018). Sexual harassment victimization, school belonging, and depressive symptoms among LGBTQ adolescents: Temporal insights. *American Journal of Orthopsychiatry*, *88*(4), 422.

Hatzenbuehler, M. L. (2009). How does sexual minority stigma "get under the skin"? A psychological mediation framework. *Psychological Bulletin*, *135*(5), 707.

Hatzenbuehler, M. L., Nolen-Hoeksema, S., & Erickson, S. J. (2008). Minority stress predictors of HIV risk behavior, substance use, and depressive symptoms: results from a prospective study of bereaved gay men. *Health Psychology*, *27*(4), 455.

Hatzenbuehler, M. L., Shen, Y., Vandewater, E. A., & Russell, S. T. (2019). Proposition 8 and homophobic bullying in California. *Pediatrics*, *143*(6).

Hayat, M. J., & Higgins, M. (2014). Understanding poisson regression. *Journal of Nursing Education*, *53*(4), 207-215.

Hendricks, M. L. (2022). Minority stress and change efforts. In D. C. Haldeman (Ed.), *The case against conversion "therapy": Evidence, ethics, and alternatives* (pp. 71–88). American Psychological Association. https://doi.org/10.1037/0000266-004

Hendy, H. M., Joseph, L. J., & Can, S. H. (2016). Repressed anger mediates associations between sexual minority stressors and negative psychological outcomes in gay men and lesbian women. *Journal of Gay & Lesbian Mental Health*, *20*(3), 280-296.

Hernández, R. J., & Villodas, M. T. (2020). Overcoming racial battle fatigue: The associations between racial microaggressions, coping, and mental health among Chicana/o and

Latina/o college students. *Cultural Diversity and Ethnic Minority Psychology, 26*(3), 399–411. https://doi.org/10.1037/cdp0000306

Herrman, H., Stewart, D. E., Diaz-Granados, N., Berger, E. L., Jackson, B., & Yuen, T. (2011). What is resilience?. *The Canadian Journal of Psychiatry*, *56*(5), 258-265.

Hicks, G. R. (2019). Mass media and the LGBT community. In *Cross-Cultural Journalism and Strategic Communication* (pp. 139-163). Routledge.

Hinton, J. D., De la Piedad Garcia, X., Kaufmann, L. M., Koc, Y., & Anderson, J. R. (2022). A systematic and meta-analytic review of identity centrality among LGBTQ groups: An assessment of psychosocial correlates. *The Journal of Sex Research*, *59*(5), 568-586.

Hogarth, L., Hardy, L., Bakou, A., Mahlberg, J., Weidemann, G., Cashel, S., & Moustafa, A. A. (2019). Negative mood induction increases choice of heroin versus food pictures in opiate-dependent individuals: correlation with self-medication coping motives and subjective reactivity. *Frontiers in Psychiatry*, *10*, 274.

Horne, S. G., McGinley, M., Yel, N., & Maroney, M. R. (2022). The stench of bathroom bills and anti-transgender legislation: Anxiety and depression among transgender, nonbinary, and cisgender LGBQ people during a state referendum. *Journal of Counseling Psychology*, *69*(1), 1.

Howard, L. C., Krueger, E. A., Barker, J. O., Boley Cruz, T., Cwalina, S. N., Unger, J. B., ... & Leventhal, A. M. (2022). Young Adults' Distress About Police Brutality Following the Death of George Floyd. *Youth & Society*, 0044118X221087282.

Hoyt, T., & Pasupathi, M. (2008). Blogging about trauma: Linguistic markers of apparent recovery. *E-Journal of Applied Psychology*, *4*(2), 56-62.

Hughto, J. M., Pletta, D., Gordon, L., Cahill, S., Mimiaga, M. J., & Reisner, S. L. (2021).

Negative transgender-related media messages are associated with adverse mental health outcomes in a multistate study of transgender adults. *LGBT Health*, *8*(1), 32-41.

Ibrahim, D. A., Godfrey, E. B., Cappella, E., & Burson, E. (2022). The Art of Social Justice: Examining Arts Programming as a Context for Critical Consciousness Development Among Youth. *Journal of Youth and Adolescence*, *51*(3), 409-427.

Jackson, S. D. (2017). "Connection is the antidote": Psychological distress, emotional processing, and virtual community building among LGBTQ students after the Orlando shooting. *Psychology of Sexual Orientation and Gender Diversity*, *4*(2), 160.

Jackson, M., & Williams, J. L. (2022). COVID-19 mitigation policies and psychological distress in young adults. *SSM-Mental Health*, *2*, 100027.

Johns, M. M., Lowry, R., Andrzejewski, J., Barrios, L. C., Demissie, Z., McManus, T., ... & Underwood, J. M. (2019). Transgender identity and experiences of violence victimization, substance use, suicide risk, and sexual risk behaviors among high school students—19 states and large urban school districts, 2017. *Morbidity and Mortality Weekly Report*, *68*(3), 67.

Jonas, L., Salazar de Pablo, G., Shum, M., Nosarti, C., Abbott, C., & Vaquerizo-Serrano, J. (2022). A systematic review and meta-analysis investigating the impact of childhood adversities on the mental health of LGBT+ youth. *JCPP Advances*, e12079.

Jones, N. M., Brymer, M., & Silver, R. C. (2019). Using big data to study the impact of mass violence: Opportunities for the traumatic stress field. *Journal of Traumatic Stress*, *32*(5), 653-663

Jones, A., Navarro, A. (2022). This year on pace to see record anti-transgender bills passed by

states, says Human Rights Campaign. *CBS News. <https://www.cbsnews.com/news/2022-anti-transgender-legislation-record-human-rights-campaign/>*

Jones, N. M., Wojcik, S. P., Sweeting, J., & Silver, R. C. (2016). Tweeting negative emotion: An investigation of Twitter data in the aftermath of violence on college campuses. *Psychological Methods*, *21*(4), 526.

Joseph, D. L., Chan, M. Y., Heintzelman, S. J., Tay, L., Diener, E., & Scotney, V. S. (2020). The manipulation of affect: A meta-analysis of affect induction procedures. *Psychological Bulletin*, *146*(4), 355

Juárez-Chávez, E., Cooney, E. E., Hidalgo, A., Sánchez, J., & Poteat, T. (2021). Violence experiences in childhood and adolescence among gay men and transgender women living in Perú: a qualitative exploration. *Journal of Interpersonal Violence*, *36*(9-10), 4235-4255.

Kamal, K., Li, J. J., Hahm, H. C., & Liu, C. H. (2021). Psychiatric impacts of the COVID-19 global pandemic on US sexual and gender minority young adults. *Psychiatry Research*, *299*, 113855.

Karami, A., & Webb, F. (2020). Social Media, LGBT, and Health: LGB vs Transgender Individuals. In *AMIA*.

Katz-Wise, S. L., & Hyde, J. S. (2012). Victimization experiences of lesbian, gay, and bisexual individuals: A meta-analysis. *Journal of Sex Research*, *49*(2-3), 142-167.

Kaufman, T. M. L., Baams, L., & Dubas, J. S. (2017). Microaggressions and depressive symptoms in sexual minority youth: The roles of rumination and social support. *Psychology of Sexual Orientation and Gender Diversity, 4*(2), 184–192. https://doi.org/10.1037/sgd0000219

Kauth, M. R. (2022). The shame trap: Comment on "How minority stress becomes traumatic invalidation: An emotion-focused conceptualization of minority stress in sexual and gender minority people". *Clinical Psychology: Science and Practice, 29*(2), 203–204. https://doi.org/10.1037/cps0000061

Kazantzis, N., Luong, H. K., Usatoff, A. S., Impala, T., Yew, R. Y., & Hofmann, S. G. (2018). The processes of cognitive behavioral therapy: A review of meta-analyses. *Cognitive Therapy and Research*, *42*(4), 349-357.

Kelleher, C. (2009). Minority stress and health: Implications for lesbian, gay, bisexual, transgender, and questioning (LGBTQ) young people. *Counselling Psychology Quarterly*, *22*(4), 373-379

Kellerman, J. K., Hamilton, J. L., Selby, E. A., & Kleiman, E. M. (2022). The Mental Health Impact of Daily News Exposure During the COVID-19 Pandemic: Ecological Momentary Assessment Study. *JMIR Mental Health*, *9*(5), e36966.

Kim, S. C. (2019). *The Language of Minority Stress Experiences of Sexual Minority Communities on Reddit*. (Thesis, Georgia Institute of Technology). Smartech.gatech.edu.

Kwon, P. (2013). Resilience in lesbian, gay, and bisexual individuals. *Personality and Social Psychology Review*, *17*(4), 371-383.

Lavietes, M. (2022). Biden warns of 'rising hate and violence' against LGBTQ people. *NBC News.* < https://www.nbcnews.com/nbc-out/out-politics-and-policy/biden-warns-rising-hate-violence-lgbtq-people-rcna29184>

Levitt, H. M., Ovrebo, E., Anderson-Cleveland, M. B., Leone, C., Jeong, J. Y., Arm, J. R., ... & Horne, S. G. (2009). Balancing dangers: GLBT experience in a time of anti-GLBT legislation. *Journal of Counseling Psychology*, *56*(1), 67.

Li, T. M., Chau, M., Yip, P. S., & Wong, P. W. (2014). Temporal and computerized psycholinguistic analysis of the blog of a Chinese adolescent suicide. *Crisis: The Journal of Crisis Intervention and Suicide Prevention*, *35*(3), 168.

Li, Y., & Samp, J. A. (2019). Internalized homophobia, language use, and relationship quality in same-sex romantic relationships. *Communication Reports*, *32*(1), 15-28.

