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Minority Stress: A Model for Understanding Sexual Minority Adolescents' Mental Health

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MINORITY STRESS: A MODEL FOR UNDERSTANDING SEXUAL MINORITY

ADOLESCENTS' MENTAL HEALTH

by

Sean N. Weeks

A dissertation submitted in partial fulfillment
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Psychology

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2022

ABSTRACT

Minority stress: A model for understanding sexual minority adolescents' mental health

by

Sean Weeks, Master of Science

Utah State University, 2022

Major Professor: Dr. Tyler L. Renshaw

Department: Psychology

Taken together, the three papers included in this dissertation offer an investigation of sexual minority adolescents' minority stress—measured by the SMASI—as a multidimensional predictor of adverse mental health outcomes (Paper 1), as a mediator between school and home climates and life satisfaction (Paper 2), and as a three-level, hierarchal measurement model consisting of specific stressors, domains of stress, and general minority stress (Paper 3). Results from this series of studies generally support theory and findings from the past literature in that minority stress was found to be a meaningful predictor of mental health in sexual minority youth and that school and home climates were found to be important variables in understanding sexual minority youth wellbeing. However, the current set of papers went beyond confirming past research and offered new contributions to the literature by identifying domain level differences in minority stress' predictive ability with adolescents (Paper 1), showing how school and home climates interact in their influence on sexual minority youths' wellbeing and that school climates offer a better explanation for the wellbeing of sexual minority adolescents both directly and indirectly through minority stress (Paper 2), and providing psychometric support for the domain level constructs within theoretical model of minority stress for adolescents. Findings from this series of studies may help support the

knowledge and measurement necessary for informing practice to reduce mental health

disparities in sexual minority youth. Future researchers may use this information to

update applied studies aimed at improving evidence-based assessments or interventions

for sexual minority adolescents.

(183 pages)

PUBLIC ABSTRACT

Minority stress: A model for understanding sexual

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Taken together, the three papers included in this dissertation offer an investigation of

sexual minority adolescents' stress as a predictor of adverse mental health outcomes

(Paper 1), as being influenced by school and home climates (Paper 2), and as a

measurable model for stress across levels (Paper 3). Results from this series of studies

generally support theory and findings from other studies in that minority stress was found

to be a meaningful predictor of mental health in sexual minority youth and that school

and home climates were found to be important for understanding sexual minority youth

wellbeing. However, the current set of papers went beyond confirming past research and

offered new contributions to the literature by identifying differences in the levels at

which minority stress' predicts mental health (Paper 1), showing how school and home

climates both influence sexual minority youths' wellbeing and that school climates offer

a better explanation for the wellbeing of sexual minority adolescents (Paper 2), and

providing support for the measurement of minority stress for adolescents. Findings from

this series of studies may help support the knowledge and measurement necessary for

informing mental health providers' practice to reduce mental health disparities in sexual

minority youth.

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Sean Weeks

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CHAPTER 1

Rationale and Outline

Sexual minority youth—youth who experience some degree of same-sex attraction, behavior, or identity (Lefevor et al., 2020)—now account for 15.9% of the youngest generation (Jones, 2021). These youth experience health disparities that place them at risk for many adverse psychological and behavioral outcomes, including depression, anxiety, eating disorders, trauma, suicidality, risky sexual engagement, poor academic performance, and substance use (e.g., Birkett et al., 2009; Bontempo & d'Augelli, 2002; Caputi et al., 2018; Morton et al., 2018; Silenzio et al., 2007). The health disparities found in sexual minority adolescents has raised questions concerning the cause of risk. Meyer (2003) proposed the most widely accepted theory for why these health disparities exist, outlined in the *minority stress model*. This model proposes that sexual minorities face additional life stressors compared to the general population that are affected by external (distal) and internal (proximal) processes, and ultimately manifest as many of the harmful outcomes listed above.

Though minority stress is now accepted as the primary theoretical framework for understanding the health disparities identified between sexual minorities and heterosexual individuals, only one measure exists to operationalize this theory and assess its related constructs with youth: the Sexual Minority Adolescent Stress Inventory (SMASI; Schrager et al., 2018). The SMASI is a relatively new measure that appears to have value for quantifying adolescent minority stress in applied assessment and research settings, and it has been recommended for such purposes in multiple studies (Andretta et al., 2018; Eckstrand et al., 2019; Garcia-Perez, 2020; Goldbach et al., 2021). The SMASI captures

global (i.e., composite score) and specific (i.e., subscale scores; e.g., internalized homonegativity, social marginalization, family rejection) aspects of minority stress, but neglects the mid-level constructs of distal and proximal stressors (i.e., domain scores) that are frequently cited in Meyer's (2003) minority stress framework, along with other influential minority stress frameworks (e.g., Goldbach et al., 2014; Hatzenbuehler, 2011). The overarching purpose of this multiple paper dissertation is to further investigate the utility of the minority stress model, as measured by the SMASI, for understanding sexual minority adolescents' health disparities. Key emphases of this project include investigating how the multidimensional scores from the SMASI predict sexual minority adolescents' mental health and wellbeing, how accepting home and school climates can act as protective factors against global minority stress (as measured by the SMASI), and investigating the validity of mid-level domain scores derived from the SMASI for assessing the theorized levels of distal and proximal stress.

This dissertation began with a study set on establishing the foundational groundwork necessary for telling the proposed story of adolescent minority stress. This was done by first identifying the importance of global minority stress, and its domains (i.e., distal and proximal) and specific stressors (e.g., family rejection, intersectionality, social marginalization), as predictive of sexual minority adolescent mental health. To do so, the global, composite domains, and specific stressor subscale scores of the Sexual Minority Adolescent Stress Inventory (Schrager et al., 2018) were tested as predictors of substance use, suicidality, and psychological inflexibility. It was expected that global minority stress would be a significant predictor across behavioral outcomes. Additionally, the domain level scores, and especially distal stress, were hypothesized to emerge as a

significantly more informative predictors of mental health than specific stressors or global minority stress.

Given the hypothesis of the current paper, and support from past research suggesting that distal stress (i.e., stressors caused by external processes leading to proximal stress) would emerge as an informative factor, examining environmental contributors to distal stress was a natural follow-up study. Thus, Paper 2 (Chapter 3) aimed to understand the effects that adolescents' primary social environments have on wellbeing, through minority stress. The focus therefore was placed on the home climate and school climate as key features of these environments that likely influence minority stress and, by extension, youth wellbeing. By understanding how these environments influenced minority stress and then global, school, and family satisfaction, we can begin to recognize where to make meaningful change. Based on past literature, it was hypothesized that school climate would surface as the more influential environment on sexual minority students' wellbeing, through minority stress.

Based on Papers 1 and 2, Paper 3 (Chapter 4) aimed to evaluate the structural validity of the proximal and distal domains as measured by the SMASI. It was the intention of this study to further validate the only existing measure for assessing minority stress with adolescents to provide psychometric support for measuring distal and proximal stress. These findings could be used for future research pertaining to adolescent minority stress, identifying at-risk students, determining areas for intervention, and monitoring change. Ultimately, this series of papers made the case for minority stress, across multiple levels of measurement, as a possible explanation for the health disparities found within sexual minority adolescents, investigated the most relevant environments for intervening, and

further developed a measure for assessing the construct. The methods and intentions of each study are further outlined below.

Paper 1: Minority stress as a multidimensional predictor of sexual minority adolescents' mental health outcomes

This paper, by Sean Weeks, Tyler Renshaw, and Stephanie Vinal, included as Chapter 2, has already been conditionally accepted for publication in the *Journal of Homosexuality*. The study in its current form includes the revisions suggested by the Editor of that journal. The purpose of this study was to evaluate the multidimensional utility of minority stress at various levels—specific stressors, domains of stress, and general minority stress—for predicting sexual minority adolescents' adverse mental health outcomes. The variables of interest and sample used for this study were a secondary analysis of the dataset resulting from Sean Weeks' thesis project (Weeks, 2020). Multiple regression analyses conducted on a sample of 152 LGB+ adolescents.

Paper 2: Home and school: How sexual minority youths' environments influence wellbeing through minority stress

Paper 2, included as Chapter 3, was authored by Sean Weeks, Tyler Renshaw, and Tyler Lefevor. This manuscript will be submitted to the *School Psychology Review*. This study investigated the mediational pathways of school and family climates' effect on sexual minority adolescents' psychological wellbeing, through mediational minority stress. A total of 293 sexual minority adolescents were sampled using purposive sampling procedures. Participants responded to survey items retrospectively, endorsing their perceptions of family and school climates roughly six months prior, minority stress one month prior, and life, family, and school satisfaction over the week prior to involvement

in the study. Two mediational models looked firstly at the influence of minority stress on the relationship between family climate and school climate and life satisfaction and then between family climate and school climate on life satisfaction's subdomains of family and school satisfaction.

Paper 3: Structural validity of the domain-level SMASI factors

Paper 3, included as Chapter 4, was authored by Sean Weeks, Tyler Renshaw, and Sarfaraz Serang and will be submitted to the *Journal of Psychoeducational Assessment*. This study consisted of a confirmatory factor analysis of the SMASI to investigate the structural validity of the latent constructs proposed in the original measurement model, with the addition of mid-level factors for distal and proximal stress. This study looked to confirm that the domains of distal and proximal stress could be adequately represented in the SMASI's measurement model, to better align with the theory underlying the measure. Samples collected in Paper 1 ($n = 152$) and Paper 2 ($n = 293$) were pooled for this study, resulting in a combined sample size of $N = 445$ sexual minority adolescents. Two second-order dichotomous confirmatory factor analyses were conducted investigating the original global minority stress single-factor model and the newly proposed proximal and distal stress two-factor model.

A Note on Language

Throughout Paper 1 (Chapter 2), and consistent with the Journal of Homosexuality editorial feedback, "LGB+" was used to reference the sample because participant eligibility was determined based on sexual identity. However, Papers 2 and 3 (Chapters 3 and 4), the term "sexual minority" was used to describe the samples of interest, including adolescents who identify as gay, lesbian, bisexual, pansexual, fluid,

asexual, queer, questioning, or as having same-sex attraction. As the proposed theme

outlined in the following studies are related to the experiences of sexual minorities,

results focusing on gender were not analyzed as a key feature of the samples and

therefore it was decided to not use the commonly accepted "LGBTQ+" acronym to

describe the samples. However, in discussing the current literature in the introductions for

each of the papers, samples are defined as they were in the original studies (e.g., LGBT,

LGBTQ+, sexual minority) to stay true to how the participants and results were described

in their respective studies.

CHAPTER 2

Minority stress as a multidimensional predictor of LGB+ adolescents' mental health

outcomes

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We have no conflicts of interests to disclose.

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Abstract

The minority stress model has been used to explain added daily stressors that non-heterosexual (LGB+) individuals experience. While the emphasis of minority stress research is frequently broad (global minority stress) or narrow (specific stressors) in focus, the literature often refers to specific stressors at the domain level as either distal (external) or proximal (internal). This study found that, compared with broad and narrow levels, a domain level approach may be best for understanding the predictive value of minority stress. Multiple regression analyses with a sample of 152 LGB+ adolescents found that distal stress predicted substance misuse ($p < .001$) and suicidality ($p = .002$) and was a stronger predicter than proximal stress for psychological inflexibility. This study might contribute to an evidence base that could guide measurement approaches for assessing minority stress and using related results to inform the prediction of—and, ultimately, intervention with—LGB+ adolescents' mental health outcomes.

Keywords: minority stress, distal stress, proximal stress, LGB, adolescents, suicide, substance use, mental health

Introduction

More young people are identifying as non-heterosexual (LGB+) than ever, with 15.9% of Generation Z identifying as LGBTQ+ (Jones, 2021). Younger cohorts of non-heterosexual individuals are also reporting the more severe levels of psychological distress compared with middle and older adults (Meyer et al., 2021). LGB+ adolescents (i.e., youth who identify their sexual orientation as anything other than or in addition to heterosexual) experience disproportionately worse health outcomes compared to their heterosexual counterparts. Psychologically, LGB+ adolescents report higher levels of distress, anxiety, depression, and eating disorders (Austin et al., 2013; Cochran, 2001; Cochran et al., 2003). Additionally, LGB+ adolescents are at higher risk for suicidal behaviors (King et al., 2008) and are three times as likely to attempt suicide as their heterosexual peers (Centers for Disease Control, 2016). These health disparities have raised alarm in many medical and mental health professions, which are attempting to identify why LGB+ adolescents are struggling with such outcomes. In 1995, Meyer proposed the *minority stress model* as an explanation for the health disparities seen in LGB+ communities.

The minority stress model (Meyer, 1995) suggests that health disparities commonly noted in sexual minority communities are not caused by individual pathology; rather, they are a result of societal marginalization. The daily experiences of those in marginalized groups leads to added life stressors not otherwise experienced by someone in majority groups, and those life stressors, in turn, lead to physical and mental health disparities. While different theorists have developed additional frameworks for identifying specific stressors included in the minority stress model (Goldbach et al., 2014;

Hatzenbuehler, 2011; Meyer, 2003; Schrager et al., 2018), there is often overlap among the key variables considered to be influential societal stressors, including family rejection, internalized homophobia, social marginalization, discrimination, and concealment. These stressors, along with others, compound the usual life stressors experienced by most people and can lead to negative behavioral and psychological outcomes (Meyer, 2003). The minority stress model is now an accepted explanation of the existing disparities experienced by sexual minorities generally, including heterosexual individuals with same-sex attraction and behaviors (Krueger et al., 2018; Lefevor et al., 2020) as well as LGB+ adolescents specifically, as it appears to be both developmentally appropriate and conceptually useful for informing an analysis of the conditions that cause health disparities across generations (Goldbach & Gibbs, 2017).

Research with youth thus far has widely cited the minority stress model across its relevant domains to understand LGB+ youth health disparities but has failed to appropriately represent the referenced theoretical domains (i.e., proximal and distal) in measurement models. The overarching purpose of the present study was to extend the literature on the relationship between multidimensional minority stress—measured at the global, domain, and subdomain levels—and LGB+ adolescents' mental health outcomes. This was done by adapting a newer measure of adolescent minority stress, the Sexual Minority Adolescent Stress Inventory (SMASI; Schrager et al., 2018), to produce multiple levels of minority stress scores. Specifically, the current study added composite scores at the domain levels of distal and proximal stress by combining the sum scores from the subscales representing specific stressors that comprise each theoretical domain, and then comparing the utility of scores derived at each level of the minority stress

framework (i.e., global, domain, and specific) in their ability to predict adolescents'

outcomes of substance use, suicidality, and psychological inflexibility—a transdiagnostic

mental health indicator.

Literature Review

The minority stress model posits that there is a unique form of stress experienced

by the LGB+ communities, which is generally understood to be caused by societally

driven factors that would not otherwise exist outside of a heteronormative culture. A

further and more recent distinction within the minority stress model is that these stressors

are divided into one of two domains: *distal stressors* and *proximal stressors* (Meyer,

2003). Distal stressors are external prejudice events that are directed toward LGB+

individuals (e.g., homonegative climate, social marginalization, family rejection),

whereas proximal stressors are the internal appraisals of these events (e.g., negative

expectancies, intersectionality). Distal stressors or events can include structural and

interpersonal stigma, like housing discrimination, victimization, microaggressions,

violence, and more. Distal factors are thought to influence proximal stressors (and not

vice versa), given that external events provide the raw social material or content that is

then processed through an individual's psychological response to such events (Meyer,

2003). Hatzenbuehler (2009) further proposed that distal stressors predict proximal stress,

and that proximal stress predicts LGB+ health disparities. This model placed proximal

stressors as a mediator in the relationship between distal stress and harmful outcomes,

again emphasizing the primacy of social factors in facilitating health disparities.

A number of studies have found results supporting Hatzenbuehler's (2009)

mediation model, often when measuring outcomes of wellbeing, psychological distress,

anxiety, and depression (Brewster et al., 2013; Douglass et al., 2019; Pachankis et al., 2018). However, other studies have found that proximal stressors, especially negative disclosure expectancies, predict distal stressors (Douglass & Conlin, 2020; Ragins et al., 2007). Furthermore, with intersectionality considered as a proximal stressor, ethnic and racial minorities who also identify as LGB+ may be more likely to have proximal factors that predict more variance in harmful outcomes than distal factors (Ramirez & Galupo, 2019). In recent research considering the influence of race and ethnicity on minority stress, it was discovered that there may be additional structural stigmas, including gender policing, racism, and religious messaging, that compounds the effects of minority stress within racially/ethnically diverse LGBTQ+ populations (Schmitz et al., 2020). Therefore bidirectional effects of distal and proximal stressors are likely dependent on the target stressor. Often, proximal and distal stressors used for predicting health disparities are cherry-picked depending on the study's outcome of choice and, thus, rarely consider the many potential stressors outlined by the minority stress model. This measurement approach increases the risk for overgeneralization and may misrepresent the findings of a study that makes inferences based on proximal or distal stress but, in fact, only captures one or two specific stressors from within these domains. Additionally, no studies, to date, have calculated or investigated the psychometrics of composite scores for proximal and distal stressors in LGB+ adolescent populations. Thus, with regards to LGB+ adolescents specifically, lacking research in these areas may be partially attributed to limitations in the available measures of minority stress—and, more specifically, distal vs. proximal stressors—for this population.

The Sexual Minority Adolescent Stress Inventory (SMASI; Schrager et al., 2018) is a relatively new measure and the first of its kind to quantifiably capture the multidimensional construct of minority stress in adolescents. In addition to providing an overall minority stress score, the SMASI identifies 11 subscales based on key frameworks and variables within the minority stress model (Goldbach et al., 2014; Hatzenbuehler, 2011; Meyer, 2003). Using Meyer's (2003) explanation of minority stressors as defined by either distal or proximal factors, Schrager and colleagues (2018) identified the following subscales as aggregates of specific experiences in the SMASI: internalized homonegativity (proximal), identity management (proximal), intersectionality (proximal), negative expectancies (proximal), social marginalization (distal), family rejection (distal), homonegative climate (distal), homonegative communication (distal), negative disclosure experiences (distal), religion (distal), and work (distal). While multiple articles have acknowledged the potential utility of the SMASI for researching minority stress (Andretta et al., 2018; Eckstrand et al., 2019; Garcia-Perez, 2020), only three studies, to date, have been published using the measure. Goldbach et al.'s (2017) initial validation study, along with follow-up studies by Burgess (2017) and Fulginiti et al. (2020), all found the SMASI to be psychometrically sound in predicting anxiety, depression, suicidality, and substance use. The current study expands on research using the SMASI by evaluating the predictive ability of the SMASI across the theorized levels of Meyer's (2003) minority stress model.

While the SMASI considers intersectionality as a proximal stressor and measures this specific construct with three items, this may be missing the mark by not providing sufficient attention to the topic, which for now may require its own focus. Measures that

adequately assess LGB+ intersectionality exists for use with adult populations, including the LGBT People of Color Microaggressions Scale (Balsam et al., 2011) and the Gender Minority Stress and Resilience measure (Testa et al., 2015), which has recently been validated with an adolescent extension (Hidalgo et al., 2019). As additional studies continue to validate intersectional minority stress measures with youth and across topics of gender and sexual orientation, research and practice methods should be updated to reflect best-practice and evidence-based measurement approaches for gauging the constructs of interest.

While some studies have considered the relationship between the global SMASI composite score and other outcome variables, including substance misuse and suicidality, no studies have looked at the differential effects of distal and proximal stressors at the domain level on outcome variables of substance misuse, suicidality, or global measures of mental health, such as psychological inflexibility. Burgess (2017) looked at the longitudinal predictive value of global minority stress (as measured by the SMASI) compared to general life stress on outcomes of depression, anxiety, and substance abuse. Burgess (2017) discovered that higher levels of general life stress was a significant predictor of anxiety and depression but not substance use, and that global minority stress did not have a value-added effect in addition to general life stress. Fulginiti et al. (2020) measured the mediating effects of perceived burdensomeness and thwarted belongingness on the relationship between global minority stress (as measured by the SMASI) and suicidal ideation through structural equation modeling. They found that global minority stress was mediated by perceived burdensomeness on outcomes of suicide attempt and ideation, that global minority stress was mediated by perceived burdensomeness and

thwarted belongingness when predicting both suicidal ideation and attempt, and that global minority stress had a direct effect on suicide attempt.

By investigating the effects of minority stress through a global composite score alone, it is difficult to adequately interpret the nature and level of minority stress to inform intervention. For example, an adolescent who scores high on a global or broad minority stress scale might be experiencing any number of specific minority stressors, which may have differential implications for guiding intervention. If an LGB+ youth struggles with internalized homonegativity, for instance, then affirming and individualized therapeutic intervention may be the best treatment plan; however, if they are experiencing bullying and social rejection, then ecological supports might be the best solution. Moreover, by assessing minority stress at the domain level, as opposed to global or specific levels, practitioners could develop better informed case conceptualizations based on a social ecological framework by determining if the primary domain of stress is proximal (internal) or distal (external) or both. Determining the domain of stress could inform whether to support intervention on the micro, mezzo, or macro level (Asakura, 2016).

Current Study

Considering the potential utility of the SMASI and the emerging nature of research in this area, the overarching purpose of the present study was to extend the literature on the relationship between multidimensional minority stress—measured at the global, domain, and subdomain levels—and LGB+ adolescents' mental health outcomes. Although the SMASI measures minority stress at both the global and stressor-specific levels, only one previous study has used both scores as predictors of adolescent mental

health (e.g., Goldbach et al., 2017). Furthermore, although the conceptual model underlying the SMASI subscales (which measure specific stressors) differentiates between distal and proximal domains of stress, research has yet to compute these domain-level scores and test them as theoretically meaningful predictors of adolescent mental health. The specific purpose of the present study, then, was to test the relative predictive value of minority stress measured at each of the three levels specified by the minority stress model: the overall (or global) level, the proximal vs. distal (or domain) level, and the specific stressor (or subdomain) level.

The current study proposes that identifying whether different levels of minority stress, measured across multiple theoretical levels, affects mental health outcomes in LGB+ adolescents may help inform future research and practice to support LGB+ adolescents. Specifically, we suggest that an empirical understanding of the predictive power of proximal compared to distal domains—as well as the composite scores for specific stressors within each of these domains—may provide an evidence-based approach to better targeting interventions to reduce LGB+ adolescents' health disparities at either the systems level (e.g., school trainings, policy, workplace regulation) or the individual level (e.g., therapy, support groups). Thus, this study addresses the following research questions:

1. Does global minority stress predict LGB+ adolescents' substance misuse, suicidality, and psychological inflexibility?

2. Do the proximal and distal domains of minority stress differentially predict LGB+ adolescents' substance misuse, suicidality, and psychological inflexibility?

3. Do the specific stressor subdomains of minority stress, both within and across the proximal and distal domains, differentially predict LGB+ adolescents' substance misuse, suicidality, and psychology inflexibility?

Given previous findings from research in this area (reviewed above), we predicted that (1) global minority stress would be a significant predictor of all mental health outcomes. Based on the broader theory of the minority stress model, we also expected that (2) both distal and proximal domains of minority stress would be significant predictors of mental health outcomes, and that the distal domain of stressors would predict significantly more variance in the outcomes than the proximal domain. (3) Regarding the specific stressor subdomains of minority stress, we did not have strong predictions, expecting only that specific stressors in the distal domain would be stronger predictors than specific stressors in the proximal domain.

Methods

Procedures

The present study undertook a secondary analysis of selected variables from a preexisting dataset collected by Weeks (2020). Respondents for the original study were intentionally recruited through Qualtrics online survey panels using purposive sampling procedures from a list of preregistered participants. The estimated optimal sample size (N = 166) was calculated using linear regression practices informed by the number of predictors and the proposed pathways for the purposes of the original study (cf. Darlington & Hayes, 2017). Participants were chosen for this study upon meeting the following inclusion criteria: between the ages of 13 and 18, self-identified as LGB+, and open and out to their parents and caregivers. Though some recent studies have waived

parental consent for sexual minority youth (e.g., Fulginiti et al., 2020), the investigators and Institutional Review Board in this study agreed parental consent was necessary due to the nature and severity of some survey questions regarding suicidality, abuse, and substance use. Based on respondent age in Qualtrics's participant database, informed consent was collected from 18 year-old (adult) participants. Guardian informed consent was obtained for minor participants (< 18 years-old) prior to the completion of the survey by contacting parents prior to the youth participation. After guardian consent was obtained, youth assent was also obtained for all minor participants prior to completing the study. The procedures, risks, and benefits of the survey were outlined in both assent and consent forms. Given the nature of the survey questions, participants were advised to complete the survey in private; however, parents received a summary of the question content as well as psychoeducational and mental health resources. Upon completion of the survey, an automatic message was generated providing the same suicide prevention information, counseling resources, relevant laws, and Title IX information for all participants that could be found in the parental consent form. Survey data was used to conduct multiple linear regression, which were secondary analyses to the original purposes for which the data were collected (see Weeks, 2020), to evaluate the research questions and variables of interest for the present study.

Participants

A total number of 152 individuals met the inclusion criteria for this study and completed the survey questionnaire. Sample participants were selected by Qualtrics panels in order to most closely represent the current gender distribution across the national U.S. population; however, there were no limitations to participation or

exclusions made on the basis of race or ethnicity. Demographic information for all participants is provided in Table 2.a.

Measures

Demographic Questionnaire

The demographic questionnaire was created utilizing existing guidelines for structuring survey responses for minority populations (The GenIUSS Group, 2014). The survey required that participants indicate their sexual orientation, among other demographic identifiers (i.e., age, gender, and race/ethnicity). Participants had the ability to choose from a prespecified demographic list (see Table 2.a), write in their own response, or indicate that they "prefer not to answer." If participants indicated "heterosexual" as their sexual orientation, their responses were recorded and their survey was exited, as this made them ineligible for further participation.

The Sexual Minority Adolescent Stress Inventory (SMASI)

The SMASI was created by Schrager et al. (2018; Appendix A) as a measure of minority stress across several factors for adolescents that identify as LGB+. The measure contains 64 items across 11 subscales that evaluate minority stress across both the past 30 days and summative lifetime experiences. The SMASI shows high reliability across demographic variables (Goldbach et al., 2021; Schrager et al., 2018) and strong criterion and divergent validity (Goldbach et al., 2017). For the purpose of this study, two of the subscales, religion and work, were removed from the lifetime response set as well as the responses targeting minority stress over the past 30 days, resulting in a 49-item measure. The religion and work subscales were removed in the present study in case participants did not work or adhere to a religion. Unlike the other SMASI subscales, these two

subscales were not deemed to be universally applicable for all participants, as a substantial portion of adolescents are unemployed or nonreligious. Excluding the work and religion subscales also prevented potential bias when calculating the SMASI total (global) and domain (proximal vs. distal) scores, as lacking these experiences (i.e., not working or being nonreligious) would unfortunately result in composite scores suggesting lower minority stress as opposed to the absence of stressor contexts. Furthermore, composite scores were computed for the proximal stressor and distal stressor domains based on item endorsement of domain-respective subscales. Specifically, the distal domain score was a composite of the following subscale total scores: family rejection, homonegative climate, homonegative communication, negative disclosure experiences, and social marginalization. The proximal domain score was a composite of the following subscale total scores: identity management, internalized homonegativity, negative expectancies, and intersectionality. Internal consistency coefficients and variable correlates for the novel domain scores are presented in Table 2.b and Table 2.c.

Avoidance and Fusion Questionnaire for Youth (AFQ-Y8)

The AFQ-Y8 is an 8-item short form of the original 17-item AFQ-Y that measures psychological inflexibility (Greco et al., 2008; Appendix B). Confirmatory factor analyses show the AFQ-Y8 has strong convergent and construct validity (Greco et. al., 2008). Additionally, the measure shows high internal consistency reliability in youth ($\alpha = .90$; Livheim, et al., 2016) and college student samples ($\alpha = 0.82$; Renshaw, 2018). The measure is formatted in a Likert-type scale (1 = Not true at all; 5 = Very true), with higher scores indicating greater psychological inflexibility. For the purposes of the present study, psychological inflexibility was taken as a global and transdiagnostic

mental health indicator, which is valuable given its relevance to a variety of psychosocial health outcomes (see Kashdan & Rottenberg, 2010, for a conceptual review of this broader topic).

Suicidal Ideation Questionnaire (SIQ)

The SIQ is a self-report measure of suicidal ideation and frequency for use with adolescent populations in grades 10–12 (Reynolds, 1987; Appendix C). It is used to screen for potential threat of suicide and for monitoring ongoing suicidal ideation or intent. The SIQ has an internal consistency reliability coefficient of $\alpha = 0.97$ (Winters et al., 2002), with $\alpha = 0.96$ in this study sample. The cutoff score of 41 indicates that the individual is within a higher risk category; thus, any participants whose scores were above the cutoff were immediately provided suicide support information and prevention resources during completion of the online survey.

Alcohol Use Disorders Identification Test (AUDIT)

The AUDIT was developed in order to evaluate domains of alcohol-related habits and problems (Saunders et al., 1993; Appendix D). The measure is available in both clinician interview and self-report format, and the present study used the self-report version. Both versions of the AUDIT have 10 questions that assess frequency, emotions, thoughts, and behaviors related to drinking. In order to more accurately evaluate the scale of reference, a chart is provided with the measure that approximates a standard drink. The AUDIT has been used with diverse age groups and racial/ethnic populations and shows strong internal consistency reliability ($\alpha = 0.86$), sensitivity (0.90), and specificity (0.80; Babor et al., 2001).

Statistical Analyses

Preliminary analyses were run for all measures, including total (global), domain, and subdomain scores, to assess central tendency, distribution of responses, and internal consistency reliability. Bivariate correlations were conducted to assess for independence, direction, and strength of relationship between measures' scores. Following the finding that measures produced acceptable responses, nine regression analyses were run in three main models. Demographic variables of gender, sexual orientation, age, and race/ethnicity were organized into categorical groups and included in each regression model as covariates to control for potential confounding effects. Model 1 investigated the direct effect of global minority stress (SMASI total score) on substance misuse (Model 1-A), suicidal ideation (Model 1-B), and psychological inflexibility (Model 1-C). Model 2 assessed the direct effects of distal and proximal minority stress (SMASI domain scores) on substance misuse (Model 2-A), suicidal ideation (Model 2-B), and psychological inflexibility (Model 2-C). Lastly, in Model 3, each of the distal and proximal stressor subdomains (i.e., SMASI subscale scores representing specific stressor experiences) were regressed on substance misuse (Model 3-A), suicidal ideation (Model 3-B), and psychological inflexibility (Model 3-C).

Results

Preliminary Analyses

Descriptive Statistics

Central tendencies showed range, variance, and distribution of all variables were relatively normal and therefore suitable for the analytic approach used in the present study (see Table 2.b). The distributions for suicidality and substance misuse scores did

show a positive skew, which was expected for such extreme risk behaviors (Esser et al., 2017; Nock et al., 2013). Additionally, internal consistency reliabilities were checked for each measure, with most domains and subdomains found to have good to strong reliabilities, ranging from $\alpha = .74$ to $\alpha = .96$ (see Table 2.b). The only alpha that fell below .70 was the SMASI subdomain of Identity Management, which consisted of three items with $\alpha = .65$. Although this reliability estimate is sub-optimal, it was still considered acceptable for the purposes of the present study.

Correlations

Bivariate correlations between all variables are presented in Table 2.c. Coefficients ranged from weak to very strong, with outcome measures of suicidality, psychological inflexibility, and substance misuse all demonstrating positive associations with the varying levels of minority stress. Distal and proximal stressors had very strong correlations with overall minority stress measures and higher correlations with their associated subdomain stressors. The distal minority stress domain was nearly perfectly correlated with global minority stress $r = .97$ ($r^2 = 94\%$), while the proximal domain also exhibited a strong correlation with global minority stress, $r = .88$ ($r^2 = 77\%$). While the strong correlation may make differentiating distal minority stress and global minority stress difficult, this suggests that the differential predictive power between the distal and proximal domains may be meaningful, though small.