Liao, K. Y. H., Kashubeck-West, S., Weng, C. Y., & Deitz, C. (2015). Testing a mediation framework for the link between perceived discrimination and psychological distress among sexual minority individuals. *Journal of Counseling Psychology*, *62*(2), 226.

Link, B. G., Struening, E. L., Rahav, M., Phelan, J. C., & Nuttbrock, L. (1997). On stigma and its consequences: evidence from a longitudinal study of men with dual diagnoses of mental illness and substance abuse. *Journal of Health and Social Behavior*, 177-190.

Liu, F., & Eugenio, E. C. (2018). A review and comparison of Bayesian and likelihood-based inferences in beta regression and zero-or-one-inflated beta regression. *Statistical methods in medical research*, *27*(4), 1024-1044.

Liu, R. T., Sheehan, A. E., Walsh, R. F., Sanzari, C. M., Cheek, S. M., & Hernandez, E. M. (2019). Prevalence and correlates of non-suicidal self-injury among lesbian, gay, bisexual, and transgender individuals: A systematic review and meta-analysis. *Clinical Psychology Review*, *74*, 101783.

Livingston, N. A., Flentje, A., Brennan, J., Mereish, E. H., Reed, O., & Cochran, B. N. (2020). Real-time associations between discrimination and anxious and depressed mood among sexual and gender minorities: The moderating effects of lifetime victimization and identity concealment. *Psychology of Sexual Orientation and Gender Diversity, 7*(2), 132–141. https://doi.org/10.1037/sgd0000371

Lui, P. P., & Quezada, L. (2019). Associations between microaggression and adjustment outcomes: A meta-analytic and narrative review. *Psychological Bulletin*, *145*(1), 45.

Lyons, M., Aksayli, N. D., & Brewer, G. (2018). Mental distress and language use: Linguistic analysis of discussion forum posts. *Computers in Human Behavior*, *87*, 207-211.

Maarten L. Buis, 2010. "ZOIB: Stata module to fit a zero-one inflated beta distribution by maximum likelihood," Statistical Software Components S457156, Boston College Department of Economics, revised 08 Aug 2012.

Maduro, R. S., Sheehan, B. E., Hitson, P., Shappie, A. T., & Derlega, V. J. (2020). LGBTQ-related individual differences predict emotional reactions to the Pulse nightclub shootings. *Violence and Victims*, *35*(2), 210-226.

Maker Castro, E., Dull, B., Hoyt, L. T., & Cohen, A. K. (2022). Associations between critical consciousness and well-being in a national sample of college students during the COVID-19 pandemic. *Journal of Community Psychology*, *50*(2), 760-777.

Malazada, S. A. (2020). *Hate Crime Explained Through UCR Data During the Eras of Barack Obama's and Donald Trump's Political Power* (Doctoral dissertation, University of Colorado Colorado Springs).

Margola, D., Facchin, F., Molgora, S., & Revenson, T. A. (2010). Cognitive and emotional processing through writing among adolescents who experienced the death of a classmate. *Psychological Trauma: Theory, Research, Practice, and Policy*, *2*(3), 250.

Marx, R. A., & Kettrey, H. H. (2016). Gay-straight alliances are associated with lower levels of school-based victimization of LGBTQ+ youth: A systematic review and meta-analysis. *Journal of Youth and Adolescence*, *45*(7), 1269-1282.

Marzetti, H. (2018). Proudly proactive: celebrating and supporting LGBT+ students in Scotland.

Teaching in Higher Education, *23*(6), 701-717.

Maydeu-Olivares, A. (2017). Maximum likelihood estimation of structural equation models for continuous data: Standard errors and goodness of fit. *Structural Equation Modeling: A Multidisciplinary Journal*, *24*(3), 383-394.

Mayer, K. H., Garofalo, R., & Makadon, H. J. (2014). Promoting the successful development of sexual and gender minority youths. *American Journal of Public Health*, *104*(6), 976-981.

McCarthy, M. A., Fisher, C. M., Irwin, J. A., Coleman, J. D., & Pelster, A. D. K. (2014). Using the minority stress model to understand depression in lesbian, gay, bisexual, and transgender individuals in Nebraska. *Journal of Gay & Lesbian Mental Health*, *18*(4), 346-360.

McCartney, M., Nevitt, S., Lloyd, A., Hill, R., White, R., & Duarte, R. (2021). Mindfulness-based cognitive therapy for prevention and time to depressive relapse: Systematic review and network meta-analysis. *Acta Psychiatrica Scandinavica*, *143*(1), 6-21.

McLemore, K. A. (2018). A minority stress perspective on transgender individuals' experiences with misgendering. *Stigma and Health*, *3*(1), 53.

McConnell, E. A., Janulis, P., Phillips II, G., Truong, R., & Birkett, M. (2018). Multiple minority stress and LGBT community resilience among sexual minority men. *Psychology of Sexual Orientation and Gender Diversity*, *5*(1), 1.

McCormick, M., Anthony, J., & Townsend, E. T. (2023). Fostering Safer Spaces: Retaining and Empowering SGM Students with a Lived History of Foster Care. *Child and Adolescent Social Work Journal*, *40*(2), 255-270.

McWhirter, E. H., & McWhirter, B. T. (2016). Critical consciousness and vocational

development among Latina/o high school youth: Initial development and testing of a measure. *Journal of Career Assessment*, *24*(3), 543-558.

Mereish, E. H., & Miranda Jr, R. (2019). Exposure to stigma elicits negative affect and alcohol craving among young adult sexual minority heavy drinkers. *Alcoholism: Clinical and Experimental Research*, *43*(6), 1263-1272.

Mereish, E. H., O'Cleirigh, C., & Bradford, J. B. (2014). Interrelationships between LGBT-based victimization, suicide, and substance use problems in a diverse sample of sexual and gender minorities. *Psychology, Health & Medicine*, *19*(1), 1-13.

Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence. *Psychological Bulletin*, *129*(5), 674.

Meyer, I. H. (2015). Resilience in the study of minority stress and health of sexual and gender minorities. *Psychology of Sexual Orientation and Gender Diversity*, *2*(3), 209.

MONGeLLi, F., Perrone, D., BaLDUcci, J., Sacchetti, A., Ferrari, S., Mattei, G., & Galeazzi, G. M. (2019). Minority stress and mental health among LGBT populations: An update on the evidence. *Minerva Psichiatrica 60(1) 27-50.*

Moshagen, M., & Erdfelder, E. (2016). A new strategy for testing structural equation models. *Structural Equation Modeling, 23*, 54–60. https://doi.org/10.1080/10705511.2014.950896

Moraes, R. R., Correa, M. B., Daneris, Â., Queiroz, A. B., Lopes, J. P., Lima, G. S., ... & Demarco, F. F. (2021). Email vs. Instagram recruitment strategies for online survey research. *Brazilian Dental Journal*, *32*, 67-77.

Morrison, E. G. (2010). Transgender as ingroup or outgroup? Lesbian, gay, and bisexual

viewers respond to a transgender character in daytime television. *Journal of Homosexuality*, *57*(5), 650-665.

Mustanski, B. (2011). Ethical and regulatory issues with conducting sexuality research with LGBT adolescents: A call to action for a scientifically informed approach. *Archives of Sexual Behavior*, *40*(4), 673-686.

Nadal, K. L. (2018). Measuring LGBTQ microaggressions: The sexual orientation microaggressions scale (SOMS) and the gender identity microaggressions scale (GIMS). *Journal of Homosexuality 66*(10) 1404-1414.

Newell, E. E., McCoy, S. K., Newman, M. L., Wellman, J. D., & Gardner, S. K. (2018). You sound so down: Capturing depressed affect through depressed language. *Journal of Language and Social Psychology*, *37*(4), 451-474.

Newberger, N. G., Hinds, Z., Mahoney, C. T., Bryant, W. T., Herbitter, C., & Livingston, N. A. (2022). Real-time associations between discrimination, cannabis use, and mood among sexual and gender minority individuals. *Psychology of Addictive Behaviors*.

Newheiser, A. K., & Barreto, M. (2014). Hidden costs of hiding stigma: Ironic interpersonal consequences of concealing a stigmatized identity in social interactions. *Journal of Experimental Social Psychology*, *52*, 58-70.

Newheiser, A. K., Barreto, M., & Tiemersma, J. (2017). People like me don't belong here: Identity concealment is associated with negative workplace experiences. *Journal of Social Issues*, *73*(2), 341-358.

Ngamake, S. T., Walch, S. E., & Raveepatarakul, J. (2016). Discrimination and sexual minority mental health: Mediation and moderation effects of coping. *Psychology of Sexual Orientation and Gender Diversity*, *3*(2), 213.

Nock, M. K., Wedig, M. M., Holmberg, E. B., & Hooley, J. M. (2008). The emotion reactivity scale: development, evaluation, and relation to self-injurious thoughts and behaviors. *Behavior Therapy*, *39*(2), 107-116.

Nolen-Hoeksema, S., & Davis, C. G. (1999). " Thanks for sharing that": ruminators and their social support networks. *Journal of Personality and Social Psychology*, *77*(4), 801.

Nuttbrock, L., Bockting, W., Rosenblum, A., Mason, M., Macri, M., & Becker, J. (2012). Gender identity conflict/affirmation and major depression across the life course of transgender women. *International Journal of Transgenderism*, *13*(3), 91-103.

Obradović, J., & Masten, A. S. (2007). Developmental antecedents of young adult civic engagement. *Applied Developmental Science*, *11*(1), 2-19.

O'Brien, M., Spielvogel, B., & Coley, R. L. (2021). Political to Personal: Shifts in Youths' Attitudes Following the 2016 US Presidential Race and Election. *Journal of Research on Adolescence*.