Simple Linear Regression

Model 1, presented in Table 2.d, consisted of three simple linear regression analyses that considered the effects of global minority stress on the mental health outcomes of substance misuse (Model 1-A), suicidality (Model 1-B), and psychological

inflexibility (Model 1-C), along with demographic covariates. Minority stress was found to have a significant direct effect on the variables of substance misuse ($p < .001$), suicidality ($p = .002$), and psychological inflexibility ($p < .001$). No covariates were found to significantly contribute to Model 1 (see Table 2.d). All terms in Models 1-A and 1-C accounted for a large portion of the response variance in this sample of LGB+ youth, explaining 18% of substance misuse and 27% of psychological inflexibility. Furthermore, all terms in Model 1-B accounted for 5% of the variance in suicidality in this sample, which is a medium effect size. Overall, results from Model 1 demonstrated that global minority stress is a significant and strong (Model 1-A and 1-C) to moderate (Model 1-B) predictor of substance misuse, suicidality, and psychological inflexibility.

Multiple Linear Regression

Model 2, presented in Table 2.e, examined distal and proximal composite scores, which are the two domains of minority stress, as predictors of substance misuse (Model 2-A), suicidality (Model 2-B), and psychological inflexibility (Model 2-C), while accounting for demographic covariates. Distal stressors significantly predicted all three mental health outcome variables (Model 2-A, $p < .001$; Model 2-B, $p = .002$; Model 2-C, $p = .004$), while proximal stressors were only a significant predictor for psychological inflexibility (Model 2-C, $p = .019$). No covariates were found to be significant contributors to Model 2 (see Table 2.e). In Models 2-A and 2-C, all terms produced large effect sizes in predicting substance misuse and psychological inflexibility, accounting for 21% and 27% of the response variance in this sample. Additionally, Model 2-B accounted for 7% of the variance of suicidality in this sample, a moderate effect size. Overall, Model 2 demonstrated that distal stressors are significant predictors of substance

misuse and suicidality, whereas proximal stressors are not. Furthermore, when both distal and proximal stressors were determined to significantly predict the outcome of psychological inflexibility, the distal domain was a stronger predictor.

Model 3, presented in Table 2.f, examined the subdomains of distal and proximal stressors on substance misuse (Model 3-A), suicidality (Model 3-B), and psychological inflexibility (Model 3-C), while accounting for demographic covariates. A total of nine predictors and seven covariates were included in each model. While a number of subdomains yielded p-values $< .100$, social marginalization, which is a distal stressor, was the only variable found to be a significant predictor—and only for the substance misuse outcome (Model 3-A, $p = .005$). Although only one predictor was found to be statistically significant, the overall models produced large to medium effect sizes in this sample, accounting for 25% of the response variance for substance misuse, 7% of the response variance for suicidality, and 27% of the response variance for psychological inflexibility.

Discussion

While the minority stress model has been examined in many studies (Goldbach et al., 2014; Hatzenbuehler, 2011; Meyer, 2003; Schrager et al., 2018), less literature focuses on investigating the domains and subdomains existing within this framework. Some studies have considered the role of specific distal or proximal stressors within their minority stress models (Hatzenbuehler, 2009; Brewster et al., 2013; Douglass et al., 2019), yet no studies have specifically explored the levels of the minority stress model— global, domain, and subdomain measures—in terms of their relative predictive power related to mental health outcomes for LGB+ adolescents. This study attempted to address

this gap in the literature by looking at the varying levels of measurable minority stress in terms of their utility for predicting substance misuse, suicidality, and psychological inflexibility in a sample of LGB+ youth. Generally speaking, results supported findings from previous literature, indicating global minority stress significantly predicted responses to all of the mental health outcome variables (Meyer, 2003). Results also extended the previous literature in relation to studies looking at specific subdomains as proxies for distal and proximal stress (e.g., Brewster et al., 2013; Douglass et al., 2019) by demonstrating that a composite score derived from several distal subdomain stressors was a stronger predictor of mental health outcomes than a parallel composite score derived from several proximal stressors. These findings support structural stigma research (Hatzenbuehler & Link, 2014) and answers the call for more relevant literature focused on structural stigma rather than on microlevel interactions (Hatzenbuehler, 2016).

It was expected that global minority stress would be a strong predictor of the mental health outcome variables. Global minority stress has been shown to consistently predict harmful outcomes in LGB+ youth across several studies, including studies using the SMASI (e.g., Goldbach et al., 2017; Schrager et al., 2018). While global minority stress results were predictable based on previous literature, the breakdown of global minority stress into two domains (distal and proximal stressors) and the investigation of these domains as distinct levels of predictors (more precise than the global score, yet more general than the subscale scores) was more exploratory and novel. By looking at the minority stress model in this way, this study discovered that distal stressors were better predictors of harmful outcomes in LGB+ adolescents than proximal stressors. Unlike

Hatzenbuehler (2009), who looked at proximal stressors mediating the relationship between distal stressors and harmful outcomes, this study compared the relative predictive power of these two domains of minority stress in a model that tested the direct effect of each while accounting for the another. By comparing both minority stress domains in such a way, this study was able to demonstrate the idea that external events associated with one's sexual identity better predict harmful outcomes. Although this idea is frequently discussed conceptually in the literature, it has not often been tested directly or shown clearly in results from previous studies with LGB+ youth (cf. Goldbach et al., 2014; Hatzenbuehler, 2011; Meyer, 2003; Schrager et al., 2018).

The present study also extended the previous literature by investigating the potential direct effects of the specific subdomains within both the distal and proximal domains on LGB+ adolescents' mental health outcomes. Though global minority stress and its domains (especially distal) proved to be effective tools for predicting harmful outcomes, their subdomains were shown to be less useful in the present study. Specifically, social marginalization was found to be the only subdomain to significantly predict any outcome, and it only predicted one of the three mental health outcomes (i.e., substance misuse). Given the distal composite was a significant predictor, but the subdomains were not, these results suggest that the outcome variables were likely affected by an aggregate of the subdomain factors—and, therefore, that the domain level is potentially a more empirically useful level for measuring minority stress than is the subdomain level. Attempting to target one subdomain of minority stress at a time, then, as many other studies have done (e.g., Douglass & Conlin, 2020; Ramirez & Galupo, 2019), may be empirically fruitless because it fails to address the interplay and

compounding effects of the other stressors. Thus, future studies should attempt to measure all distal and proximal subdomains when referring to these domains in their studies. It may be best for studies using specific subdomain variables as predictors to be cautious when making implications about distal and proximal domains broadly, especially if they neglect to include all subdomains from a minority stress framework. That said, it is noteworthy that the present study itself excluded two of the several proximal subdomains identified in the SMASI's original measurement model: religion and work (Schrager et al., 2018). As mentioned earlier, however, these exclusions were intentional to prevent possible bias in calculating minority stress total (global) and domain scores (see the rationale presented in the Method section). Given our own decision toward this end, we further suggest that incomplete minority stress measurement models can be methodologically defensible, as long as they are justified on theoretical, empirical, or practical grounds.

Implications

Thanks to an awareness of the extent to which LGB+ youth experience mental health disparities, results from this study would ideally help to inform practice to reduce such disparities. Realizing how the distal domain of stressors predicted suicidality and substance misuse, whereas as the proximal domain did not, implies a need for intervention at a social level to reduce negative external experience. While expecting global social change to occur is unrealistic given the scope of these results, systems and policy level intervention in organizations that work with youth very well could be a realistic change in practice. These results could suggest that intervention at a systems level may be more meaningful in terms of reducing substance use and suicidality for

LGB+ adolescents. For example, by providing LGBTQ+ education and social-engagement opportunities, like getting involved in LGBTQ+ groups and connecting with their community, adolescents may engage less in substance use as a distraction-based coping strategy to deal with stressful situations (e.g., Toomey et al., 2018). This is not to neglect the fact that individual work to improve coping skills and develop stronger internal resilience through therapy is beneficial (e.g., Williams & McGillicuddy-De Lisi, 1999), but rather to emphasize that targeting proximal factors should not be the only response. In the present study, even when proximal stressors significantly predicted psychological inflexibility, distal stressors still accounted for more of the variance in mental health outcomes. Thus, to neglect the impact of others' treatment toward LGB+ adolescents and to only expect these youth to seek individual help ignores a large portion of the problem—and, likewise, a large portion of the potential solution.

Moreover, this study suggests that even if the problem of minority stress can be identified at the global level (i.e., global minority stress), determining where to intervene may be difficult because the construct broadly includes many life experiences that might be better identified at other levels of precision. At the domain level of minority stress (i.e., distal and proximal stressors), determining the problem and identifying how to address the problem may be possible due to predictive ability to discern whether to intervene at the individual or systems level, as suggested by results from the present study. However, at the subdomain level of minority stress (i.e., subscales within distal and proximal stressor domains), it seems that predictive power is lost due to too much overlap in predictors to usefully determine which factor is most likely contributing to mental health outcomes. We suggest much further research is therefore warranted to

validate the relative predictive power—and, after that, the relative treatment utility (see

Hayes et al., 1987)—of assessing LGB+ adolescents' minority stress at these three

different levels of precision: global vs. domain vs. subdomain.

If further research continues to support the gist of the findings from the present

study, then organizations such as schools, community centers, after school programs, and

workplaces that employ adolescents may use such findings as an evidence-based

rationale for taking steps in addressing distal stressors by making ecological changes and

creating affirming LGB+ climates. Affirming environments would likely help in the

reduction of specific distal stressors, such as homonegative climate (reducing

discrimination and abuse), homonegative communication (offering alternative language

that is not offensive), and social marginalization (providing groups and common spaces

of LGBTQ+ community members to meet). LGB+ affirming policies have been shown to

improve climates for sexual minority youth (Patterson, 2013). For example, schools that

mandate LGBT-affirming initiatives have seen improvements in student perceptions of

comfort, safety, and intervention by teachers (Horowitz & Hansen, 2008). Examples of

these initiatives include a variety of policies, including rules that protect students from

harassment, crisis intervention, removing dress codes, allowing students to organize and

meet (often in the form of gay–straight alliances), providing additional academic support,

and teaching appropriate inclusive sex education curriculum (e.g., Cianciotto & Cahill,

2012; Horowitz & Hansen, 2008; Liboro et al., 2019; Patterson, 2013). Additionally,

ongoing trainings for staff, peers and bystanders, and families have also been found to

promote wellbeing by challenging discourses, providing psychoeducation, and

introducing ways to respond, adjust, and adapt to LGB+ related issues that may arise (Luke & Goodrich, 2015; Ryan, 2013).

These universal and group approaches to intervention described above are often associated with many benefits for LGB+ youth as well as the organization implementing the intervention (Greenberg & Abenavoli, 2017). Because these interventions reach so many individuals, there is often a cost reduction for organizations because more individualized, targeted treatment is not necessary. Additionally, large scale data can be quickly collected to assess the functionality and cost–benefit ratio of an intervention. Furthermore, resources that might need to be spread thin to support many individuals can be streamlined, allowing personnel to focus time and energy on other organizational concerns. While broad interventions accessing large groups of individuals may be a critical way to address distal factors, individual counseling may also serve a purpose toward this end. For example, focusing on breaking down heteronormative assumptions and discourses, as well as supporting self-advocacy, are currently two best practices in LGBTQ+ affirming therapy (e.g., McGeorge & Stone Carlson, 2011; Pachankis et al., 2015). These one-on-one strategies focus the role of therapy less on proximal factors and more on society's influence and distal stressors. As we mention above, however, these implications are only indirectly derived from the present study's results, and therefore should be taken with the proverbial grain of salt. Much more research—and even different kinds of research (e.g., studies of the treatment utility of assessing varying levels of minority stress to inform intervention)—is needed in order to establish an evidence base that could directly guide practice in this area.

Limitations

There are a number of limitations with this study that should be considered to guide future research in this area. First, the generalizability of the results are only applicable to adolescents who have disclosed their sexual identity to their parents. This limitation may have altered the outcomes of the study by preventing a number of LGB+ youth from participating in the first place, potentially biasing the responses from those who could participate (e.g., Macapagal et al., 2017; Mustanski, 2011). Additionally, findings can only be generalized to the mental health areas of substance misuse, suicidality, and psychological inflexibility, which are a limited set of the many possible, valued mental health outcomes of LGB+ adolescents. Future studies would therefore benefit from measuring the predictive value of distal and proximal stressors with a sample of LGB+ youth obtained under different consenting conditions (i.e., without requiring disclosure to parents) and on additional behavioral and psychological outcomes that are of particular interest for LGB+ youth, such as academic achievement, truancy, disordered eating, risky sex behaviors, etc. Another limitation is that the scales that were selected for use in this study only comprise a small representation of the measures that exist for suicidality, substance misuse, minority stress, and psychological inflexibility. It was the attempt of this study to use measures that worked in terms of age appropriateness, length, construct representation, and psychometric soundness. The present study does not therefore claim comprehensive or robust diagnostic assessment of these variables, and therefore admits the possibility of measurement error or construct underrepresentation. Thus, it would be beneficial to compare results of this study against results of other studies evaluating similar constructs with different measures (conceptual

replication). For example, the Gay-related Stressful Life Events Scale (Rosario et al., 2002), the Daily Heterosexist Experiences Questionnaire (Balsam et al., 2013), and the Heterosexist Harassment, Rejection and Discrimination Scale (Szymanski, 2009) are a few alternative measures assessing various definitions of minority stress, all of which could be evaluated in relation to each other to determine their relative predictive power as measures of supposedly similar variables. Additionally, qualitative research using interview or focus groups to further inform valid measures and tailor intervention efforts could complement the current findings.

Furthermore, in terms of limitations within the selected measures for this study, it is noteworthy that, prior to this study, previous research using the SMASI did not provide any psychometric evidence for the validity of composite scores for the distal and proximal stressor domains. Using domain scores at this level was therefore exploratory in this study, but was deemed to be psychometrically defensible due to strong internal consistency reliabilities and relatively normal response distributions. It would therefore be useful for future research to further validate the measurement properties of these domain scores when using the SMASI. While the internal consistency reliability coefficients were strong in this study, both domain scores were very highly correlated with the global minority stress score. Although strong positive correlations were expected for theoretical reasons, it is noteworthy that the distal domain neared a perfect correlation with global minority stress, $r = .97$ ($r^2 = 94\%$), while the proximal domain also yielded an extremely strong correlation with the global score, $r = .88$ ($r^2 = 77\%$). These near perfect correlations make discerning the difference between global minority stress and distal and proximal domains of stressors difficult, as they appear to be practically measuring the

same construct. Yet the differential predictive power of these domain scores on mental health outcomes suggests that the seemingly small differences in measurement between these domains are actually meaningful differences. In fact, taking all of the results together, it seems that the distal domain score may be the functional equivalent of the global minority stress score of the full SMASI—providing strong psychometric properties and similar predictive power with about half of the original item set of the full measure. We therefore suggest that future research should seek to replicate and extend these findings, focusing specifically on the structural validity and value-added of the full SMASI item set (which produces the global minority stress score) compared to this reduced item set (which produces the distal domain score) for predicting LGB+ adolescent's mental health outcomes.

Conclusion

While limitations should be accounted for, this study was able to contribute to the literature by demonstrating the significance of the distal and proximal domains of minority stress that are often ignored or briefly mentioned in other studies. While the emphasis of minority stress research is frequently broad (global minority stress) or narrow (specific stressors) in focus, this study found that a domain level approach may actually be best for understanding minority stress' predictive value, while still taking all factors in the minority stress model into consideration. Indeed, results suggest that the distal stressor domain score may be the functional equivalent of the global minority stress score, which would mean that similar levels of measurement precision and predictive power could be achieved with far fewer items. Further research is therefore warranted to replicate and extend these findings toward this end. Ultimately, we hope that findings

from this line of research might help contribute to an evidence base that could be relied

upon to guide measurement approaches for assessing minority stress and using related

results to inform the prediction of—and, ultimately, intervention with—LGB+

adolescents' mental health outcomes.

Declaration of interest: We declare no known conflicts of interest related to this work.

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Tables

Table 2.a

Demographic Frequencies and Percentages (N = 152)

Demographic Variable	Count	%
Age		
13	10	6.6
14	23	15.1
15	36	23.7
16	26	17.1
17	21	13.8
18	36	23.7
Gender		
Woman	76	50
Man	61	40.1
Transgender Woman	2	1.3
Transgender Man	2	1.3
Gender Fluid	10	6.6
I identify differently	1	0.7
Sexual Orientation		
Asexual	4	2.6
Bisexual	59	38.8
Fluid	4	2.6
Gay	31	20.4
Lesbian	21	13.8
Pansexual	10	6.6
Queer	1	0.7
Questioning	21	13.8
I identify differently	1	0.7
Race/Ethnicity		
Asian	3	2
Multiracial	23	15.1
Black or African American	16	10.5
Hispanic or Latinx	12	7.9
Middle Eastern	4	2.6
American Indian or Native American	4	2.6
White or European	88	57.9

Table 2.b

Descriptive Statistics for Central Tendency, Distribution, and Internal Consistency Reliability for All Study Measures

Measure	*M*	*SD*	*min*	*max*	*skewness*	*kurtosis*	*α*
GMS	20.43	12.93	0	49	0.17	-0.97	.95
DMSD	13.65	8.96	0	33	0.31	-0.92	.94
PMSD	6.78	4.81	0	16	0.17	-1.12	.90
Fa Re	4.11	3.78	0	11	0.38	-1.34	.91
Ho Cl	2.11	1.57	0	4	-0.11	-1.53	.81
Ho Co	3.38	1.63	0	5	-0.66	-0.88	.74
Ne Di	1.89	1.67	0	5	0.58	-0.86	.74
So Ma	2.17	2.34	0	8	0.98	-0.13	.83
Id Ma	1.48	1.14	0	3	-0.02	-1.42	.65
In Ho	2.27	2.35	0	7	0.78	-0.75	.86
Ne Ex	1.70	1.23	0	3	-0.25	-1.56	.77
In	1.33	1.26	0	3	0.22	-1.62	.80
SIQ	20.06	22.18	0	83	1.16	0.18	.96
AUDIT	5.20	8.54	0	37	1.88	2.77	.95
AFQ-Y8	23.12	8.60	8	40	-0.01	-0.91	.90

Note. GSM = Global Minority Stress; DMSD = Distal Minority Stress Domain; PMSD = Proximal Minority Stress Domain; Fa Re = Family Rejection; Ho CL = Homonegative Climate; Ho Co = Homonegative Communication; Ne Di = Negative Disclosure Experiences; So Ma = Social Marginalization; Id Ma = Identity Management; In Ho = Internalized Homonegativity; Ne Ex = Negative Expectancies; In = Intersectionality; SIQ = Suicidal Ideation Questionnaire; AUDIT = Alcohol Use Disorders Identification Test; AFQ-Y8 = Avoidance and Fusion Questionnaire for Youth. Most of the information in

this table, with the exception of the DMSD and PMSD metrics, was originally reported in

Weeks (2020).

Table 2.c

Pearson's Bivariate Correlation Matrix for All Study Measures

Measures	GMS	Id Ma	Ne Ex	Ne Di	Fa Re	In Ho	Ho Co	Ho Cl	So Ma	In	DMSD	PMSD	SIQ	AFQ-Y8
GMS														
Id Ma	.62*													
Ne Ex	.79*	.63*												
Ne Di	.80*	.41*	.54*											
Fa Re	.87*	.48*	.62*	.73*										
In Ho	.70*	.53*	.61*	.42*	.53*									
Ho Co	.66*	.28*	.48*	.45*	.47*	.39*								
Ho Cl	.73*	.37*	.65*	.54*	.47*	.40*	.57*							
So Ma	.78*	.34*	.50*	.65*	.65*	.38*	.43*	.59*						
In	.74*	.43*	.52*	.61*	.55*	.39*	.57*	.53*	.57*					
DMSD	.97*	.48*	.70*	.84*	.89*	.54*	.67*	.73*	.84*	.69*				
PMSD	.88*	.77*	.84*	.60*	.68*	.87*	.53*	.59*	.54*	.69*	.74*			
SIQ	.27*	.13	.16	.23	.29*	.08	.13	.22	.27*	.26*	.30*	.18		
AFQ-Y8	.54*	.39*	.38*	.38*	.47*	.40*	.31*	.35*	.44*	.44*	.50*	.50*	.44*	
AUDIT	.44*	.21	.27*	.44*	.43*	.28*	.14	.26*	.48*	.28*	.46*	.33*	.32*	.34*

*$p < .01$.

Note: GSM = Global Minority Stress; Fa Re = Family Rejection; Ho CL = Homonegative Climate; Ho Co = Homonegative Communication; Ne Di = Negative Disclosure Experiences; So Ma = Social Marginalization; Id Ma = Identity Management; In Ho = Internalized Homonegativity; Ne Ex = Negative Expectancies; In = Intersectionality; DMSD = Distal Minority Stress Domain; PMSD = Proximal Minority Stress Domain; SIQ = Suicidal Ideation Questionnaire; AFQ-Y8 = Avoidance and Fusion Questionnaire for Youth; AUDIT = Alcohol Use Disorders Identification Test.

Table 2.d

Simple Linear Regression Parameter Estimates (b) for Models Investigating the Potential Direct Effects of Minority Stress (SMASI) by Mental Health Outcomes (AUDIT, SIQ, and AFQ-Y8) with Demographic Covariates—"Models 1A–1C"

	Models Investigating Direct Effects on Mental Health Outcomes		
	Model 1-A	Model 1-B	Model 1-C
	AUDIT	SIQ	AFQ-Y8
Intercept (*b*)	-1.07	30.08	17.16
Global Minority Stress	**0.27*****	**0.45****	**0.34*****
Covariates			
BIPOC	1.48	-3.01	2.04
Man	1.56	-3.60	-0.48
Gender non-conforming	-2.09	-7.82	-4.25
Age, years	0.02	-1.17	-0.12
Gay	-0.08	6.14	1.00
Lesbian	-2.31	3.24	1.06
Queer	-1.22	3.38	0.33
Model Fit			
R²	0.23	0.10	0.31
Adj R²	0.18	0.05	0.27
Residual Std. Error	7.72	21.61	7.32

* $p < .05$. **$p < .01$. ***$p < .001$.

Note: AFQ-Y8 = Avoidance and Fusion Questionnaire for Youth; AUDIT = Alcohol Use Disorders Identification Test; BIPOC = Black, Indigenous, People of Color; SIQ = Suicidal Ideation Questionnaire; SMASI = Sexual Minority Adolescent Stress Inventory.

Table 2.e

Multiple Linear Regression Parameter Estimates (b) for Models Investigating Potential Direct Effects of Distal and Proximal Stressors by Mental Health Outcomes (AUDIT, SIQ, and AFQ-Y8) with demographic covariates—"Models 2A–2C"

	Models Investigating Direct Effects on Mental Health Outcomes		
	Model 2-A	Model 2-B	Model 2-C
	AUDIT	SIQ	AFQ-Y8
Intercept (*b*)	0.70	34.13	16.68
Distal Minority Stress Domain	**0.47***	**0.93**	**0.29**
Proximal Minority Stress Domain	-0.18	-0.57	**0.46***
Covariates			
BIPOC	1.77	-2.34	1.96
Man	2.04	-2.49	-0.61
Gender non-conforming	-2.43	-8.60	-4.16
Age, years	-0.11	-1.46	-0.08
Gay	0.20	6.78	0.93
Lesbian	-2.30	3.25	1.06
Queer	-0.87	4.19	0.24
Model Fit			
R^2	0.25	0.12	0.31
Adj R^2	0.21	0.07	0.27
Residual Std. Error	7.61	21.43	7.34

* $p < .05$. ** $p < .01$. *** $p < .001$.

Note: AFQ-Y8 = Avoidance and Fusion Questionnaire for Youth; AUDIT = Alcohol Use

Disorders Identification Test; BIPOC = Black, Indigenous, People of Color; SIQ =

Suicidal Ideation Questionnaire.

Table 2.f

Multiple Linear Regression Parameter Estimates (b) for Models Investigating Potential Direct Effects of Distal Subdomains (Negative Disclosure Experience, Family Rejection, Homonegative Communication, Homonegative Climate, and Social Marginalization) and Proximal Subdomains (Identity Management, Negative Expectancies, Internalized Homonegativity, and Intersectionality) by Mental Health Outcomes (AUDIT, SIQ, and AFQ-Y8) with demographic covariates—"Models 3A–3C"

	Models Investigating Direct Effects on Mental Health Outcomes		
	Model 3-A	Model 3-B	Model 3-C
	AUDIT	SIQ	AFQ-Y8
Intercept (*b*)	2.26	31.03	15.32
Distal			
Negative Disclosure Experience	1.06	-1.28	-0.81
Family Rejection	0.42	**1.53.**	**0.55.**
Homonegative Communication	-0.56	-1.66	0.07
Homonegative Climate	-0.22	2.22	0.50
Social Marginalization	**1.18****	0.98	**0.69.**
Proximal			
Identity Management	-0.16	0.81	**1.36.**
Negative Expectancies	-0.58	-1.82	-0.99
Internalized Homonegativity	0.30	-1.38	0.56
Intersectionality	-0.55	**3.94.**	1.12
Covariates			
BIPOC	1.38	-5.99	1.33
Man	1.74	-2.62	-0.42

Gender non-conforming	-2.17	-10.27	**-4.73.**
Age, years	-0.02	-0.92	0.07
Gay	0.05	5.39	0.50
Lesbian	-2.91	3.29	1.32
Queer	-0.64	4.13	-0.61
Model Fit			
R²	0.33	0.17	0.35
Adj R²	0.25	0.07	0.27
Residual Std. Error	7.41	21.38	7.33

. *p* < .10 **p* < .05. ***p* < .01. ****p* < .001.

Note: AFQ-Y8 = Avoidance and Fusion Questionnaire for Youth; AUDIT = Alcohol Use Disorders Identification Test; BIPOC = Black, Indigenous, People of Color; SIQ = Suicidal Ideation Questionnaire.

CHAPTER 3

Home and school climates: How sexual minority youths' environments influence

wellbeing through minority stress

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Abstract

The present study investigated home and school climates as two important distal factors for reducing the minority stress that predicts sexual minority youths' mental health broadly, and specifically in each environment. The current study investigated two mediational models examining the pathways of school and home climates on global life satisfaction (Model 1) and the subdomains of family satisfaction and school satisfaction (Model 2), through minority stress. Based on reports from a sample of 293 sexual minority adolescents, minority stress was found to partially mediate the relationship between school and family climate on global life satisfaction ($p < .001$), sharing a direct effect with school climate ($p = .006$). School climate stood out as the stronger and more consistent predictor of life, family, and school satisfaction. These results suggest that addressing minority stress in the schools through various levels of intervention could influence life satisfaction overall, in the school, and at home by reducing minority stress. Additionally, gender emerged as a significant covariate ($p = .005$) and should be considered in future research. Overall, it appears the school and family are "overlapping spheres of influence" in their effects on minority stress and should be considered as such in intervention, assessment, and research.

Introduction

More young people are identifying as sexual minorities than ever (Jones, 2021) and are struggling with higher rates of depression, anxiety, and trauma than their heterosexual peers (Caputi et al., 2018; Lucassen et al., 2017; Shearer et al., 2016; Silenzio et al., 2007; Smith et al., 2016). Sexual minority youth, or youth who experience some degree of same-sex attraction, behavior, or identity (Lefevor et al., 2020), have reported three times the rate of suicidal ideation as heterosexual youth and suicide attempts up to five times higher (Centers for Disease Control and Prevention [CDC], 2016). Comparatively, all youth ages 15-24 are at an extremely high risk for suicide and suicidal ideation. Suicide in this age group is the second leading cause of death, increasing at a national average rate of 25% annually (CDC, 2016). Additionally, deaths by suicide account for more than all natural causes combined in youth ages 10–24 years (Wyman et al., 2010).

Sexual minority youth are in clear need of supports, though it appears they are unsure how to access quality affirming care and often run into barriers, reporting that their needs are frequently not met through mental health services (Dunbar et al., 2017). The purpose of the current study was to contribute to understanding these group trends and how they can be addressed by examining the problem through a minority stress framework aimed at informing possible social ecological intervention in the home and school.

Minority Stress Theory

In an effort to explain the health disparities found in sexual minority groups, Meyer (2003) developed the now widely accepted *minority stress model*. The minority

stress model posits that sexual minorities experience stressors associated with their sexual and gender identities that accumulate into significant internal distress and harm. These daily stressors are socially bound and experienced in addition to common stressors faced by all. Meyer's framework parses global minority stress into two primary domains: distal and proximal stress. Distal stress includes external events, like structural stigma and interpersonal conflict, that are experienced by sexual minority individuals due to their identity. Proximal stress is the subjective interpretation and internalization of external events and attitudes, dependent on self-identity and including self-disgust, fear of rejection and harm, concealment, and other stress responses. Various frameworks have been outlined to identify specific distal and proximal stressors (Goldbach et al., 2014; Hatzenbuehler, 2011; Meyer, 2003), and it is generally assumed that proximal stressors are a byproduct of distal stress (Hatzenbuehler, 2009; Pachankis et al., 2015). Additionally, distal stress has been found to be a better predictor than proximal stress for behavioral outcomes such as psychological inflexibility, substance misuse, and suicidality in sexual minority adolescents (Hatzenbuehler et al., 2015; Weeks et al., 2021), and a call to focus on distal stressors, like structural stigma, rather than microlevel interactions has been made within the minority stress literature (Hatzenbuehler, 2016).

When it comes to mental health services addressing levels of minority stress, a social ecological framework might be best for understanding intervention across micro, mezzo, and macro levels (Asakura, 2016). Proximal stress is traditionally addressed within individualized counseling or group-based therapy focusing on resiliency, coping skills, self-compassion, and emotion regulation (Pachankis et al., 2015; Williams et al., 2017). While intervention focused on proximal stress is important, barriers to traditional

therapy may not make this form of treatment feasible across the broad scale of disparities seen in sexual minority youth. Currently, 46% of sexual minority youth report wanting mental health services but not being able to receive them, citing some of the following reasons: financial burden, concerns regarding caregiver permissions, and concerns about finding a LGBTQ+ competent provider (The Trevor Project, 2020). However, environmental interventions on a larger social scale (e.g., policy and systemic consultation) focusing on distal stressors like structural stigma may address these disparities by providing more feasible, sustainable, and effective group and community level intervention (Goldbach & Gibbs, 2017; Hatzenbuehler, 2016). For sexual minority youth, two such areas that might benefit from intervention are the home and school environment, given these are places where youth spend the majority of their day.

Family Climate

Parental attitudes toward their children's sexual minority identities seem to be changing for the better over time. A 1998 study found that youth who had "come out" to their parents experienced higher rates of verbal and physical abuse and suicidal behaviors than those who had not (D'Augelli et al., 1998). However, 15 years later, Rosario and Schrimshaw (2012) conducted a review of the sexual minority disclosure literature and found that of the two-thirds of sexual minorities who had disclosed their identity, roughly half of parents were accepting of their child's sexual orientation. Further, in a more recent narrative review, Ghosh (2020) purported the majority of parents responded in an accepting manner when their children disclosed their sexual orientation, and for parents who initially did not, they eventually became accepting over time, according to youth and parent reports.

Families' acceptance of their child's sexual identity has been found to reduce stress and substance use (Padilla et al., 2010) and act as a protective factor in social ecological studies on minority stress intervention (Gartner & Sterzing, 2018; McConnell et al., 2015). Conversely, family rejection creates an unsafe home environment for sexual minority youth and is associated with mental health risks, as 19% of youth encouraged to change their identity attempted suicide, while that percentage was reduced to 8% in youth who were accepted (The Trevor Project, 2020). Additionally, young adults who experienced high rates of family rejection were found to be eight times as likely to have attempted suicide, six times more likely to report depressive symptoms, three times as likely to engage in risky sexual behavior, and three times as likely to misuse drugs (Ryan et al., 2009; Ryan et al. 2010).

Congruent with the minority stress model, research has shown that family rejection, which is a distal stressor, is associated with internalized homophobia, which is a proximal stressor, with parental knowledge of their child's identity reducing this association (D'Augelli et al., 2010). This finding supports the theoretical proposition that proximal stress is a byproduct of distal stress and centers the family climate as a critical component in understanding the origins and development of minority stress among sexual minority youth. Considered with the findings reviewed earlier, family acceptance and the home environment are clearly important in explaining sexual minority youth mental health disparities. Yet the home climate alone is insufficient for accounting for youths' primary environmental influences, as it fails to represent the other social setting where youth spend much of their day: the school.