O'Connell, N. S., Dai, L., Jiang, Y., Speiser, J. L., Ward, R., Wei, W., ... & Gebregziabher, M. (2017). Methods for analysis of pre-post data in clinical research: a comparison of five common methods. *Journal of Biometrics & Biostatistics*, *8*(1), 1.

Otto, M. W., Henin, A., Hirshfeld-Becker, D. R., Pollack, M. H., Biederman, J., & Rosenbaum, J. F. (2007). Posttraumatic stress disorder symptoms following media exposure to tragic events: Impact of 9/11 on children at risk for anxiety disorders. *Journal of Anxiety Disorders*, *21*(7), 888-902.

Parker, C., Scott, S., & Geddes, A. (2019). Snowball sampling. *SAGE research methods foundations*.

Parodi, K. B., Holt, M. K., Green, J. G., Katz-Wise, S. L., Shah, T. N., Kraus, A. D., & Xuan, Z.

(2022). Associations between school-related factors and mental health among transgender and gender diverse youth. *Journal of School Psychology*, *90*, 135-149.

Parra, L. A., & Hastings, P. D. (2020). Challenges to identity integration indirectly link experiences of heterosexist and racist discrimination to lower waking salivary cortisol in sexually diverse Latinx emerging adults. *Frontiers in Psychology*, *11*, 228.

Parra, L. A., & Hastings, P. D. (2018). Integrating the neurobiology of minority stress with an intersectionality framework for LGBTQ-Latinx populations. *New Directions for Child and Adolescent Development*, *2018*(161), 91-108.

Pate, A. R., & Anestis, M. D. (2020). Comparison of perceived burdensomeness, thwarted belongingness, capability for suicide, and suicidal ideation among heterosexual and sexual minority individuals in Mississippi. *Archives of Suicide Research*, *24*(sup2), S293-S309.

Paterson, J. L., Brown, R., & Walters, M. A. (2019). Feeling for and as a group member: Understanding LGBT victimization via group-based empathy and intergroup emotions. *British Journal of Social Psychology*, *58*(1), 211-224.

Pennebaker, J. W., Boyd, R. L., Jordan, K., & Blackburn, K. (2015). *The Development and Psychometric Properties of LIWC2015*. Austin, TX: University of Texas at Austin.

Poteat, V. P., Calzo, J. P., Yoshikawa, H., Lipkin, A., Ceccolini, C. J., Rosenbach, S. B., ... & Burson, E. (2020). Greater engagement in gender-sexuality alliances (GSAs) and GSA characteristics predict youth empowerment and reduced mental health concerns. *Child Development*, *91*(5), 1509-1528.

Poteat, V. P., Godfrey, E. B., Brion-Meisels, G., & Calzo, J. P. (2020). Development of youth

advocacy and sociopolitical efficacy as dimensions of critical consciousness within gender-sexuality alliances. *Developmental Psychology*, *56*(6), 1207.

Poteat, V. P., Mereish, E. H., DiGiovanni, C. D., & Koenig, B. W. (2011). The effects of general and homophobic victimization on adolescents' psychosocial and educational concerns: the importance of intersecting identities and parent support. *Journal of Counseling Psychology*, *58*(4), 597.

Poteat, V. P., O'Brien, M. D., Rosenbach, S. B., Finch, E. K., & Calzo, J. P. (2021). Depression, anxiety, and interest in mental health resources in school-based gender-sexuality alliances: implications for sexual and gender minority youth health promotion. *Prevention Science*, *22*(2), 237-246.

Poteat, V. P., & Scheer, J. R. (2016). GSA advisors' self-efficacy related to LGBT youth of color and transgender youth. *Journal of LGBT Youth*, *13*(4), 311-325.

Preacher, K. J., & Coffman, D. L. (2006). *Computing power and minimum sample size for RMSEA* [Computer software]. Available from http://quantpsy.org/.

Puckett, J. A., Maroney, M. R., Levitt, H. M., & Horne, S. G. (2016). Relations between gender expression, minority stress, and mental health in cisgender sexual minority women and men. *Psychology of Sexual Orientation and Gender Diversity*, *3*(4), 489.

Pullen Sansfaçon, A., Medico, D., Suerich-Gulick, F., & Temple Newhook, J. (2020). "I knew that I wasn't cis, I knew that, but I didn't know exactly": Gender identity development, expression and affirmation in youth who access gender affirming medical care. *International Journal of Transgender Health*, *21*(3), 307-320.

Raj, R. (2014). Transactivism as therapy: A client self-empowerment model linking personal and

social agency. In *Activism and LGBT Psychology* (pp. 77-98). Routledge.

Radloff, L. S. (1991). The use of the Center for Epidemiologic Studies Depression Scale in adolescents and young adults. *Journal of Youth and Adolescence*, *20*(2), 149-166.

Ramirez, J. L., & Paz Galupo, M. (2019). Multiple minority stress: The role of proximal and distal stress on mental health outcomes among lesbian, gay, and bisexual people of color. *Journal of Gay & Lesbian Mental Health*, *23*(2), 145-167.

Ramirez, J. L., Gonzalez, K. A., & Galupo, M. P. (2018). "Invisible during my own crisis": Responses of LGBT people of color to the Orlando shooting. *Journal of Homosexuality*, *65*(5), 579-599.

Rapa, L. J., Bolding, C. W., & Jamil, F. M. (2020). Development and initial validation of the short critical consciousness scale (CCS-S). *Journal of Applied Developmental Psychology*, *70*, 101164.

Ray, J. J. (1980). Belief in luck and locus of control. *The Journal of Social Psychology, 111*(2), 299-300.

Reuter, T. R., Newcomb, M. E., Whitton, S. W., & Mustanski, B. (2017). Intimate partner violence victimization in LGBT young adults: Demographic differences and associations with health behaviors. *Psychology of Violence*, *7*(1), 101.

Robertson, S. M., Short, S. D., Sawyer, L., & Sweazy, S. (2021). Randomized controlled trial assessing the efficacy of expressive writing in reducing anxiety in first-year college students: the role of linguistic features. *Psychology & Health*, *36*(9), 1041-1065.

Rodríguez-Madera, S. L., Padilla, M., Varas-Díaz, N., Neilands, T., Vasques Guzzi, A. C.,

Florenciani, E. J., & Ramos-Pibernus, A. (2017). Experiences of violence among transgender women in Puerto Rico: An underestimated problem. *Journal of Homosexuality*, *64*(2), 209-217.

Rogers, M. L., Hom, M. A., Janakiraman, R., & Joiner, T. E. (2021). Examination of minority stress pathways to suicidal ideation among sexual minority adults: The moderating role of LGBT community connectedness. *Psychology of Sexual Orientation and Gender Diversity*, *8*(1), 38.

Rood, B. A., Reisner, S. L., Surace, F. I., Puckett, J. A., Maroney, M. R., & Pantalone, D. W. (2016). Expecting rejection: Understanding the minority stress experiences of transgender and gender-nonconforming individuals. *Transgender Health*, *1*(1), 151-164.

Rubin, D. B. (2018). Multiple imputation. In *Flexible Imputation of Missing Data, Second Edition* (pp. 29-62). Chapman and Hall/CRC.

Rosseel, Y. (2010). *MPlus estimators: MLM and MLR.* Lecture. Ghent University. <https://users.ugent.be/~yrosseel/lavaan/utrecht2010.pdf>

Russell, G. M., & Bohan, J. S. (2014). Liberating psychotherapy: Liberation psychology and psychotherapy with LGBT clients. In *Activism and LGBT Psychology* (pp. 59-75). Routledge.

Russell, S. T., & Fish, J. N. (2016). Mental health in lesbian, gay, bisexual, and transgender (LGBT) youth. *Annual Review of Clinical Psychology*, *12*, 465.

Ryan, C., Toomey, R. B., Diaz, R. M., & Russell, S. T. (2020). Parent-initiated sexual orientation change efforts with LGBT adolescents: Implications for young adult mental health and adjustment. *Journal of Homosexuality*, *67*(2), 159-173.

Saha, K., Kim, S. C., Reddy, M. D., Carter, A. J., Sharma, E., Haimson, O. L., & De

Choudhury, M. (2019). The language of LGBTQ+ minority stress experiences on social media. *Proceedings of the ACM on Human-Computer Interaction*, *3*(CSCW), 1-22.

Salerno, J. P., & Boekeloo, B. O. (2022). LGBTQ Identity-Related Victimization During COVID-19 Is Associated with Moderate to Severe Psychological Distress Among Young Adults. *LGBT Health*.

Sandi, C. (2013). Stress and cognition. *Wiley Interdisciplinary Reviews: Cognitive Science*, *4*(3), 245-261.

Schmitz, R. M., & Tyler, K. A. (2019). 'Life has actually become more clear': An examination of resilience among LGBTQ young adults. *Sexualities*, *22*(4), 710-733.

Schrager, S. M., Steiner, R. J., Bouris, A. M., Macapagal, K., & Brown, C. H. (2019). Methodological considerations for advancing research on the health and wellbeing of sexual and gender minority youth. *LGBT Health*, *6*(4), 156-165.

Schwartz, D. R., Stratton, N., & Hart, T. A. (2016). Minority stress and mental and sexual health: Examining the psychological mediation framework among gay and bisexual men. *Psychology of Sexual Orientation and Gender Diversity*, *3*(3), 313.

Scourfield, J., Roen, K., & McDermott, L. (2008). Lesbian, gay, bisexual and transgender young people's experiences of distress: resilience, ambivalence and self-destructive behaviour. *Health & Social Care in the Community*, *16*(3), 329-336.

Seager van Dyk, I., Hahn, H., Scott, L. E., Aldao, A., & Vine, V. (2021). Manipulating minority stress: Validation of a novel film-based minority stress induction with lesbian, gay, and bisexual adults. *Psychology of Sexual Orientation and Gender Diversity*.