School Climate

Youth spend a large portion of their day in school settings where the social influences are shifted from immediate family to teachers, administrators, and peers. While school climates can vary greatly depending on the region and type of school, some schools have begun to introduce LGBQ+ affirming practices at varying degrees, like implementing more robust consequences for bullying behaviors and offering LGBTQ+ clubs and spaces to gather. Schools that have introduced accepting practices and have accepting school personnel have LGBQ+ students who report better school experiences and academic outcomes, and reduced substance use, victimization in the school, and psychological distress (Heck et al., 2013; Kosciw et al., 2013).

While accepting school-based supports may improve student wellbeing, few states have taken action to support their LGBQ+ students in school (Demissie et al., 2018). Most schools still implement outdated educational practices that can be harmful and counterproductive to an affirming school climate, such as teaching heterosexual-only sex education or requiring school personnel to avoid any LGBQ+ affirming discussions (Kosciw et al., 2020). These school-based policies and practices set the tone for the school climate that affects how sexual minority students are treated. Almost all sexual minority students have reported hearing derogatory language used in their school, most have experienced verbal harassment due to their sexual orientation, and over half have been physically or sexually harassed or assaulted due to their sexual identity (Kosciw et al., 2020). Studies of current students found that sexual orientation, LGBT victimization, and fear of violence at school were associated with suicidal ideation and suicidal

behavior, lower academic achievement, and lower self-esteem (Barnett et al., 2019; Kosciw et al., 2013).

Like in the family environment, distal stressors in school environments contribute to harmful outcomes for sexual minority youth. This centers the school alongside the home in terms of its influence on minority stress and, potentially, offers a pair of viable settings and targets for assessment and intervention related to supporting sexual minority youth. However, merely investigating each climate on its own (i.e., home vs. schools) fails to account for the environmental overlap and reciprocal social influence each setting has on a student and on each other. Neither environment is self-contained, and both have reciprocal influences on each other, as school-based activities often engage and involve families (e.g., homework, parent-teacher conferences, sports). Thus, exploring how to mitigate minority stress experiences through home and school climates by recognizing the relationship each setting has on minority stress, and then on sexual minority student's wellbeing broadly is important for understanding how to best support sexual minority youth across settings.

Home-School Relationship

Broadly, the effects of the school environment on the home environment have been well known for decades, with Epstein (1990, p. 102) referring to the home and school as "overlapping spheres of influence." While this relationship has not yet been considered when it comes to affecting sexual minority youth, this interaction has been studied in other contexts, especially regarding academic performance and cultural social attitudes, whose results might be generalized and used as a rationale for the current study.

Studies have found that the influence of the home-school relationship on academic performance is bidirectional, as the school has ability to affect the home while the home also has ability to affect the school (Coleman, 1987; Epstein, 1986). The consistent finding that the home environment has significant influence on youths' academic performance has led to many school districts, accrediting bodies, and governmental agencies making the home-school relationship a top priority (e.g., Every Student Succeeds Act [ESSA], 2015; the National Association for the Education of Young Children [NAEYC], 2017; and the Council for the Accreditation of Educator Preparation [CAEP], 2013). While most earlier studies of home-school effects focused on academic outcomes such as performance and motivation (e.g., Ames, 1992; Epstein, 1986), the concept that the home-school relationship can have influence on a communities' social attitudes has existed for over a century (e.g., Dewey, 1915). Government agencies, both local and federal, have attempted to use this idea in approaching issues of social justice, and specifically school segregation, through educational policy and law. As a recent example of such educational policy, the ESSA (2015) aims to increase transparency regarding school information to develop meaningful relationships with minoritized families so parents can make informed decisions about their child's education.

The notion that schools create strong communities that can be drivers of social change seems to be well-established, yet there is surprisingly little empirical evidence supporting this idea. Studies assessing how schools could address barriers to the home-school relationship for families of ethnic and racial minority, linguistically diverse, low-income, and immigrant students have found that if schools can tailor their outreach to

marginalized communities, then they can create a school environment of support and inclusion and increase equity, cultural responsiveness, and home-school collaboration and trust (Auerbach, 2009; Chrispeels & Rivero, 2001; Povey et al., 2016). Additionally, in looking at environmentally sustainable behaviors, Addi-Raccah et al. (2018) found that schools were in fact prominent driving factors for social change in their local communities through their involvement with parents. Addi-Raccah and colleagues suggested that their findings could likely be generalized to social justice attitudes in the community through inclusion of parents, developing lines of communication, and being sensitive to the community's needs.

Less has been studied regarding the interaction between sexual minority students' home and school relationships; however, some findings have shown that schools' mishandling of LGBQ+ issues have led to marginalization and negative experiences for entire families (Casper & Schultz, 1999). Additionally, Kosciw and Diaz (2008) found that when LGBT parents were mistreated by other parents, teachers, administrators, and their child's school, these experiences led to an increased hostile school climate toward children of LGBT families by peers and school personnel and reduced family-school interaction. Indeed, the effects of school climates have been so strong that LGBTQ+ parents have been found to make complex school selections for their children based on considerations related to how schools handle diversity and inclusion of the entire family (Leland, 2019).

The Present Study

The present study investigated home and school climates as two important distal factors for reducing the minority stress that predicts sexual minority youth's mental

health, with a focus on wellbeing across settings. Thus far, no other study has looked at the effects of the home and school climates on psychological outcomes for sexual minority youth in the same model. The research outlined above has considered each climate unilaterally, but the reality is that both the school and home climates are likely to reciprocally affect each other. Furthermore, the impact of social influence is likely to shift over developmental time (i.e., from parents to peers and school personnel) and so it is important to explore how these spheres of influence are currently affecting sexual minority adolescents' wellbeing. The current study investigated global minority stress as a mediator between school and home climates and global life satisfaction in sexual minority adolescents. Minority stress, as a mediator, offers a framework for understanding how accepting or rejecting climates influence sexual minority adolescents' wellbeing and provides a potential context for intervening in the school or home environment. Additionally, this study investigated global minority stress as a mediator for the domain-specific wellbeing indicators of school satisfaction and family satisfaction, respectively, to further examine how an accepting or rejecting environment differentially affects life satisfaction across settings. This way of modelling these variables can contribute to understanding the strength and directionality of the influence in the home-school climate relationship. This study was guided by the following research questions:

1. Does minority stress mediate family and school climates' effects on sexual minority adolescents' global life satisfaction when controlled for in the same model?

2. Will evidence for the home-school relationship exist in looking at minority stress and its influence on the relationship between school and family climates and school and home satisfaction?

3. Do school and family climates differentially influence sexual minority adolescents' global and domain-specific life satisfaction through minority stress when controlled for in the same model?

Methods

Procedures

The present study collected data using self-report methods for the predictor variables of school and family climate, the mediator variable of global minority stress, and the outcome variable of global life satisfaction and its subdomains of family and school satisfaction. Data was collected at one time point near the end of the 2021 academic school year. Due to the mediational design of the study, data would optimally be collected longitudinally; however, due to concerns regarding confidentiality, rates of attrition, and financial feasibility, cross sectional data was gathered instead. In order to meet temporal assumptions of a mediational design, measures were adapted to ask for retrospective participant ratings. For the sample to be generalizable within the sexual minority adolescent community, purposive sampling procedures were conducted through QuestionPro online survey panels. Further details regarding demographic requirements for the initial recruitment are outlined in the Participants subsection (see below). Caregiver consent and youth assent were collected prior to completion of any study materials. In order for caregivers to complete the required consent form and for respondents to appropriately complete the LGBTQ-Specific Family Support Scale (Miller

et al., 2020), participants must have already disclosed their sexual orientation to at least one of their caregivers. No participant identifiers were collected in the consent form nor were any necessary to participate in the study.

After completing consent and assent forms, participants began online survey materials. Home and school climate surveys asked participants to endorse items based on their perceptions of the home and school climate at the beginning of the spring term. The minority stress survey asked participants to rate their experiences of minority stressors over the past month, and the life satisfaction survey was phrased so participants rate their feelings over the past week. Additionally, given data were collected amidst the COVID-19 pandemic, participants were asked to indicate the school setting in which they were engaged at each time point of reflection on the measures. After finishing the surveys, participants received monetary compensation from QuestionPro. Survey data was used to conduct mediational analyses outlined in Figure 3.a and Figure 3.b. All procedures were pre-approved by the University's Institutional Review Board.

Participants

Participant eligibility criteria included age and sexual orientation. Participants were exited from the study if they were not age 13-18 years or if they self-identified as heterosexual without same-sex attraction. Based on the recommendation of 5 to 10 participants per parameter for structural equation models (Bentler & Chou, 1987), an estimated sample size of $N = 80$ was calculated for 10 participants per pathway in the largest model (Figure 3.b). However, the Baron and Kenny (1986) causal-steps test for determining a mediation model sample size based on a desired power of .80, β of .30, effect size of .10, and α of .05, determined that a sample size of $N = 214$ was necessary to

properly determine pathway significance based on Figure 3.a and Figure 3.b. Aligned with these estimates, financial feasibility, and an attempt to account for missing and unusable data, this study aimed to recruit around 300 participants. QuestionPro online survey panels recruited participants based on eligibility criteria. Ultimately, 293 sexual minority adolescents participated in the study. Unfortunately, an error in capping participation based on gender to represent a more equitable make-up of participants across gender identities led to most participants identifying as women/girls. Sample demographics are outlined in Table 3.a.

Measures

Demographic Questionnaire

Based on best practice when formulating demographic items for minority group participants (The GenIUSS Group, 2014), respondents were asked to specify their sexual orientation, age, gender, and race/ethnicity. Additionally, age of sexual identity disclosure to caregivers and school setting were considered. School setting was assessed at each retrospective time point (i.e., beginning of the semester, one month ago, and over the past week) to control for school disruption resulting from the COVID-19 pandemic.

Sexual Minority Adolescent Stress Inventory

The Sexual Minority Adolescent Stress Inventory (SMASI; Appendix A; Schrager et al., 2018) is a 62-item measure used to assess minority stress experienced by adolescents across 11 subscales: intersectionality, negative expectancies, identity management, internalized homonegativity, negative disclosure experience, homonegative climate, homonegative communication, family rejection, social marginalization, work, and religion. Responses are coded in a binary fashion (i.e., "no" = 0 and "yes" = 1).

Higher total scores represent greater experiences of minority stress. The SMASI has been found to have strong internal consistency (Schrager et al., 2018; Weeks et al., 2020) and good divergent validity with general life stress, and criterion validity with mental health outcomes across diverse demographic samples (Goldbach et al., 2017; Goldbach et al., 2021).

LGBTQ-Specific Family Support Scale

The LGBTQ-Specific Family Support Scale (LGBTQ-SFSS; Appendix E; Miller et al., 2020), adapted from Ryan et al.'s (2010) original 100+ item measure of family climate, assessed the same construct but in a more feasible manner, with fewer items. Miller et al.'s scale uses eight items asking about positive (4 items) and negative (4 items, reverse-scored) family behaviors associated with accepting attitudes toward LGBTQ+ individuals. Responses are given in a Likert-type fashion on a four-point scale ranging from "never" to "often." Item responses are summed and then averaged, for a total average-item score ranging from 1 to 4, with higher scores indicating higher levels of family acceptance. Miller et al. (2020) found the measure to have good internal consistency (α = .92) and divergent validity with the construct of depression.

The National School Climate Survey

The National School Climate Survey (NSCS; Appendix F; Kosciw & Diaz, 2006) developed by the Gay, Lesbian, Straight Education Network (GLSEN) is a 17-item measure assessing sexual minority youths' perceptions of school climate. School climate is assessed by looking at four major areas, including sexual minority school-based protective/anti-bullying policies, clubs and social supports, supportive school personnel, and inclusive curriculum. Items are endorsed in both binary (i.e., "yes" or "no") and

Likert-type response formats on a 4-point scale ranging from "Very positive/supportive" to "Very negative/unsupportive". Because data from the NSCS have traditionally been reported at the individual item level, psychometrics for the measure when used as a composite scale and subscales have yet to be published. However, mean scale scores can be reported for the subdomains, and were reported overall as an average-subdomain score, in the current study. Bivariate correlations and internal consistencies of the NSCS were evaluated to determine if the mean scale scores were appropriate for use in the primary analyses.

The Multidimensional Students' Life Satisfaction Scale

The Multidimensional Students' Life Satisfaction Scale (MSLSS; Appendix G; Huebner, 1994) is a 40-item measure assessing subjective well-being across the subdomains of family, friends, school, living environment, and self-satisfaction in adolescents. The MSLSS uses a six-point Likert-type scale ranging from "Strongly disagree" to "Strongly agree." Use of scores at the subdomain and global levels have been determined adequate for research purposes, with higher scores on the MSLSS indicating greater subjective well-being (Huebner et al., 1998). Many studies have considered the psychometrics of the MSLSS and have validated the measure through CFAs and EFAs, with results showing good internal consistencies (α = .70s - .90s) and test-retest reliabilities (r = .70 - .90; Lani, 2010).

Statistical Analyses

Using R statistical software (R Core Team, 2021), preliminary descriptive analyses were conducted for all measures to look at central tendencies, response distributions, and internal consistency. Additionally, bivariate correlations were assessed

to determine the strength, directionality, and independence among measures. Contingent on all assumptions being met, covariate demographic categories larger than $n = 30$ were determined based on sample size and representation to ensure groups were large enough to conduct meaningful analyses. Based on demographic categorization at this stage, the largest group was set as the reference group, from which intercepts and estimates would be interpreted.

Two mediational analyses were conducted in R using the Lavaan package (Rosseel, 2012). Model 1 (see Figure 3.a) evaluated the effect of school climate and family climate on global life satisfaction through minority stress by comparing the indirect effect on the direct logistic regression of the same model without minority stress. Model 2 (see Figure 3.b) investigated the effect of family climate and school climate on family satisfaction and school satisfaction, respectively, through minority stress, while accounting for the direct effects of family climate and school climate on family satisfaction and school satisfaction. Using the indirect effects approach (Preacher & Hayes, 2004), significant indirect effects determined mediation, or partial-mediation, when larger than the direct effect. Given the sample size was relatively small, a bias-corrected bootstrap resampling using 10,000 samples to produce a 95% confidence interval was conducted to improve the accuracy of significance tests and distribution assumptions for both mediation models. Additionally, both models included the covariates of age, gender, race/ethnicity, age of disclosure, and school setting.

Results

Preliminary Analyses

Prior to evaluating participant responses in the study's primary analyses, data was inspected and those with methodological weaknesses were removed. Removed data included participants who completed the survey one standard deviation below the mean time in seconds ($M = 767.22$, $SD = 229.26$) or who failed the attention check ($n = 7$). The remaining data from 293 sexual minority adolescents was then assessed to determine the adequacy of the measures and responses, based on distribution, normality, correlation, and internal consistency—Cronbach's alpha for well-validated measures (i.e., MSLSS and SMASI) and McDonald's omega for less-validated measures (i.e., LGBTQ-SFSS and NSCS). A bivariate correlation matrix indicated that the NSCS, LGBTQ-SFSS, MSLSS global life satisfaction scale, and the MSLSS subscales of school satisfaction and family satisfaction were all negatively associated with the SMASI at a moderate degree (see Table 3.b). All variables were deemed to be relatively normally distributed, with skewness and kurtosis values < |1|, suggesting they were appropriate for use in the primary analyses. Additionally, all measures exhibited good to excellent internal consistencies (coefficients range = 0.88 – 0.92), with the exception of the NSCS, which showed weaker internal consistency ($\omega = 0.69$). Internal consistencies along with other measure descriptives are outlined in Table 3.c.

Primary Analyses

Due to the large number of demographic subgroups, groups with samples of less than 30 were aggregated into an "other" category to prevent meaningless results in the analyses. Transgender participants were categorized as the gender with which they

identify and not included in the "other" group, according to best practice (De Vries et al., 2011). The majority groups (see Table 3.a) were coded as the reference for all demographic variables in the mediation analyses.