Seo, J., Lee, C. S., Lee, Y. J., Bhang, S. Y., & Lee, D. (2021). The type of daily life stressors associated with social media use in adolescents with problematic internet/smartphone

use. *Psychiatry Investigation*, *18*(3), 241.

Sevelius, J. M. (2013). Gender affirmation: A framework for conceptualizing risk behavior among transgender women of color. *Sex Roles*, *68*(11), 675-689.

Shipherd, J. C., Berke, D., & Livingston, N. A. (2019). Trauma recovery in the transgender and gender diverse community: extensions of the minority stress model for treatment planning. *Cognitive and Behavioral Practice*, *26*(4), 629-646.

Sinclair, L., Trapnell, P., & Kinsman, L. (2023). Making the Personal Political: Personal versus Group-Focused Rumination Following Sexual Harassment. *Sex Roles*, *89*(9), 517-538.

Sloan, D. M. (2005). It's all about me: Self-focused attention and depressed mood. *Cognitive Therapy and Research*, *29*(3), 279-288.

Smith, D. M., Fox, K. R., Carter, M. L., Thoma, B. C., & Hooley, J. M. (2020). Emotional changes following discrimination induction in gender-and sexuality-diverse adolescents. *Emotion 22*(5) 920-930.

Smithson, M. & Verkuilen, J. A better lemon squeezer? Maximum-likelihood regression with beta-distributed dependent variables. *Psychol. Methods* 11, 54–71 (2006). DOI: 10.1037/1082-989X.11.1.54

Snyder, J. A., Tabler, J., & Gonzales, C. M. (2022). Measuring Sexual Identity, Gender Identity, and Biological Sex in Large Social Surveys: Implications for Victimization Research. *Criminal Justice and Behavior*, 00938548221097034.

Spielberger, C. D., Gonzalez-Reigosa, F., Martinez-Urrutia, A., Natalicio, L. F., & Natalicio, D. S. (1971). The state-trait anxiety inventory. *Revista Interamericana de Psicologia/Interamerican Journal of Psychology*, *5*(3 & 4).

Sroufe, L. A. (2013). The promise of developmental psychopathology: Past and present. *Development and Psychopathology*, *25*(4pt2), 1215-1224.

Ștefăniță, O., & Buf, D. M. (2021). Hate speech in social media and its effects on the LGBT community: A review of the current research. *Romanian Journal of Communication and Public Relations*, *23*(1), 47-55.

Stirman, S. W., & Pennebaker, J. W. (2001). Word use in the poetry of suicidal and nonsuicidal poets. *Psychosomatic Medicine*, *63*(4), 517-522.

Storozuk, A., Ashley, M., Delage, V., & Maloney, E. A. (2020). Got bots? Practical recommendations to protect online survey data from bot attacks. *The Quantitative Methods for Psychology*, *16*(5), 472-481.

Stults, C. B., Krause, K. A., Martino, R. J., Griffin, M., LoSchiavo, C. E., Lynn, S. G., ... & Halkitis, P. N. (2022). Sociodemographic characteristics, depressive symptoms, and increased frequency of intimate partner violence among LGBTQ people in the United States during the COVID-19 pandemic: A brief report. *Journal of Gay & Lesbian Social Services*, 1-13.

Swann, G., Bettin, E., Ryan, D. T., Clifford, A., Newcomb, M. E., Whitton, S. W., & Mustanski, B. (2022). The Sexual Orientation Microaggression Inventory Short Form (SOMI-SF): Validation in Three Samples of Racially/Ethnically Diverse Sexual Minority Youth. *Sexuality Research and Social Policy*, 1-10.

Szymanski, D. M., & Chung, Y. B. (2002). Internalized homophobia in lesbians. *Journal of Lesbian Studies*, *7*(1), 115-125.

Taber, J. L., Gao, S., Lynn, S. G., Brusche, D. R., & Stults, C. B. (2023). Community connectedness and depression in transgender populations: The role of self-focused attention. *Journal of Social and Personal Relationships*, *40*(6), 1875-1896.

Tackman, A. M., Sbarra, D. A., Carey, A. L., Donnellan, M. B., Horn, A. B., Holtzman, N. S., …

& Mehl, M. R. (2019). Depression, negative emotionality, and self-referential language: A multi-lab, multi-measure, and multi-language-task research synthesis. *Journal of Personality and Social Psychology*, *116*(5), 817.

Tan, K. K., Treharne, G. J., Ellis, S. J., Schmidt, J. M., & Veale, J. F. (2019). Gender minority stress: A critical review. *Journal of Homosexuality, 67*(10) 1471-1489.

Testa, R. J., Habarth, J., Peta, J., Balsam, K., & Bockting, W. (2015). Development of the gender minority stress and resilience measure. *Psychology of Sexual Orientation and Gender Diversity*, *2*(1), 65.

Thompson, E. R. (2007). Development and validation of an internationally reliable short-form of the positive and negative affect schedule (PANAS). *Journal of Cross-Cultural Psychology*, *38*(2), 227-242.

Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research*, *27*(3), 247-259.

Valenti, A. (2021). LGBT employment rights in an evolving legal landscape: the impact of the Supreme Court's decision in Bostock v. Clayton County, Georgia. *Employee Responsibilities and Rights Journal*, *33*(1), 3-23.

Verrelli, S., White, F. A., Harvey, L. J., & Pulciani, M. R. (2019). Minority stress, social support, and the mental health of lesbian, gay, and bisexual Australians during the Australian Marriage Law Postal Survey. *Australian Psychologist*, *54*(4), 336-346.

Walker, M., & Iverson, E. (2016). Identity development and political self-regulation in emerging adult political attitudes and behavior. *Emerging Adulthood*, *4*(3), 153-160.

Walters, M. A., Paterson, J. L., McDonnell, L., & Brown, R. (2020). Group identity, empathy

and shared suffering: Understanding the 'community'impacts of anti-LGBT and Islamophobic hate crimes. *International Review of Victimology*, *26*(2), 143-162.

Weidmann, B., & Miratrix, L. (2021). Missing, presumed different: Quantifying the risk of attrition bias in education evaluations. *Journal of the Royal Statistical Society: Series A (Statistics in Society), 184*(2), 732-760.

White Hughto, J. M., Pachankis, J. E., Willie, T. C., & Reisner, S. L. (2017). Victimization and depressive symptomology in transgender adults: The mediating role of avoidant coping. *Journal of Counseling Psychology*, *64*(1), 41.

Williams, M. (2019). *Hatred behind the screens: A report on the rise of online hate speech.* Cardiff University and Mishcon de Reya.

Wirtz, A. L., Poteat, T. C., Malik, M., & Glass, N. (2020). Gender-based violence against transgender people in the United States: a call for research and programming. *Trauma, Violence, & Abuse*, *21*(2), 227-241.

Yates, M., & Youniss, J. (1998). Community service and political identity development in adolescence. *Journal of Social Issues*, *54*(3), 495-512.

Yep, G. A. (1998). Freire's conscientization, dialogue, and liberation: Personal reflections on classroom discussions of marginality. *International Journal of Sexuality and Gender Studies*, *3*(2), 159-166.

Yurgelun-Todd, D. (2007). Emotional and cognitive changes during adolescence. *Current Opinion in Neurobiology*, *17*(2), 251-257.

Zeeman, L., Aranda, K., Sherriff, N., & Cocking, C. (2017). Promoting resilience and emotional well-being of transgender young people: research at the intersections of gender and sexuality. *Journal of Youth Studies*, *20*(3), 382-397.

Zhao, Y., Guo, Y., He, X., Wu, Y., Yang, X., Prosperi, M., ... & Bian, J. (2020). Assessing mental health signals among sexual and gender minorities using Twitter data. *Health Informatics Journal*, *26*(2), 765-786.

Zinzow, H. M., Ruggiero, K. J., Hanson, R. F., Smith, D. W., Saunders, B. E., & Kilpatrick, D. G. (2009). Witnessed community and parental violence in relation to substance use and delinquency in a national sample of adolescents. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, *22*(6), 525-533.

Zosky, D. L., & Alberts, R. (2016). What's in a name? Exploring use of the word queer as a term of identification within the college-aged LGBT community. *Journal of Human Behavior in the Social Environment*, *26*(7-8), 597-607.