Model 1

The effect of family climate and school climate on global life satisfaction through minority stress was investigated. Results for Model 1 (see Figure 3.a) demonstrated excellent model fit (RMSEA [90% CI] < 0.001 [0.000, 0.041], CFI = 1.00, SRMR = 0.029) and medium to large effect sizes for predicting minority stress ($R^2 = 0.27$) and life satisfaction ($R^2 = 0.19$). A logistic regression suggested that the relationship between family climate and life satisfaction was not significant ($\beta = -0.03$, $p = .661$, *S.E.* = 0.06), though the relationship between school climate and life satisfaction was statistically significant ($\beta = 0.15$, $p = .006$, *S.E.* = 0.14). Using minority stress as a mediator, a significant indirect effect was discovered while accounting for demographic and school setting covariates (see Table 3.d). These differences suggested that accepting school and family environments may reduce minority stress, which may then increase life satisfaction. Overall, Model 1 demonstrated partial-mediation through minority stress according to the indirect effects approach (Preacher & Hayes, 2004), with the covariate of gender showing statistical significance ($p = .005$) and suggesting a possible difference between groups.

Model 2

In Model 2, the effects of family climate and school climate on family satisfaction and school satisfaction, respectively, through minority stress were examined. Model 2 (Figure 3.b) demonstrated excellent model fit (RMSEA [90% CI] < 0.001 [0.000, 0.045],

CFI = 1.00, SRMR = 0.032) and medium to large effect sizes for predicting minority

stress ($R^2 = 0.27$), family satisfaction ($R^2 = 0.16$), and school satisfaction ($R^2 = 0.11$). The

direct effect of family climate on family satisfaction was not significant ($\beta = 0.08$, $p =$

.143, $S.E. = 0.54$), nor was the direct effect of school climate on family satisfaction ($\beta =$

0.10, $p = .097$, $S.E. = 1.31$). Likewise, the logistic regression of family climate on school

satisfaction was non-significant ($\beta = -0.09$, $p = .133$, $S.E. = 0.58$); however, school

climate did significantly predict school satisfaction ($\beta = 0.18$, $p = .003$, $S.E. = 1.40$).

When minority stress was introduced as a mediator along with demographic and school

setting covariates, indirect effects were found for all pathways and a direct effect for

school climate on school satisfaction. Gender also significantly predicted minority stress,

suggesting differences among group levels (see Table 3.e). These findings suggest that

accepting school and family climates may reduce minority stress, which may then

increase family satisfaction and school satisfaction. Findings also indicated that the

significant indirect effects of family and school climate are shared with a direct effect of

school climate on school satisfaction, with satisfaction increasing as school climates are

more accepting. Overall, Model 2 demonstrated a partial mediation through minority

stress according to the indirect effects approach (Preacher & Hayes, 2004).

Discussion

Overall, the results from this study indicated that minority stress partially

mediated the relationships between school and family climate on global life satisfaction.

Further, we found that school climate directly predicted global life satisfaction (see

Model 1). Additionally, we found that minority stress mediated the relationship between

school and family climate with family satisfaction but only partially mediated the

relationship between family and school climate with school satisfaction, as school climate also significantly predicted school satisfaction (see Model 2). In both models, gender was found to be a statistically significant covariate, with non-women/girls and transwomen/girls reporting increased levels of minority stress. Given these results, it appears this study supports existing literature that both school and family environments are meaningful predictors of sexual minority youths' mental health (Barnett et al., 2019; D'Augelli et al., 2010; Russell et al., 2011; Ryan et al. 2010).

This study went further than past literature by accounting for these relationships via minority stress and looking at school and family climates in the same model, which controlled for the influence of the other when considering their respective predictive power. This study also extended previous literature by evaluating how each domain-specific climate (i.e., school and family) predicted domain-specific satisfaction in the other environment (i.e., family and school), through minority stress. These added features were important given the hypothesized overlap in social influence between the home-school environment, outlined in the Introduction section (Epstein, 1990). By conducting the models in such a way, it was discovered that while both the school and family climates are statistically significant predictors of global life satisfaction, family satisfaction, and school satisfaction through minority stress, school climate was the stronger predictor overall, and the only predictor to directly influence school satisfaction and life satisfaction. These results, along with the practical point that school is an environment in which intervention is made easier and more feasible—allowing for broader reach, administrative control, integrated care, tiered supports, and more equitable service access (Fazel et al., 2014; Goldbach & Gibbs, 2017; National Association of

School Psychologists, 2021)—are important in stressing the value of affirming intervention targeting school climate and the potential collateral effects of these interventions on life satisfaction in other domains.

Early work looking at the home-school environment is mixed in support of the current results, particularly in studies measuring academic outcomes (Coleman, 1987; Epstein, 1986). Given the difference in outcome variables examined in the current study (academic vs. social), the home-school environment may differ in direction of influence depending on the type of support. Around the time youth enter middle school, social influence begins to shift from family to peers and school (Blaževic, 2016). Additionally, social settings like the schools are larger in scope and may rely on more than a single parent, or group of parents' influences on change. With various stakeholders at the school level bringing differing, and sometimes conflicting social views, social change might start within the school as a collective attitude and then move outward, unlike academics which seem to be more influenceable by individual caregivers, where most stakeholders can agree on educational values (Jacob & Lefgren, 2007). Thus, spheres of influence might be bidirectional, but with the school holding more weight for social outcomes.

Studies examining the influence of the home-school environment on social outcomes discovered that schools targeting support and inclusion were able to increase home-school collaboration and trust for ethnic and racial minority, linguistically diverse, low-income, and immigrant families (Auerbach, 2009; Chrispeels & Rivero, 2001). While the current study is the first to examine how the social climate of a school might influence sexual minority adolescents' family satisfaction through minority stress, it is possible that results from studies like Auerbach (2009) and Chrispeels and Rivero (2001)

can be generalized to sexual minorities and their families. In an attempt to affect change in the community through schools, Addi-Raccah et al. (2018) found that schools, through their involvement with parents and families, were driving factors for social change in their communities. Results from these studies, and the current one, support the idea that social change may be most influential when targeted in a school setting by subsequently impacting the community and family climate.

Implications for Practice

Given the current findings, the information presented here suggests potential implications for practice. Specifically, the results and interpretation provided above support the rationale for the adoption of LGBQ+ affirming interventions, supports, and policies aimed at improving the social climate in schools. If an accepting school climate reduces minority stress experienced by students and therefore increases their global, school, and family satisfaction, then school administrators and educators might use this framework to develop strategies to target minority stress and improve sexual minority youths' wellbeing. Fortunately, the minority stress model provides a multi-tiered approach for understanding the experiences of the LGBQ+ population (Meyer, 2003), which is well suited for schools implementing multi-tiered systems of support to promote students' behavioral and mental health (Horner et al., 2014). For example, at the tier one level, schools might implement school- and class-wide interventions and policies targeting distal stressors experienced by sexual minority students, such as social marginalization, homonegative communication, and homonegative climates— strategies which have been shown to improve the school climate for LGBQ+ youth (Hatzenbuehler, 2011; Heck et al., 2013). Examples of interventions and policies that might be beneficial

at this universal level include specific protections against harassment, bullying, and victimization, providing informed crisis response teams, eliminating dress codes, offering additional academic supports, requiring ongoing training for school personnel, teaching LGBQ+ topics in class, facilitating access to off-campus supports with expertise in LGBQ+ topics, and creating spaces where queer youth can organize and meet with other students and school personnel like them (Cianciotto & Cahill, 2012; Demissie et al., 2017; Liboro et al., 2019; Patterson, 2013; Toomey et al., 2018).

In addition to universal intervention and prevention, supplementary therapeutic supports that are more targeted at the tier two group-level or tier three individual-level could aid in the reduction of students' proximal minority stress (e.g., McGeorge & Stone Carlson, 2011; Pachankis et al., 2018; Williams & McGillicuddy-De Lisi, 1999). Proximal stressors might be addressed in groups through school-sponsored clubs like Gay-Straight Alliance, Campus Pride, or GLSEN where students gain exposure to other youth and school personnel like them and can practice advocacy and dismantling heteronormative discourses. Also, specific support groups led by school mental health professionals might target particular proximal stressors (e.g., negative expectancies, internalized homonegativity, identity management) and promote resiliency in a therapeutic peer-support setting (Meyer, 2015). As needed, tier three LGBQ+ affirming interventions focusing on coping skills, self-compassion, self-esteem, emotion regulation, and resilience could also target proximal stressors on a more individualized scale (Pachankis et al., 2015; Meyer, 2015; Williams et al., 2017) and could include tailored intervention that considers the student's unique experiences and intersectionality (Schmitz et al., 2020).

While the school environment can help students through tiered systems of support, past literature as well as the current study provide rationale for more broad community outreach that is focused on creating accepting and inclusive social attitudes (e.g., Auerbach, 2009; Chrispeels & Rivero, 2001). It appears as though attitudes from the school can spread into the broader community, but more direct outreach and collaboration between educators and families can more clearly drive social change (Addi-Raccah et al., 2018). Thus, including family and the broader community in school trainings, social events, and activities could be valuable in creating a society that is accepting of LGBQ+ youth. Some examples of how schools could practice this form of community outreach might include creating LGBQ+ clubs that engage with the community through service, hosting affirming social activities that are open to the public, extending school hours so students and parents can meet with administrators and use school resources, and providing trainings open to the local community (Luke & Goodrich, 2015; Ryan, 2013; Toomey et al., 2018). Additionally, connecting with families directly, and especially making concerted efforts to connect with families of LGBQ+ students, may have great benefits on a student's family satisfaction. Families might want to connect with schools but feel they will not be heard or valued (Fenton et al., 2017), and more specifically, LGBQ+ families might feel unsafe getting involved with the school (Kosciw & Diaz, 2008). Foundational training standards and guidelines for teachers, administrators, and school personnel already recommends including families (e.g., ESSA, 2015; NAEYC, 2017; CAEP, 2013), and educators could do so by sending home newsletters, conducting home visits, texting parents updates, holding open houses,

hiring parent liaisons, forming parent-teacher organizations, and having teachers and administrators directly reaching out to contact parents (Luet, 2017).

Finally, it is crucial that school interventions and supports should be monitored to determine their effectiveness and value (Mandinach & Gummer, 2013). School mental health, academic, and behavioral screeners collecting sexual orientation and gender identity data might be disaggregated to allow educators to look at LGBQ+ students' changes in attitudes or perceptions of school climate over time, as the school puts supplementary supports in place. Additionally, sexual minority students placed at-risk for emotional and behavioral problems might be further assessed for their experiences of minority stress, which data might be used to identify specific problems and match targeted supports. The SMASI, as outlined in this study, is a viable self-report measure for determining global minority stress in adolescents and is free and easy to administer and score. Additionally, although it was not used for these purposes in the present study, the SMASI (Schrager et al., 2018) can be used at the subscale level to determine the specific areas where sexual minority students might be struggling (e.g., social marginalization, internalized homonegativity, intersectionality) and the types of supports they might need (i.e., distal and/or proximal).

Limitations and Future Directions

This study is not without limitations. Firstly, the lack of gender representation, with 70.6% of the sample identifying as girls/women and only 7.5% as boys/men and 4.1% as binary transgender, and the finding that gender was a significant covariate meant that the results may not be generalizable to all students, and especially those who do not identify as women/girls. Future studies should aim to collect their samples to represent

the diverse array of gender identities present in the schools and to align these samplings with the best available evidence of gender identity prevalence rates among youth in the United States. Additionally, this study focused on the experiences of sexual minorities, deemphasizing the unique experiences of sexual minorities who are also gender minorities. However, as more youth are identifying as gender diverse (Richards et al., 2016), the literature should reflect that in inclusion of gender minority participants and genderqueer-focused validated measures such as the Gender Minority Stress and Resilience measure (Testa et al., 2015), which was recently validated with an adolescent extension (Hidalgo et al., 2019).

Aside from not including gender-specific considerations on the measurement of minority stress, the present study has other measurement limitations. When selecting measures for the present study, psychometrically sound measures of sexual minority youths' perceptions of school and family climates were either not publicly available or yet to exist in a research-friendly way, with structurally validated domain and composite scores. For this reason, the LGBTQ-SFSS is a relatively new measure and empirical support remains limited, though promising in a pilot study (Miller et al., 2020). For the purposes of this study, we found the LGBTQ-SFSS to be reliable and to correlate as expected with other measures; however, future studies should aim to use more well-validated instruments as they are developed and made accessible for research purposes. Additionally, the latent reliability of the NSCS found in the current study suggested the measure might represent a broader or more diffused construct of school climate. Until more research-aligned measures are developed, researchers should aim to increase their sample size to improve estimates of the NSCS. In addition to use of measures with better

psychometrics, future researchers should also consider using measures that capture the variables of the current study in a different manner (e.g., valence, items, respondent). For example, additional measures assessing minority stress could capture other perspectives including race and ethnicity (LGBT People of Color Microaggressions Scale; Balsam et al., 2011) and gender (Minority Stress and Resilience measure; Testa et al., 2015). Conceptualizing the constructs of interest differently could alter how participants respond and subsequent study outcomes. Thus, future research might benefit from using alternate measures assessing constructs such as psychological distress and school and home climates. While research questions can assess different scopes of home and school climates, broadly or narrowly (e.g., whole school vs. LGBTQ- or race-specific measures), research evaluating school and family climates should consider the influence each has on the other, or at least attempt to control for the likely shared variance among such measures.

Lastly, while the statistical models in this study were described and analyzed as a mediational design, this would imply that the data was collected over different time points. Due to logistical restraints, the current study used a retrospective sampling procedure that asked participants to reflect on their attitudes at varying points across the course of a semester but failed to truly collect the data at different time points. Therefore, future research could improve upon the present study by using a true longitudinal research design to follow up with sexual minority adolescents over the course of a school year. Unless this temporal assumption is met with an appropriate measurement approach, a cross-sectional mediation model is essentially testing for covariates and not mediators;

therefore, although the current study attempted to address this issue, a true longitudinal

design is necessary in order to infer causality.

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Tables

Table 3.a

Participant Demographics: Frequencies and Percentages (N = 293)

Demographic Variable	Count	%
Age		
13	10	3.4
14	20	6.8
15	62	21.2
16	74	25.3
17	127	43.3
Gender		
Man/male/masculine	22	7.5
Transgender man	11	3.8
Woman/female/feminine	207	70.6
Transgender woman	1	0.3
Gender nonconforming or gender queer	46	15.7
Intersex, disorder of sex development, two-spirit	3	1
Other	2	0.6
I prefer not to answer	1	0.3
Sexual Orientation		
Heterosexual w/ same-sex attraction	2	0.7
Gay	13	4.4
Lesbian	36	12.3
Bisexual	175	59.7
Fluid	2	0.7
Pansexual	31	10.6
Queer	9	3.1
Demisexual	5	1.7
Questioning	5	1.7
Asexual	9	3.1
Other	5	1.7
I prefer not to answer	1	0.3
Race/Ethnicity		
Asian	25	8.5
Black or African American	39	13.3
Hispanic or Latinx	63	21.5
Middle Eastern and North African	4	1.4
Multiracial	30	10.2
Native American or American Indian	6	2
White or European	116	39.6
Other	1	0.3
I prefer not to answer	9	3.1

Table 3.b

Bivariate Correlation Matrix for All Study Measures

Measures	SMASI	NSCS	LGBTQ-SFSS	MSLSS	Family	School
SMASI	–	–	–	–	–	–
NSCS	-.41	–	–	–	–	–
LGBTQ-SFSS	-.34	.18	–	–	–	–
MSLSS	-.42	.30	.13	–	–	–
Family	-.38	.24	.21	.64	–	–
School	-.27	.26	.02	.71	.28	–

Note: NSCS = National School Climate Survey; LGBTQ-SFSS = LGBTQ-Specific Family Support Scale; SMASI = The Sexual Minority Adolescent Stress Inventory; MSLSS = Multidimensional Students' Life Satisfaction Scale; Family = MSLSS Family Satisfaction subscale; School = MSLSS School Satisfaction subscale.

Table 3.c

Descriptive Statistics and Internal Consistency for All Study Measures

Measure	*M*	*SD*	min	max	skewness	kurtosis	Cronbach's α	McDonald's ω
NSCS	2.11	0.40	1.18	3.62	0.20	0.11		.69
LGBTQ-SFSS	1.96	0.95	0	4	-0.32	-0.73		.90
SMASI	18.23	9.97	0	51	0.23	-0.46	.92	
MSLSS	152.12	27.79	59	235	0.08	0.20	.91	
Family	26.29	8.92	7	42	-0.24	-0.62	.92	
School	24.09	9.21	8	48	0.09	-0.61	.88	

Note: NSCS = National School Climate Survey; LGBTQ-SFSS = LGBTQ-Specific Family Support Scale; SMASI = The Sexual Minority Adolescent Stress Inventory; MSLSS = Multidimensional Students' Life Satisfaction Scale; Family = MSLSS Family Satisfaction subscale; School = MSLSS School Satisfaction subscale.

Table 3.d

Model 1: Direct and Indirect Estimates

Predictor	Unstandardized Estimate [95% CI]	Standardized Estimate	*p* value	Standard Error
School Climate (direct)	0.39 [0.12, 0.66]	0.15	**.006**	0.14
Family Support (direct)	-0.03 [-0.14, 0.09]	-0.03	.661	0.06
School Climate (indirect)	0.32 [0.19, 0.48]	0.13	**.000**	0.08
Family Support (indirect)	0.11 [0.06, 0.17]	0.10	**.000**	0.03
Covariates				
Age	0.03 [-0.97, 0.99]	< 0.01	.955	0.50
Gender	1.54 [0.45, 2.61]	0.14	**.005**	0.55
Race/Ethnicity	0.10 [-0.56, 0.79]	0.02	.764	0.34
Sexual orientation	0.26 [-0.48, 1.00]	0.04	.481	0.37
Age of disclosure	-0.15 [-1.01, 0.90]	-0.01	.915	0.49
School setting	0.26 [-1.31, 1.92]	0.02	.752	0.82

Note. Bold = *p* < .05

Table 3.e

Model 2: Direct and Indirect Estimates

Predictor	School Satisfaction			
	Unstandardized Estimate [95% CI]	Standardized Estimate	*p* value	Standard Error
School Climate (direct)	4.19 [1.54, 7.01]	0.18	**.003**	1.40
Family Support (direct)	-0.86 [-2.01, 0.27]	-0.09	.133	0.58
School Climate (indirect)	1.86 [0.86, 3.12]	0.08	**.001**	0.57
Family Support (indirect)	0.62 [0.31, 1.06]	0.06	**.001**	0.19

	Family Satisfaction			
	Unstandardized Estimate [95% CI]	Standardized Estimate	*p* value	Standard Error
School Climate (direct)	2.18 [-0.23, 4.87]	0.10	.097	1.31
Family Support (direct)	0.79 [-0.23, 1.88]	0.08	.143	0.54
School Climate (indirect)	2.51 [1.43, 3.86]	0.11	**.000**	0.62
Family Support (indirect)	0.83 [0.44, 1.35]	0.09	**.000**	0.23

	Covariates			
	Unstandardized Estimate [95% CI]	Standardized Estimate	*p* value	Standard Error
Age	0.03 [-0.97, 0.99]	< 0.01	.955	0.50
Gender	1.54 [0.45, 2.61]	0.14	**.005**	0.55
Race/Ethnicity	0.10 [-0.56, 0.79]	0.02	.764	0.34
Sexual orientation	0.26 [-0.48, 1.00]	0.04	.481	0.37
Age of disclosure	-0.15 [-1.01, 0.90]	-0.01	.915	0.49
School setting	0.26 [-1.31, 1.92]	0.02	.752	0.82

Note. Bold = *p* < .05
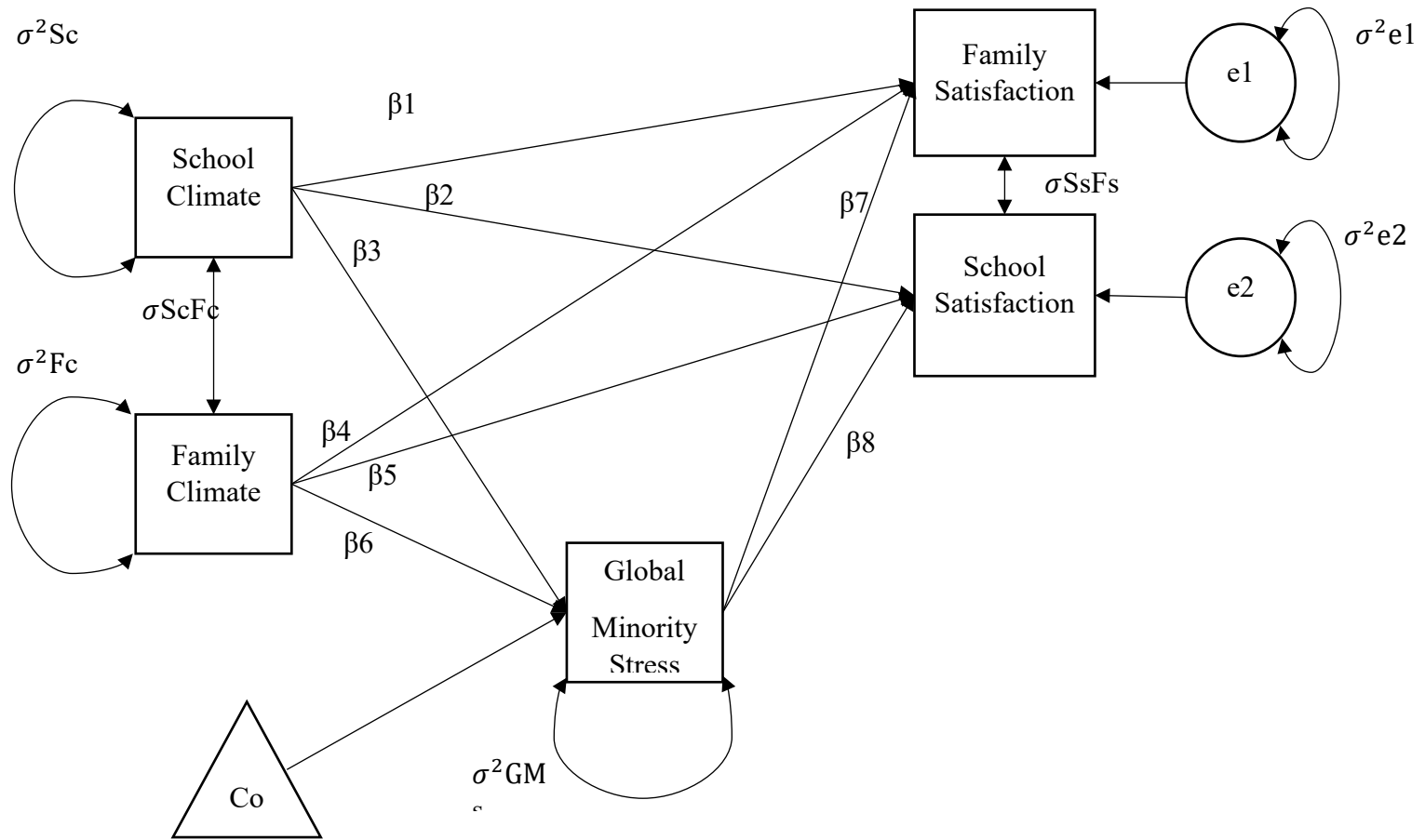
Figure 3.a

School Climate and Family Climate on Global Life Satisfaction Through Minority Stress
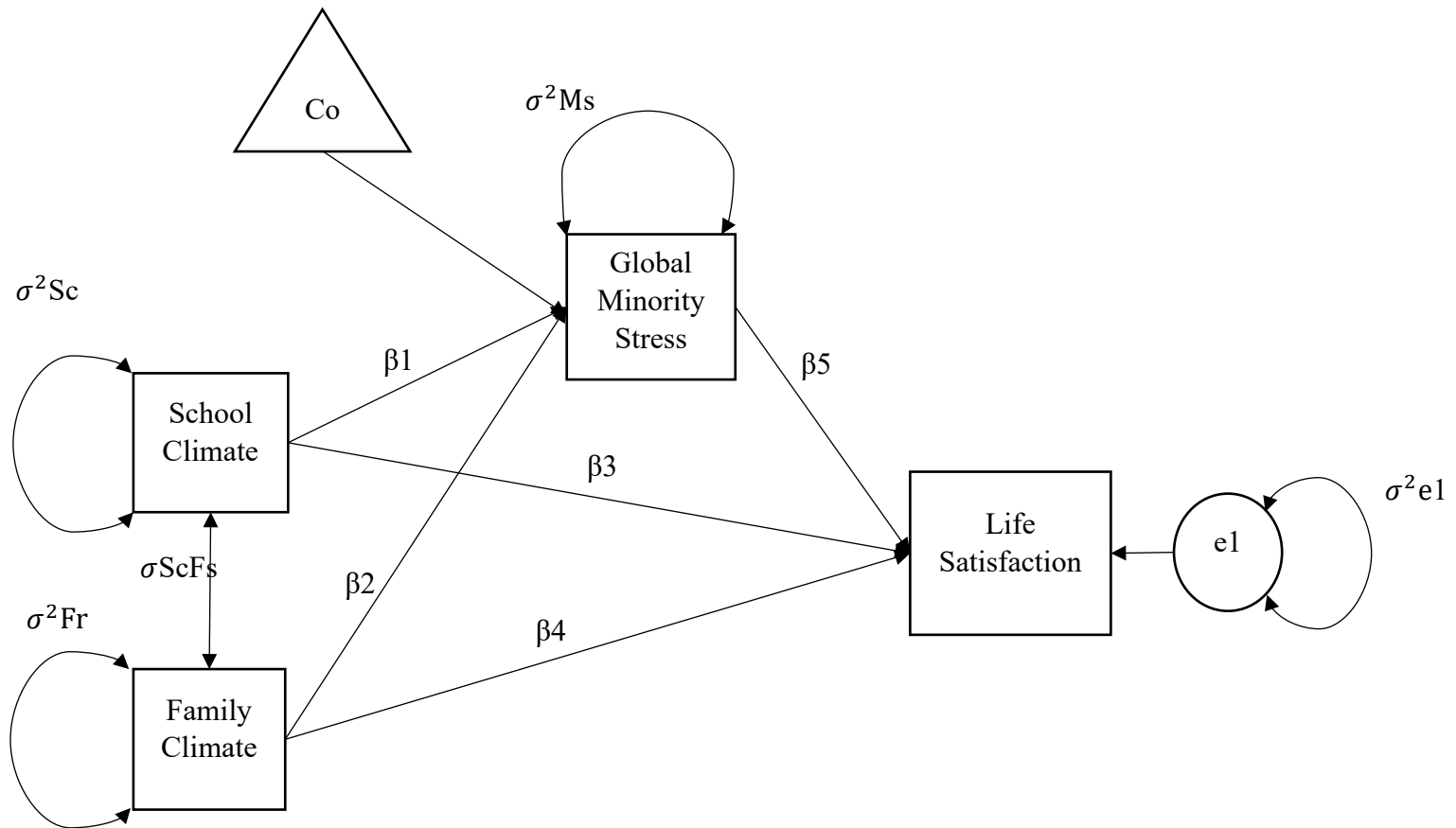
Note. Con = control variables (i.e., age, gender, race, ethnicity, age of disclosure, school setting)

Figure 3.b

Family Climate and School Climate on Family Satisfaction and School Satisfaction Through Minority Stress

Note. Con = control variables (i.e., age, gender, race, ethnicity, age of disclosure, school setting)

CHAPTER 4

Structural Validity of the Domain-Level SMASI Factors

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Abstract

Minority stress theory is a model for understanding health disparities among sexual minority adolescents. Methods for assessing minority stress among youth included only adult measures until the development of the Sexual Minority Adolescent Stress Inventory (SMASI). The SMASI appears to be a robust scale in its ability to measure global minority stress and specific stressors among adolescents; however, the SMASI does not measure domain level constructs of proximal and distal stress, which are integral features of the underlying theory. This study tests the psychometric defensibility of including these domain-level factors within the SMASI's measurement model by evaluating a second-order model with two higher factors representing proximal and distal stress and then comparing the value of this model against the original model consisting of one second-order factor representing global minority stress. Results provide evidence for the structural validity of the proximal and distal domains within the SMASI's measurement model and suggest this updated model has more informational value than the original model for appropriately capturing minority stress constructs. Future researchers and interventionists may benefit from using the SMASI and the domain-level factors of proximal and distal stress when assessing minority stress with sexual minority adolescents through better informed case conceptualization, treatment planning, and tailored interventions.

Introduction

Currently, significant health disparities exist in sexual minority communities that have drawn attention from social justice-oriented researchers. Broadly, psychological distress and risk-taking behaviors have been observed to be elevated in sexual minority populations (Gonzales & Henning-Smith, 2017; King et al., 2008). Much of the existing literature focuses on sexual minority adults, likely due to convenience sampling, ethical barriers, and logistical difficulties, such as recruitment, cost, and parental consent. However, there are many studies that have found similar health disparity trends among sexual minority youth. Sexual minority adolescents have been found to exhibit higher rates of depression, anxiety, eating disorders, trauma, and reduced levels of general psychological wellbeing compared to heterosexual peers (Smith et al., 2016; Watson et al., 2017). Additionally, when compared with heterosexual youth, sexual minority youth are at higher risk of adverse behavioral health outcomes, such as substance abuse, academic problems, homelessness, risky sexual behavior, and suicidal ideation and behavior (Birkett et al., 2009; Bontempo & d'Augelli, 2002; Caputi et al., 2018; Morton et al., 2018; Silenzio et al., 2007).

As with many health disparities observed among minority groups, researchers are interested in addressing the question as to why sexual minority individuals are at higher risk for so many harmful outcomes. Meyer (2003) proposed the *minority stress model* as an explanation for this phenomenon, which has since been embraced by the academic community (Goldbach & Gibbs, 2017). Meyer defines minority stress as life stressors experienced by sexual minority individuals due to their identity in addition to the routine daily stressors experienced by all people, regardless of identity. Global minority stress is

further divided into domains of distal and proximal stressors. Distal stressors are events external to the individual and often societally driven. For example, heterosexual, lesbian, and gay peers might isolate a bisexual person because they are perceived as different, untruthful, indecisive, promiscuous, or attention seeking. Proximal stressors are the internal experiences one encounters often due to exposure to distal stressors (Hatzenbuehler, 2009). For example, rejection from a family member could lead to negative disclosure expectancies in which a gay youth perceives all environments as hostile and dangerous if their identity is revealed.

Minority stress has been shown to consistently predict concurrent mental health disparities among sexual minority adolescents, including in depression, suicidality, and substance use (Meyer 2003; Weeks et al., under review). Several measures have been developed to assess levels of minority stress in adults, including the Heterosexist Harassment, Rejection and Discrimination Sale (Szymanski, 2009), the Gay-related Stressful Life Events Scale (Rosario et al., 2002), The Daily Heterosexist Experiences Questionnaire (Balsam et al., 2013), and the LGBT People of Color Microaggressions Scale (Balsam et al., 2011). While these measures can evaluate various facets of minority stress, including several aspects of demographic intersectionality, only one measure to date has been validated with youth: the Sexual Minority Adolescent Stress Inventory (SMASI; Schrager et al., 2018).

Scores from the SMASI have been found to be associated with anxiety, depression, substance misuse, and suicidality among sexual minority adolescents (Burgess, 2017; Fulginiti et al., 2020; Weeks et al., under review). The SMASI measures global minority stress (composite score) as well as 11 specific minority stressors

(subscale scores) that are drawn from proximal and distal stress frameworks, respectively. Subscales drawn from the proximal stressor framework include: internalized homonegativity, identity management, negative expectancies, and intersectionality. It should be noted that items representing the intersectionality subscale aim to assess intersectional discrimination, and not merely intersectionality, as the SMASI subscale label might suggest. Subscales drawn from the distal stressor framework include: family rejection, social marginalization, homonegative communication, homonegative climate, negative disclosure experiences, work, and religion. Interestingly, however, the original validation study of the SMASI did not investigate the structural validity of the mid-level proximal and distal factors (domain scores). While one preliminary study found strong internal consistency and convergent validity evidence supporting the use of distal and proximal domain scores from the SMASI (Weeks et al., 2021), the empirical defensibility of these domain-level factors (i.e., proximal stress and distal stress) have yet to be structurally validated via factor analysis. Thus, there are no adequate measures of distal or proximal stress that can be used with sexual minority youth.