Zuckerman, M. (1999). Diathesis-stress models. *Psycnet.apa.org*

Table 1
Youth Demographics Descriptive Data

Variable	*Time 1* N (%) M (SD)	*Time 2* N (%) M (SD)
Sexual orientation		
Gay	119 (19.87)	53 (13.22)
Lesbian	91 (15.19)	58 (14.46)
Bisexual	246 (41.07)	181 (45.14)
Heterosexual	7 (1.17)	3 (0.75)
Pansexual	50 (8.35)	41 (10.22)
Asexual	30 (5.01)	25 (6.23)
Queer	56 (9.35)	40 (9.98)
Gender identity		
Man	216 (36.06)	121 (30.17)
Woman	269 (44.91)	203 (50.62)
Non-Binary	62 (10.35)	51 (12.72)
Genderqueer	31 (5.18)	16 (3.99)
Gender Fluid	16 (2.67)	6 (1.50)
Agender	5 (0.83)	4 (1.00)
Transgender Identity		
Cisgender	363 (60.60)	240 (59.85)
Transgender	183 (30.55)	120 (29.93)
Questioning	53 (8.85)	41 (10.22)
Race or ethnicity		
White	279 (47.13)	172 (42.89)
Black	120 (20.27)	81 (20.20)
Asian	39 (6.59)	29 (7.23)
Latinx	60 (10.14)	47 (11.72)
Multiracial	89 (14.85)	65 (16.21)
Native American	6 (1.01)	4 (1.00)
Middle Eastern	0 (0)	0 (0)
Other written-in response	6 (1.01)	3 (0.75)
Socioeconomic Status		
Less than high school	11 (1.86)	8 (2.00)
Some high school	13 (2.20)	8 (2.00)
High school	80 (13.51)	56 (13.97)
Some college	142 (23.99)	95 (23.69)
2 year degree	67 (11.32)	45 (11.22)
4 year degree	197 (33.28)	128 (31.92)
Graduate degree	82 (13.85)	61 (15.21)
No answer	7 (1.17)	
Age	22.45 (2.22)	22.60 (2.23)

Table 2: Descriptives of Continuous Measures

	Mean (SD)	Range	Skewness	Kurtosis	% Zero
Part 1 Models					
Pre Negative Affect	1.84 (1.04)	1 - 5	1.40***	4.60***	0
Post Negative Affect	2.52 (1.16)	1 - 5	0.47**	2.43***	0
Pre Positive Affect	2.91 (1.07)	1 - 5	0.19	2.27***	0
Post Positive Affect	2.94 (1.10)	1 - 5	0.12	2.19***	0
% Negative Emotions Words	3.61 (3.74)	0 - 33.3	2.65***	17.45***	23
% Anger Words	0.85 (1.55)	0 - 11.1	2.54***	11.74***	65
% Self-Reference Words	4.55 (4.02)	0 - 21.1	0.94***	3.85**	24
% Cognitive Processing words	16.4 (6.54)	0 - 36.1	0.1	3.34	2
Part 2 Models					
Identity Affirmation	1.99 (0.70)	1 - 4	0.26*	2.09***	0
Critical Consciousness	4.42 (0.87)	1.33 - 6	-0.28**	2.89	0
Minority Stress	41.61 (15.16)	0 - 80	-0.22*	3.46*	0
Negative Affect Change	0.70 (0.94)	-1 - 4	0.98***	3.75**	0
% Negative Emotions Words	3.79 (3.70)	0 - 33.3	2.35***	15.08***	21
% Self-Reference Words	4.85 (4.24)	0 - 21.1	0.94***	3.74**	23
% Cognitive Processing words	16.6 (6.60)	0 - 36.1	0.07	3.39	2
Depressive Symptoms	2.35 (0.64)	1 - 4	-0.08	2.66	0

Note: Table depicts means, ranges, and skewness of all variables. Part 1 variables are used in a model including the full sample (N = 575) and part 2 variables are used in a model including only the exposure group (N – 402). Pre and Post negative and positive affect are calculated using the PANAS scale. Negative emotions, anger, self-reference, and cognitive processing words are calculated using the LIWC dictionary and software. Identity affirmation, critical consciousness, minority stress, and depressive symptoms are composite scores of their respective survey scales as described in the chapter 3.
** $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

Table 3: Correlation table for Part 1 Models

	Pre Negative Affect	Post Negative Affect	Pre Positive Affect	Post Positive Affect	% Negative Emotions	% Self-Reference	% Cognitive Processing
Pre-exposure Negative Affect	1						
Post-exposure Negative Affect	0.60***	1					
Pre-exposure Positive Affect	0.15***	0.34***	1				
Post-exposure Positive Affect	0.17***	0.36***	0.76***	1			
Percent Negative Emotions	-0.03	0.15***	0.04	0.13**	1		
Percent Self-Reference	0.17***	-0.03	-0.12**	-0.10*	0.31***	1	
Percent Cognitive Processing	-0.08	-0.12**	-0.09*	-0.12**	0.16***	0.09*	1
Percent Anger Words	-0.09*	0.006	0.05	0.04	0.36***	0.04	-0.04

Note: Table depicts pairwise correlations among continuous variables in part 1 models

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: Correlation table for Part 2 Models

	Identity Affirmation	Critical Consciousness	Minority Stress	Negative Affect Change	Negative Emotions	Self-Reference	Cognitive Processing	Depressive Symptoms
Identity Affirmation	1							
Critical Consciousness	0.28***	1						
Minority Stress	0.75***	0.29***	1					
Negative Affect Change	0.16**	0.21***	0.09	1				
Negative Emotions	0.004	0.05	-0.03	0.24***	1			
Self-Reference	-0.09	0.12*	-0.04	0.21***	0.38***	1		
Cognitive Processing	-0.14**	-0.07	-0.11*	-0.03	-0.12*	0.03	1	
Depressive Symptoms	0.15*	0.18**	0.20***	-0.12*	-0.0001	0.03	0.09	1

Note: Table depicts pairwise correlations among continuous variables in part 2 models

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: Effect of Vicarious Minority Stress on Proximal Stressors

	Positive Affect	**Negative Affect**	**Negative Emotions**	**Anger Words**	**Self-Reference**	**Cognitive Processing**
Proportion (β, SE)	0.050 (0.024)*	0.093 (0.034)**	0.078 (0.071)	-0.096 (0.154)	0.139 (0.056)*	0.062 (0.042)
Zero-Inflated (OR, CI)			0.536 (0.330, 0.870)*	0.113 (0.059, 0.214)***	0.924 (0.553, 1.543)	0.716 (0.153, 3.352)
Pseudo R Squared	0.07	0.07				
Wald Chi Squared	1045	887	83	32	55	82

Note: Table depicts main effect of assignment to exposure group on listed outcomes using either poisson regressions for count variables or zero-one inflated beta regressions for percentage variables. All models control for sexual orientation, gender identity, transgender identity, age, SES, and race.
† Poisson regressions predict post-exposure affect and control for pre-exposure affect in addition to demographic variables
** $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

Table 6: Mediational Models of distal and proximal minority stressors

	Model 1 β (*SE*)	Model 2 β (*SE*)
Proximal Stressors to Depression		
Negative Emotions Words	0.009 (0.071)	0.490 (0.054)***
Cognitive Processing Words	0.007 (0.058)	0.060 (0.054)
Self-Reference Words	0.048 (0.062)	0.087 (0.057)
Negative Affect Change	-0.129 (0.057)*	-0.330 (0.053)***
Distal Stressors to Proximal Stressors		
Negative Emotions Words		
Identity Affirmation	0.019 (0.071)	0.163 (0.068)*
Critical Consciousness	0.068 (0.050)	0.198 (0.051)***
Minority Stress	-0.061 (0.081)	0.215 (0.075)**
Cognitive Processing Words		
Identity Affirmation	-0.070 (0.074)	-0.075 (0.03)
Critical Consciousness	-0.059 (0.052)	-0.058 (0.052)
Minority Stress	-0.037 (0.080)	-0.033 (0.080)
Self-Reference Words		
Identity Affirmation	-0.090 (0.081)	-0.089 (0.080)
Critical Consciousness	0.173 (0.052)	0.177 (0.052)**
Minority Stress	-0.023 (0.083)	-0.026 (0.081)
Negative Affect Change		
Identity Affirmation	0.056 (0.080)	0.056 (0.079)
Critical Consciousness	0.186 (0.051)***	0.186 (0.051)***
Minority Stress	-0.004 (0.079)	-0.007 (0.077)
Indirect Effects on Depression		
Crit Consc. via Neg. Affect Change	-0.024 (0.012)*	-0.061 (0.019)**
Crit Consc. Via Neg. Emotions Words	0.001 (0.006)	0.097 (0.029)**
Affirmation via. Neg. Emotions Words	0.000 (0.005)	0.080 (0.034)*
Minority Stress via. Neg. Emotions Words	-0.001 (0.006)	0.105 (0.040)**
Model Fit		
RMSEA	0.152	0.115
CFI	0.705	0.941
SRMR	0.077	0.036

Note: Table depicts structural equation models in which distal minority stressors (identity affirmation, critical consciousness, minority stress) predict proximal stressors (negative emotions words, cognitive processing words, self-reference words, negative affect change), which in turn depict depressive symptoms. Model 1 depicts the originally hypothesized model as described. Model 2 depicts the same model in which the negative emotions words variable is dichotomized. All coefficients are standardized.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7: Power and coverage of pathways in mediational models of distal and proximal minority stressors

	Model 1 95% Coverage, % Sig Coeff	Model 2 95% Coverage, % Sig Coeff
Proximal Stressors to Depression	*R-Squared = 0.022*	*R-Squared = 0.226*
Negative Emotions Words	0.928, 0.076	0.948, 1.000
Cognitive Processing Words	0.948, 0.320	0.941, 0.349
Self-Reference Words	0.948, 0.131	0.948, 0.307
Negative Affect Change	0.958, 0.733	0.945, 1.000
Distal Stressors to Proximal Stressors		
Negative Emotions Words	*R-Squared = 0.006*	*R-Squared = 0.206*
Identity Affirmation	0.942, 0.077	0.964, 0.385
Critical Consciousness	0.948, 0.207	0.946, 0.991
Minority Stress	0.941, 0.189	0.952, 1.000
Cognitive Processing Words	*R-Squared = 0.017*	*R-Squared = 0.018*
Identity Affirmation	0.942, 0.164	0.945, 0.183
Critical Consciousness	0.950, 0.192	0.949, 0.208
Minority Stress	0.955, 0.166	0.942, 0.161
Self-Reference Words	*R-Squared = 0.031*	*R-Squared = 0.032*
Identity Affirmation	0.940, 0.180	0.944, 0.156
Critical Consciousness	0.951, 0.914	0.949, 0.910
Minority Stress	0.949, 0.253	0.952, 0.250
Negative Affect Change	*R-Squared = 0.043*	*R-Squared = 0.042*
Identity Affirmation	0.959, 0.132	0.938, 0.135
Critical Consciousness	0.947, 0.948	0.945, 0.956
Minority Stress	0.950, 0.050	0.938, 0.062
Indirect Effects on Depression		
Crit Consc. via Neg. Affect Change	0.939, 0.522	0.933, 0.819
Crit Consc. Via Neg. Emotions	0.993, 0.001	0.944, 0.991
Affirmation via. Neg. Emotions	0.998, 0.000	0.962, 0.368
Minority Stress via. Neg. Emotions	0.996, 0.000	0.952, 1.000
Model Fit		
RMSEA	0.014	0.016
CFI	0.988	0.997
SRMR	0.015	0.01

Note: Table depicts the results of a Monte Carlo simulation analyses for models 1 and 2 respectively, including the coverage and power of each pathway in each model. R-squared estimates for dependent variables are also included.

Table 8: Mediational Model with Self-Report Measures

	Model 3 β (*SE*)	Model 3 95% Cover, % Sig Coeff
Proximal Stressors to Depression		*R-Squared = 0.278*
Emotion Reactivity	0.240 (0.058)***	0.950, 1.000
Rumination	0.356 (0.055)***	0.951, 1.000
Distal Stressors to Proximal Stressors		
Emotion Reactivity		*R-Squared = 0.137*
Minority Stress	0.226 (0.076)**	0.954, 0.964
Identity Affirmation	-0.083 (0.072)	0.494, 0.306
Critical Consciousness	0.286 (0.050)***	0.937, 1.000
Rumination		*R-Squared = 0.146*
Minority Stress	0.317 *0.077)	0.944, 0.996
Identity Affirmation	-0.043 (0.071)	0.941, 0.145
Critical Consciousness	0.183 (0.048)***	0.953, 0.961
Indirect Effects on Depression		
Critical Consciousness via Emotion Reactivity	0.069 (0.021)**	0.940, 0.997
Critical Consciousness via Rumination	0.065 (0.020)**	0.962, 0.949
Minority Stress via Emotion Reactivity	0.054 (0.023)*	0.945, 0.928
Minority Stress via Rumination	0.113 (0.034)**	0.953, 0.995
Model Fit		
RMSEA	0.069	0.017
CFI	0.981	0.997
SRMR	0.036	0.015

Note: Table depicts structural equation models in which distal minority stressors (identity affirmation, critical consciousness, minority stress) predict proximal stressors (self-report rumination and emotion reactivity), which in turn depict depressive symptoms (Model 3). Also depicted are the results of a Monte Carlo simulation analysis, including the coverage and power of each pathway in model 3, as well as R-squared estimates for dependent variables..

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1.
A conceptual model of part 1, wherein exposure vicarious minority stress may lead to greater affect change, greater use of negative emotions words and self-reference words, and less use of cognitive processing words, as compared with exposure to an identity-irrelevant stressor.

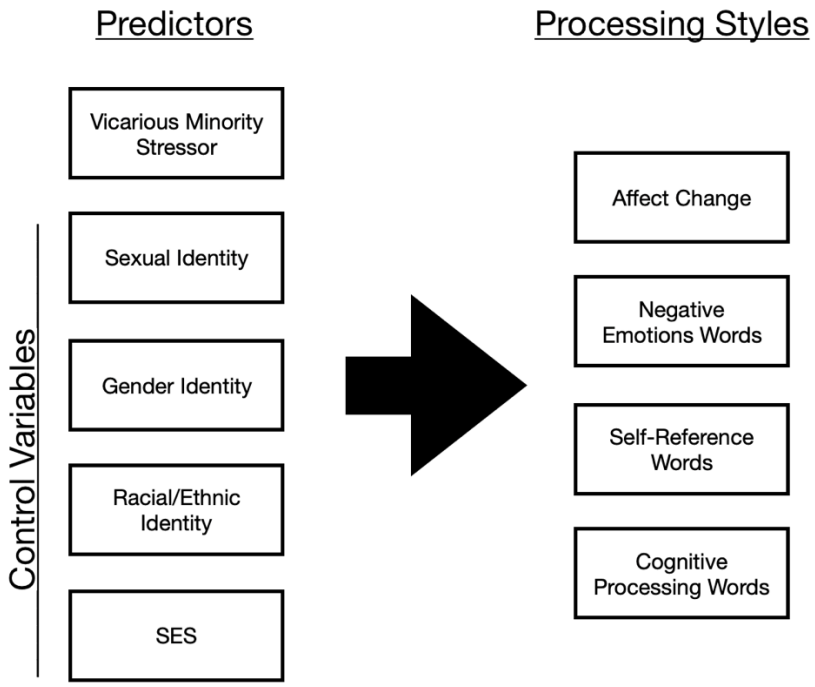


Figure 2.
A conceptual model of part 2 in which minority stress, identity affirmation, and critical consciousness predict processing styles (e.g. affect change, negative emotions words, self-reference words, cognitive processing words), which in turn predict depressive symptoms.

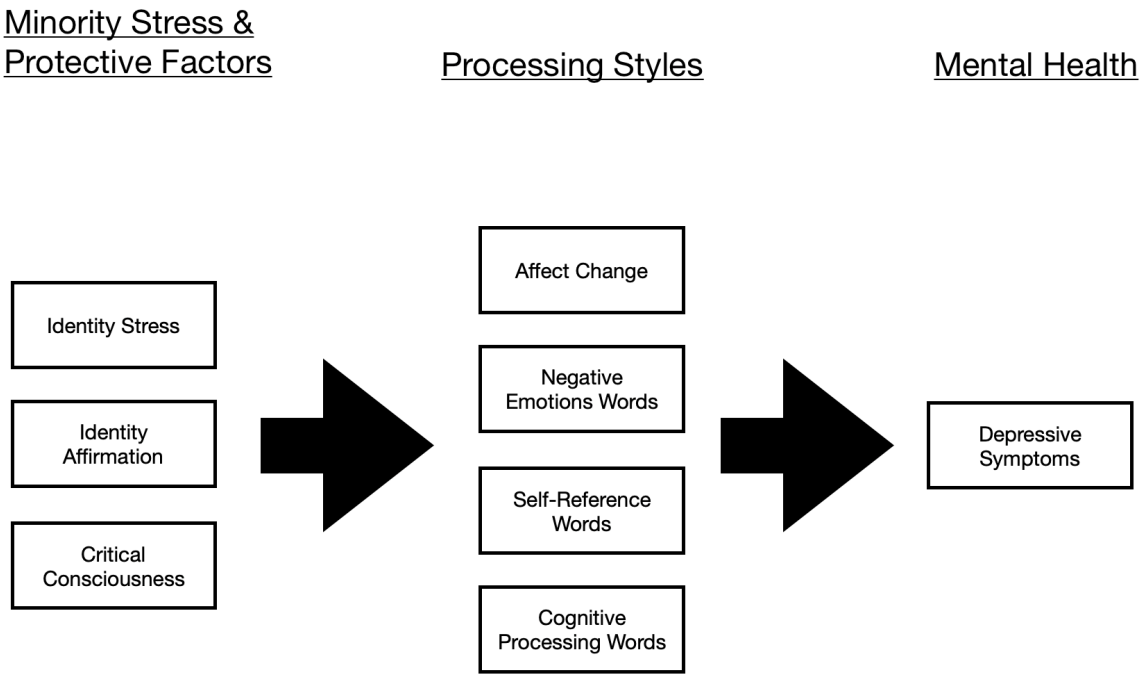
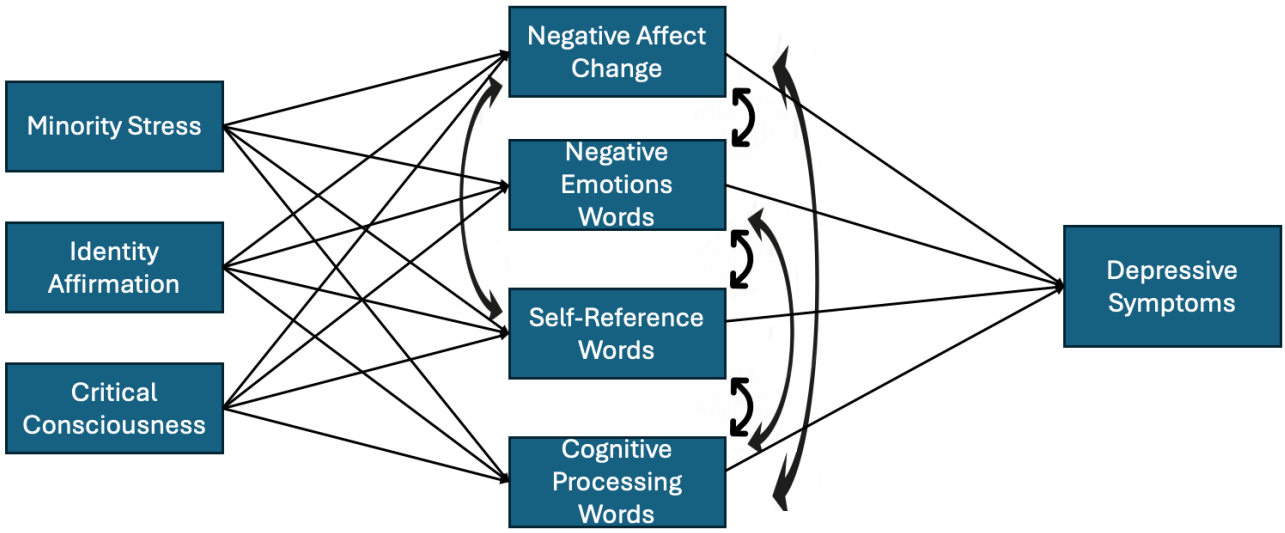


Figure 3. *Final pathways model (part 2 model 2) with all pathways and covariances included.*

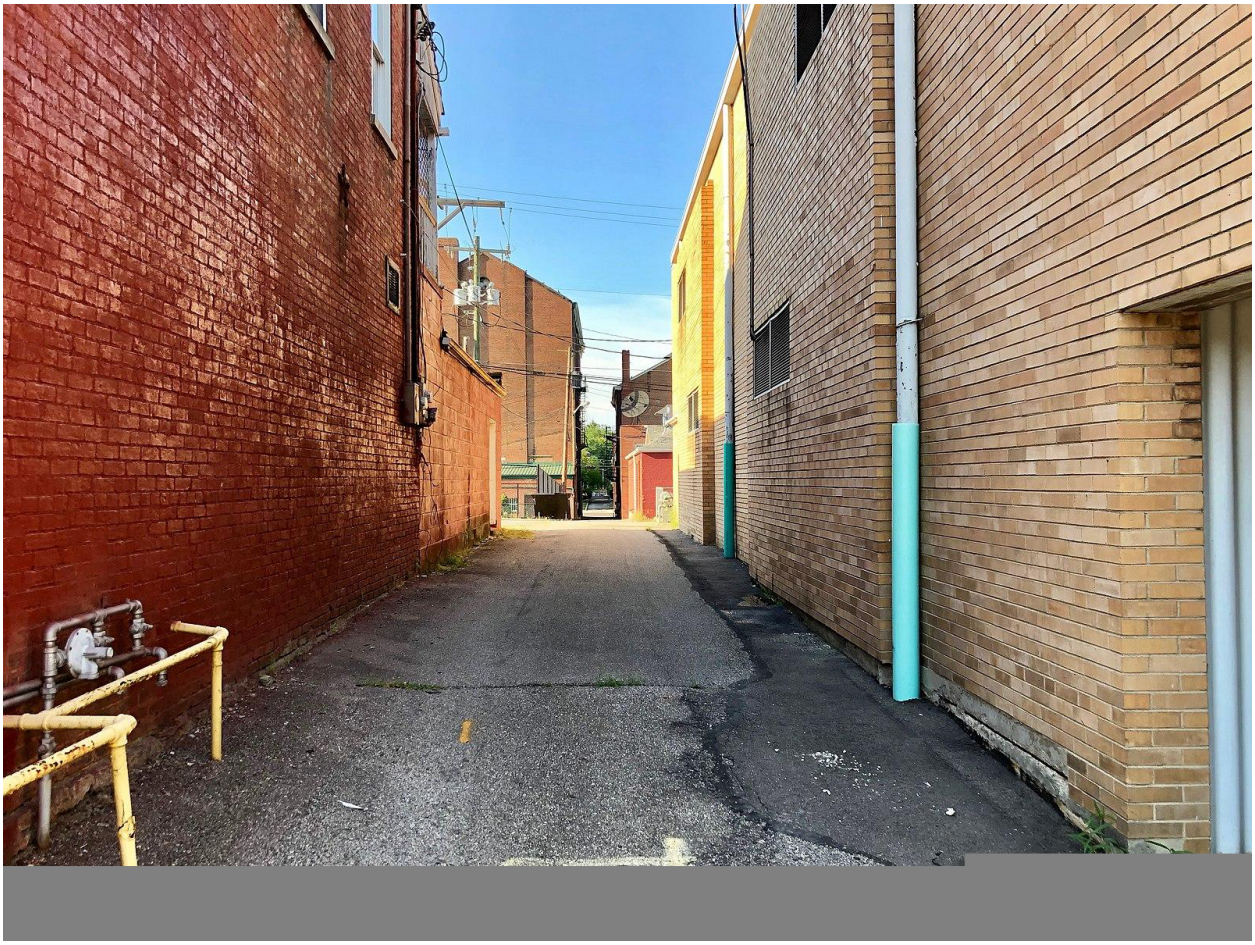


Appendix A

The passages below depict an instance of violence in a community. The control passage describes violence against a young straight man (identity-irrelevant to the young SGM participants), whereas the experimental passage is designed to evoke the participant's sexual and gender identities (this will be done on the survey by piping the individual participant's identity information into the passage. E.g., A participant who identifies as a gay man will read a "gay man" was mugged while a participant who identifies as a pansexual, non-binary individual will read that a "pansexual, non-binary individual" was mugged). The passage is based on the literature about awareness of community violence. It is designed to reflect an incident of identity-related violence that could happen anywhere but does not evoke an actual event to which some individuals may feel closer than others.

Control passage: Crime against a general member of the community

Last night around 9:35pm on 2nd Street in the town of Springfield, it was reported that a young man was mugged walking home from work late in the evening. Although police have not confirmed the identity of the victim's attacker(s), video surveillance by the workplace shows that the victim was on his way home when he was overtaken by several masked individuals. The victim was taken to the hospital, and his wife reports that he is in stable condition but continues to be monitored. Based on police reports, the victim alleged that the suspects intended to rob the man of any valuables he was carrying. Members of the Springfield community have expressed their surprise that such an unnerving event would occur in their neighborhood and their hopes for justice for the victim. Police are encouraging anyone with information about the crime to contact them as a part of the open investigation.

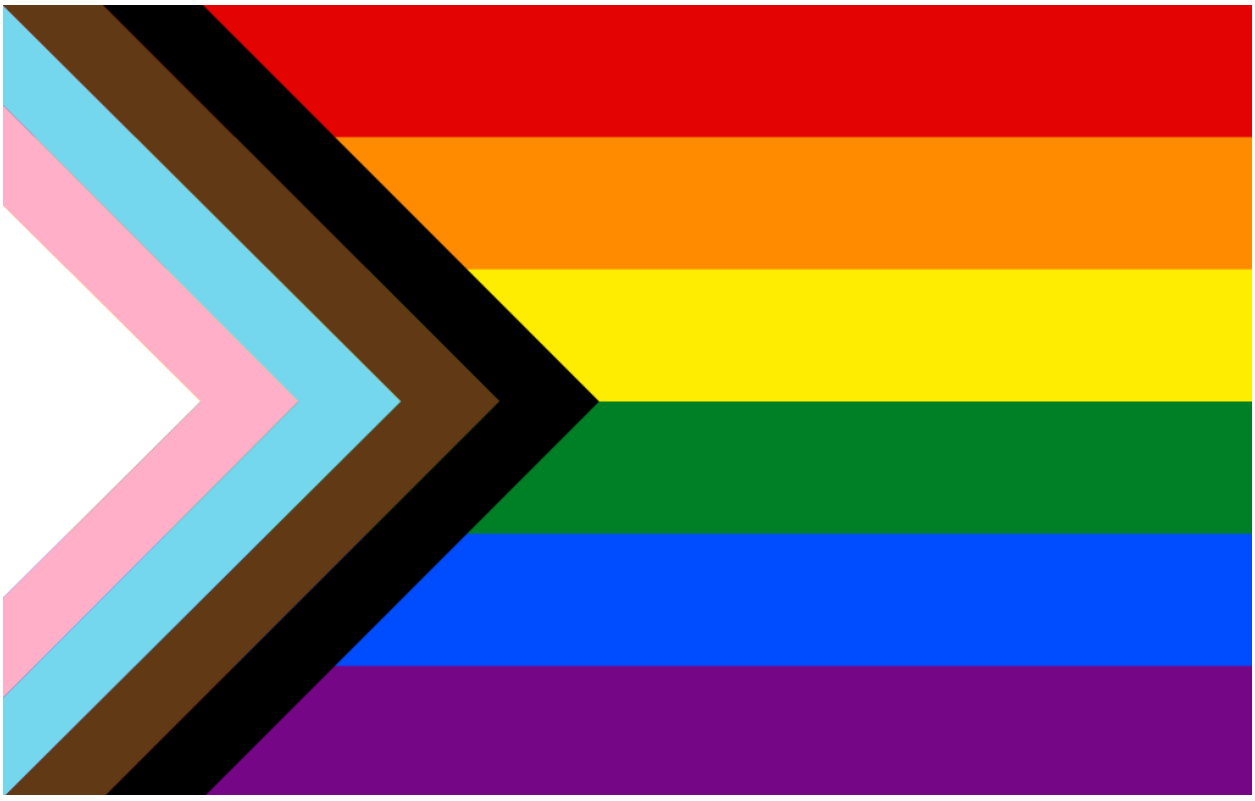


https://commons.wikimedia.org/wiki/File:Alleyway,_Aurora,_IN_%2848353350936%29.jpg

Experimental passage: Hate crime against a queer member of the community

Last night around 9:35pm on 2nd Street in the town of Springfield, it was reported that a young [sexuality, gender] person was mugged walking home from the Springfield LGBTQIA+ community center late in the evening. Although police have not confirmed the identity of the victim's attacker(s), video surveillance by the center shows that the [sexuality, gender] person was on [his/her/their] way home when [he/she/they] [was/were] overtaken by several masked individuals. The victim was taken to the hospital and doctors report [he/she/they] [is/are] in stable condition. Based on police reports, the victim alleged that the suspects used [homophobic/transphobic/homophobic & transphobic] slurs and intended to rob the individual of any valuables [he/she/they was/were] carrying, leading the police to

treat the incident as a possible hate crime. Members of the Springfield LGBTQIA+ community have expressed their surprise that such an unnerving event would occur in their neighborhood and their hopes for justice for the victim. Police are encouraging anyone with information about the crime to contact them as a part of the open investigation.



https://commons.wikimedia.org/wiki/File:LGBTQ%2B_rainbow_flag_Quasar_%22Progress%22_variant.svg

Appendix B: Mindful Mood Reset

This 11 second humorous video will be used to reset mood following the mood induction.

https://www.youtube.com/watch?v=nFAK8Vj62WM

Appendix C: Measure Items

Affect Change

Measure: Positive Affect Negative Affect Scale (Thompson, 2007)

Stem: Please read each item and then mark the appropriate answer in the space next to that word. Indicate how much you have felt this way **in the past month**. Please use the following scale to answer the following question:

Response Options:
1 *Very slightly / not at all*
2 *A little*
3 *Moderately*
4 *Quite a bit*
5 *Extremely*

Items:
1. Upset
2. Hostile
3. Alert
4. Ashamed
5. Inspired
6. Nervous
7. Determined
8. Attentive
9. Afraid
10. Active

Self-Report Rumination

Measure: Rumination Brooding Subscale (Treynor et al., 2003)

Stem: In the past 6 months, how often do you…

Response Options: 1 *Almost never* to *4 Almost always*

Items:
1. Think “What am I doing to deserve this?”
2. Think “Why do I always react this way?”
3. Think about a recent situation, wishing it had gone better
4. Think “Why do I have problems other people don’t have?”
5. Think “Why can’t I handle things better?”

Self-Report Emotion Reactivity

Measure: Emotional Reactivity Scale (Nock et al., 2008)

Stem: In the past 6 months, how do you feel about the following statements?

Response Options: 0 *Not at all like me* to 4 *Completely like me*

Items:

1. I tend to get very emotional very easily
2. Even the littlest things make me emotional
3. When I experience emotions, I feel them very strongly / intensely
4. When something happens that upsets me, it's all I can think about for a long time
5. I experience emotions very strongly
6. My moods are very strong and powerful
7. My emotions go from neutral to extreme in an instant
8. When I feel emotional, it's hard for me to imagine feeling any other way
9. I often get so upset it's hard for me to think straight
10. My feelings get hurt easily

Sexual Identity Stress

Measure: Sexual Orientation Microaggression Inventory Short Form (Swann et al., 2022)

Stem: In the past 6 months, how often has each of the following happened?

Response Options: 0 *Not at all*, 1 *A Few Times*, 2 *About every Month*, 3 *About Every Week*, 4 *About Every Day*

Items:

1. You were told not to act so gay, butch, queer, etc.
2. Someone said, you know how gay people are
3. You were told that your sexual orientation is just a phase
4. A family member expressed disappointment about you being gay, lesbian, or bisexual
5. A straight person didn't believe that gay, lesbian, and bisexual people face discrimination
6. You were told you were overreacting when you talked about a negative experience you had because of your sexual orientation
7. Someone said, I don't mind LGBQ people, they just shouldn't be so public
8. Someone said homosexuality or bisexuality is a sin or immoral

Gender Identity Stress

Measure: Gender Identity Microaggressions Scale (Nadal, 2018)

Stem: In the past 6 months, has the following happened to you?

Items:

1. A loved one (e.g., family or friend) has told me that my gender nonconformity is just a phase

2. Someone told me that my transgender identity or my gender nonconformity was just a phase
3. I was told that I made a family member uncomfortable because of my gender nonconformity or transgender identity
4. LGB people have told me that my gender nonconformity is just a phase
5. Strangers and acquaintances have called me by the wrong personal pronoun
6. A loved one (e.g., friend or family) has called me by the wrong personal pronoun)
7. Someone wanted to engage in a sexual act with me only because they view transgender people as exotic
8. Someone (e.g., family, friend, coworker) has asked me personal questions about gender reassignment…
9. Someone (e.g., family, friend, coworker) has asked me if I feel like I'm trapped in the body of another sex
10. Someone avoided sitting next to me in a public or government setting (e.g., DMV,, courthouses, libraries)
11. Someone avoided sitting next to me at a bar or restaurant because I am gender nonconforming
12. My employer or coworker was unfriendly to me because I dress gender nonconforming
13. I was told that I complain too much about societal discrimination against gender nonconforming people
14. I was told that I complain too much about how people react to my gender nonconformity

Identity Affirmation

Measure: Accepting LGBQ Attitudes Scale (Esienberg et al., 2020; Ryan et al., 2020)
Stem: In the past 6 months, how much/how often do your friends and/or family…

Response Options: 0 *Never*, 1 *Rarely*, 2 *Sometimes*, 3 *Often*

Items:

1. Taunt or mock you because you are an LGBTQ person?
2. Say negative comments about you being an LGBTQ person?
3. Say bad things about LGBTQ people in general?
4. Make you feel like you are bad because you are an LGBTQ person?
5. That they like you as you are in regards to being an LGBTQ person?
6. Say that they are proud of you for being an LGBTQ person?
7. Get involved in the larger LGBTQ community?
8. Tell you that you are a role model as an LGBTQ person?

Critical Consciousness

Critical Awareness

Measure: Perceived Inequality Subscale of Critical Consciousness Scale Short Form (Rapa et al., 2020)
Stem: How much do you agree or disagree with these items at this time?

Response Options: 1 *Strongly Disagree* to 6 *Strongly Agree*

Items:

1. People with certain sexual orientations have fewer chances to get ahead
2. Gender minorities have fewer chances to get ahead
3. Queer people have fewer chances to get ahead

Critical Motivation

Measure: Critical Agency subscale of Measure of Adolescent Critical Consciousness; McWhirter & McWhirter, 2016)

Stem: How much do you agree or disagree with these items at this time?

Response Options: 1 *Strongly Agree* to 4 *Strongly Disagree*

Items:

1. In the future, I will participate in activities against homophobia, transphobia, and queerphobia
2. It is important to me to contribute to my community
3. More effort is needed to end homophobia, transphobia, and queerphobia
4. In the future, I will participate in activities and groups to promote equality and justice
5. It is important to fight against sexual and gender based inequality
6. I can make a difference in my community
7. There are ways that I can contribute to my community
8. I am motivated to end homophobia, transphobia, and queerphobia

Critical Action

Measure: Critical Action subscale of Measure of Adolescent Critical Consciousness (McWhirter & McWhirter, 2016)

Stem: How much do you agree or disagree with these items at this time?

Response Options: 1 *Strongly Agree* to 4 *Strongly Disagree*

Items:

1. I am involved in activities or groups that promote equality and justice
2. I am involved in activities or groups against homophobia, transphobia, and queerphobia

Depressive Symptoms

Measure: Center for Epidemiological Studies Depression Scale (brief version; Radloff, 1991)

Stem: Below is a list of some of the ways you may have felt or behaved. Please indicate how often you have felt this way during the past week.

Response Options: 0 *Rarely or none of the time (<1 day),* 1 *Some or a little of the time (1-2 days),* 2 *Occasionally or moderate amount of the time (3-4 days),* and 3 *All of the time (5-7 days)*

Items:

1. I was bothered by things that usually don't bother me
2. I had trouble keeping my mind on what I was doing
3. I felt depressed
4. I felt that everything I did was an effort
5. I felt hopeful about the future
6. I felt fearful
7. My sleep was restless
8. I was happy
9. I felt lonely
10. I could not "get going"

Appendix D

24 participants were identified who appeared to assume erroneously that the subject of the control passage shared their sexual and gender identities. It is possible that this is reflective of reality, in that some SGM young people may project their identities onto those experiencing stress (Hatzenbeuhler, 2009). However, in the context of this study, this may also indicate a lack of comprehension or attention of the study. Further, participants were asked to report their sexual and gender identities prior to reading and responding to the passage. Therefore, it is possible that the structure of the survey contributed to this error. For these reasons, the 24 participants were excluded from analyses. However, I assessed for characteristic differences among these 24 participants as compared to the rest of the sample and considered how part 1 analysis results might have been impacted by this decision.

The excluded participants did not differ by gender identity, SES, or race from the overall sample. However, chi squared tests revealed some differences in sexual identity (X^2= 26.27, p < 0.001) and transgender identity (X^2 = 8.97, p = 0.011). Specifically, a simple regression revealed that the excluded participants were more likely to identify as gay (reference group), lesbian (b = 0.006, p = 0.810), or heterosexual (b = -0.092, p = 0.218) than bisexual (b = -0.076, p < 0.001), pansexual (b = =0.093, p = 0.005), asexual (b = -0.093, p = 0.019), or queer (b = -00.093, p = 0.003). Further, a simple regression revealed that participants were more likely to report that they were questioning their gender identity (b = 0.074, p = 0.010) than identifying as cissgender. Further, two-way T tests revealed that excluded participants did not differ by critical consciousness levels, but they reported higher levels of identity affirmation (*M* = 2.42, *SD* = 0.091; *M* = 1.98, *SD* = 0.029, t(573) = 3.09, p = 0.002) and minority stress (*M* = 2.54, *SD* = 0.18; *M* = 1.77, *SD* = 0.029, t(575) = 5.29, p < 0.001).

There was only one difference in significant associations among part 1 models that included versus excluded the 24 participants. The association between assignment to the exposure group and

positive affect was significant when these participants were excluded (b = 0.050, p = 0.038) but not when the participants were included (b = 0.039, p = 0.09). The difference in the two coefficients was significant ($X^2 = 9.54$, p = 0.002), and this translates to a real-world difference of a 5% increase in positive affect versus a 4% increase in positive affect.

Although the pattern and significance of associations across all other models did not change whether the participants were included or excluded, the coefficients were significantly different in all cases (Negative Affect $X^2 = 7.52$, p = 0.006; Negative Emotions Words $X^2 = 3.95$, p = 0.047; Anger Words $X^2 = 12.80$, $p < 0.001$; Self-Reference Words $X^2 = 13.79$, $p < 0.001$). The differences in real-world size ranged from 2% (Anger words) to 5% (Negative Emotions words). With all LIWC outcomes decreasing and difference in affect increasing when the participants were excluded.