While the SMASI measures unique distal and proximal stressors (via subscale scores), these specific experiences vary slightly from one minority stress framework to another. What all minority stress models share, however, is the implication of distal and proximal stress domains. These stress domains are integral to the minority stress model and are frequently discussed theoretically in the literature. Having domain scores for proximal and distal stress could facilitate more effective measurement of minority stress across studies, as domain level scores can be more easily generalized across studies and measures compared to scores representing each unique stressor within these domains.

This possibility is supported by initial evidence from a study by Weeks et al. (under review), which found that the differential predictive value of specific stressor scores was negligible, whereas the differential predictive value of domain scores (i.e., proximal and distal stress) was substantial. Furthermore, it is noteworthy that although a minority stress measure assessing domain scores has yet to be validated for use with youth, researchers have been making broader domain-based inferences based on specific subdomain stressors or theory alone (e.g., Douglass & Conlin, 2020; Ramirez & Galupo, 2019).

Though the SMASI is a relatively new measure, it has been noted to capture a large amount of information regarding minority stress in a population that lacks options for valid measures of minority stress (Andretta et al., 2018; Eckstrand et al., 2019; Garcia-Perez, 2020). In order to improve the scientific and clinical utility of the SMASI, and the measurement of minority stress broadly, it is important to have a reliable and valid instrument for assessing proximal and distal stress domains. Again, it is striking that no empirical evidence has been generated yet with sexual minority youth supporting this, second-order structure of minority stress with two factors, though it is frequently assumed and described as if such evidence exists. Knowing that minority stress is a major contributor of health disparities in sexual minority youth means the scientific and clinical communities working with this population need an accurate way to measure minority stress and its theoretical two-factor framework, interpret results in terms of predictive value, monitor progress and change, and properly evaluate the construct via applied and basic research. The current study aimed to investigate the structural validity of the latent variables of proximal and distal stress as measured by the SMASI via the following questions:

1. Do observed variables load appropriately onto the assigned latent subscale variables?

2. How well do internalized homonegativity, identity management, negative expectancies, and intersectionality subscales (i.e., first-order factors) load onto a proximal stress domain (i.e., second-order factor)?

3. How well do family rejection, social marginalization, homonegative communication, homonegative climate, and negative disclosure experiences subscales (i.e., first-order factors) load onto a distal stress domain (i.e., second-order factor)?

4. How well do proximal and distal stress domains (i.e., second-order factors) account for the higher-order global minority stress factor?

5. Overall, how much informational value does the SMASI measurement model including second-order proximal and distal domains have compared to the measurement model consisting of only one second-order global minority stress factor?

6. How strong is the internal reliability of the proximal and distal second-order factors represented in the SMASI model?

Given the distinction between internal and external stressors captured by the proximal and distal SMASI subscales and previous research providing preliminary validity evidence for domain scores at this level (Weeks et al., 2021), we predicted that the designated distal and proximal factors would be psychometrically defensible, as indicated by at least adequate factor loadings, latent construct reliabilities, and data–model fit indices. Given its theoretical coherence with theory, we also anticipated the SMASI

model including distal and proximal second-order factors would have more informational value compared to the original model consisting of only one second-order factor representing global minority stress.

Methods

Participants

The procedures in the current study were conducted through a series of secondary analyses using data collected in the two previous studies described in Paper 1 and Paper 2. A combined sample size of $N = 445$ was gathered through two independent instances of participant recruitment by Qualtrics and QuestionPro online survey panels. Sample 1 accounted for $n = 152$ participants and Sample 2 accounted for $n = 293$ participants. Participant demographics are outlined in Table 4.a.

Participants in Sample 1 (see Weeks, 2020) were determined eligible to participate if they self-identified as non-heterosexual, were between the ages of 13 and 18, and had disclosed their sexual orientation to their parents. Participants in Sample 2 (see Paper 2) needed to meet eligibility criteria of being between the ages of 13–17 and self-identifying as a sexual minority. Data collected in the first original study required participants to have disclosed their sexual orientation to their parents due to the severity of mental health related questions asked on other assessment measures involved in the original study, including items querying past and current suicidal ideation, plan, and attempt, as well as questions regarding experiences of abuse, bullying, and substance use. Parental consent was therefore deemed necessary by the investigators and Institutional Review Board. Prior to completion of the survey, parental consent and youth assent was obtained, and resources for parents regarding how to have a conversation about difficult

topics, how to access mental health care, Title IX laws and protections, and crisis contact information was provided. These same resources, excluding the conversation starter, were provided for all youth upon completion of the survey. Additionally, pop-up notifications with links to appropriate resources were provided throughout the survey whenever youth endorsed items implying severe safety concerns.

Participants in Sample 2 were part of a cross-sectional study in which identifying information was not collected. Prior to completion of the survey in this study, participants' parents consented to their child's participation, and each youth provided assent. All participants were reimbursed for their time completing the survey materials. Survey data from these two samples were combined for the purposes of achieving a larger sample size for confirmatory factor analyses.

Measures

Demographic Questionnaire

Participants in both samples completed an initial demographic questionnaire based on best practice for constructing survey items for minoritized individuals (The GenIUSS Group, 2014). The questionnaire for both samples required participants to select their self-identified sexual orientation, whereas the questionnaire for Sample 2 also required participants to endorse their schooling format and age they disclosed their sexual orientation to their family. Participants were also asked to indicate their age (by birth year), gender, and race/ethnicity. In Sample 1, any participants who identified as "heterosexual," and in Sample 2, any participant who identified as "heterosexual without same-sex attraction" were deemed ineligible and exited out of the survey.

The Sexual Minority Adolescent Stress Inventory (SMASI)

Schrager et al. (2018) developed the SMASI (see <u>Appendix A</u>) as a measure of minority stress intended to be used with sexual minority adolescents ages 14–17 years. The SMASI consists of 64 total items that provide a global minority stress composite score. The 64 items are distributed into 11 subscales used to evaluate specific experiences of minority stress across proximal and distal domains. Responses to SMASI items are coded in a binary fashion and items are framed both within the past 30 days as well as over one's lifetime, with "no" = 0 and "yes" = 1. Responses to all items are summed at the subscale and composite scale levels, with higher scores representing higher levels of minority stress. Items included in the SMASI are based on key minority stress theory frameworks (Goldbach et al., 2014; Hatzenbuehler, 2011; Meyer, 2003) and interviewing procedures with sexual minority cisgender adolescents ages 13–19 years. The following 11 subscales, consisting of 49 total items, were administered to both samples: internalized homonegativity (proximal), identity management (proximal), negative expectancies (proximal), intersectionality (proximal), family rejection (distal), social marginalization (distal), homonegative communication (distal), homonegative climate (distal), negative disclosure experiences (distal), work (distal), and religion (distal). The work and religion subscales were intentionally excluded from the SMASI in Sample 1 due to concern that they were not applicable to all participants in the population being sampled. Both subscales were also removed from Sample 2 for the current study to maintain consistent item response options when combining both samples. Removing these subscales also aided in the reduction of sampling bias by preventing lower scores on minority stress for those adolescents who are not religious or who do not work. Schrager et al. (2018) and

Goldbach et al.'s (2017) initial validation studies and Goldbach et al.'s (2021) follow up

validation study with a diverse sample discovered the SMASI to have high reliability

coefficients and strong divergent and criterion validity. Additionally, Burgess (2017) and

Fulginiti et al. (2020) found the SAMSI to be psychometrically sound in their respective

studies.

Statistical Analyses

Preliminary analyses were run for observed scores from the three levels of the

SMASI—including total (global) minority stress, proximal and distal stress domains, and

the 9 specific stressor subscales—to evaluate distribution of responses, central tendency,

and internal consistency reliability. Pearson bivariate correlations were also calculated to

assess strength of relationships, independence, and direction between scores derived from

these three levels of measurement. A two samples t-test was conducted to determine

mean differences in the two samples prior to aggregating the data. After ensuring through

preliminary analyses that the data met basic statistical assumptions, a confirmatory factor

analysis (CFA) was fit using the weighted least squares estimator (WLSMV; Jöreskog et

al., 2001) with mean and variance adjustments (see Figure 4.a). Goodness of fit was

determined based on chi-square, an RMSEA of less than 0.06, a CFI of greater than 0.90,

and an SRMR of less than 0.08 (Hu & Bentler, 1999). Indicators were determined to be

representative of the latent variable based on their standardized loadings, with loadings >

0.70 considered ideal, and > 0.40 acceptable (Kline, 2014). These statistical procedures

assessed factor loadings of measure items on the subscale latent variables of internalized

homonegativity (proximal), identity management (proximal), negative expectancies

(proximal), intersectionality (proximal), family rejection (distal), social marginalization

(distal), homonegative communication (distal), homonegative climate (distal), and negative disclosure experiences (distal). According to the minority stress model, these subscales (i.e., first-order factors) were expected to load onto the second-order latent variables of distal and proximal stress. These analyses were conducted using the lavaan package (Rosseel, 2012) through R Statistical Environment (R Core Team, 2020).

The factor variance of distal and proximal stress factors on a third-order latent variable of global minority stress was also evaluated by constraining both loadings to one and calculating the correlation. A nested model comparison index, comparing the second-order model with two higher factors, distal and proximal stress model (Figure 4.a) and the second-order model with one higher factor, global minority stress model (Figure 4.b), was evaluated to determine how well the proposed multidimensional measurement model compared to a simpler model with fewer variables. Based on model comparison using a likelihood ratio test with WLMSV corrections, we expected the model with proximal and distal second-order factors would demonstrate statistical value added (i.e., p < .05) compared to the original model with one second-order factor representing global minority stress. Proposed CFA model pathways for the model with two second-order factors are outlined in Figure 4.a. In addition to the primary CFA, latent construct reliability analyses were conducted to explore the consistency of the latent variables (as opposed to the observed scores) across each of the three levels of measurement. For latent construct reliability, which is an indicator of internal consistency at the factor level (as opposed to the observed score level), $H \geq 0.70$ were considered desirable, as they indicate a strong intrafactor correlation over repeated administrations (Hancock & Mueller, 2001).

Results

Descriptive Statistics

All subscale scores were assessed to determine central tendencies, range, distribution, and internal consistency reliability (Table 4.b). Items were generally normally distributed with the exception of two subscales (i.e., Social Marginalization and Internalized Homonegativity). While distribution of scale scores is important within measurement, strict normality is not necessary for conducting confirmatory factor analyses with dichotomous items. Additionally, skewness and kurtosis values for all subscale scores were < |2|, suggesting the distributions could be interpreted as relatively normally distributed for the study's purposes. Upon comparing the mean differences of both samples, evidence of a difference in mean total scores of minority stress between samples was found, $t(433) = 3.544$, $p < .001$. Given this finding, sample group was included as a control condition in the CFA models.

Correlations

A Pearson bivariate correlation matrix was computed to assess the strength and direction of the relationship among variables' sum scores (Table 4.c). Correlations ranged from weak ($r = .22$) to very strong ($r = .95$). All variable relationships were positive, and strength of relationships generally aligned with minority stress theoretical frameworks. Interestingly, the distal stress variable had nearly a perfect correlation with global minority stress and the proximal stress variable likewise had a very strong association with this global indicator, possibly making differentiation among these variables difficult at the level of observed scale scores.

Preliminary Analyses

Prior to conducting the primary analyses, a preliminary CFA was conducted to confirm the psychometric defensibility of the original SMASI measurement model with one second-order factor representing global minority stress. To determine the appropriateness of observed variable loadings on subscale latent variables, a CFA model was fit. Parameter estimates were conducted using the weighted least squares estimator with mean and variance adjustments. Results for the second-order model with one higher factor (Figure 4.b) demonstrated good model fit ($\chi^2 < 0.01$, RMSEA = 0.045, CFI = 0.918, SRMR = 0.10), with subscale loadings ranging from $\lambda = 0.64$ to $\lambda = 0.92$ onto the global minority stress factor. Additionally, global minority stress, as a latent variable, exhibited strong reliability at the observed level ($\alpha = 0.93$) and latent level ($H = 0.95$).

Primary Analyses

Following confirmation of the original SMASI measurement model, a CFA was fit to test the psychometric defensibility of the new SMASI model with two second-order factors representing proximal and distal stress domains. Results for the second-order model with two higher factors (Figure 4.a) demonstrated a good model fit ($\chi^2 < 0.01$, RMSEA = 0.044, CFI = 0.923, SRMR = 0.10) and are outlined in Table 4.d. With a moderately large scale (j = 49), observed parameter estimates within their respective subscale groupings demonstrated consistent factor loadings ($\lambda > 0.40$). Many observed variables had estimates between $\lambda = 0.70$ and $\lambda = 0.90$, and all second-order latent variables had factor loadings > 0.69. The lowest coefficient found was the loading for item 1 on identity management, which was still considered adequate ($\lambda = 0.46$). Although thresholds appeared to range in valence across the measure items, subscale item clusters

generally match in terms of directionality. This suggests that the *Z* score that each latent

subscale must be above for the observed item to change responses are mostly positive or

negative for a given group, offering additional information related to the directionality

and sensitivity of an item response compared to the latent variable.

Second-order loadings of latent subscale factors on domain factors of proximal

stress appeared to be more discrepant than those loading onto the distal stress domain

(Table 4.d). Subscale (i.e., first-order factor) loadings on the proximal domain have a

larger range, with internalized homonegativity furthest from the subscale grouping at

0.69. Subscale factor loadings on the distal domain are clustered above the 0.70

threshold, with only a range of 0.04 in parameter estimates. Estimates indicated that the

proximal and distal latent variables are likely accurate representations of the latent

subscales that theoretically comprise them, but that there is more variability in the

contribution made by first-order factors for the proximal domain compared to the distal

domain. Furthermore, when considering the larger conceptual framework of the minority

stress model, global minority stress can account for a correlation of 0.88 between the

proximal and distal stress domains, suggesting a strong positive relationship among these

latent variables.

The nested model comparison index assessed the value added of the second-order

two-factor minority stress model (Figure 4.a). A likelihood ratio test with WLSMV

corrections of the second-order two-factor (Figure 4.a) and second-order one-factor

(Figure 4.b) models found a chi-squares difference of 10.92, *df* =2, and *p* = .004. This

indicates that the more complex two-factor, second-order model, with distal and proximal

stress domains, seems to be a better fit for the data than simply using a one-factor,

second-order, global minority stress model to capture all subscales assessed using the SMASI. The difference between the nested models showed significant difference in terms of model fit, as determined by chi-square and degrees of freedom, relative to the additional parameters and degrees of freedom required to estimate them. Testing of latent construct reliability further supported the model comparison outcome, with both distal and proximal latent factors exhibiting good internal consistencies at the observed level, $\alpha = 0.91$ and $\alpha = 0.86$, and the latent level $H = 0.90$ and 0.99, respectively.

Discussion

The primary analyses used to address the research questions put forth in this study confirmed the hypotheses and provided evidence to support the structural validity of the second-order two-factor measurement model for evaluating minority stress theory at the proximal and distal domains. This new model aligns better with the theory underlying the SMASI, and the CFA showed that a second-order two-factor model (Figure 4.a) is psychometrically defensible and more informative than the original model which conceptualizes minority stress at the individual stressor and global levels yet ignores the domain levels. These big picture findings provide initial validation for the minority stress model that includes distal and proximal domains described in the theoretical literature. Thus, the scientific and clinical utility of the SMASI in particular, and measurement of minority stress in adolescents more generally, can be broadened to include an empirically supported instrument for assessing proximal and distal stress domains.

Many studies up to this point have used proximal and distal stress as means to describe the health disparities found in sexual minority individuals (Goldbach et al.,

2014; Goldbach et al., 2017; Hatzenbuehler, 2011; Meyer, 2003). This model originally outlined by Meyer (2003) has been widely accepted and quickly generalized to sexual minority youth. While some studies used one or two subscales within the proximal or distal domains to quantify proximal and distal stress (Douglass & Conlin, 2020; Ramirez & Galupo, 2019), they did not account for the other subscale factors included in these domains that are also likely experienced by the individual. This neglects the complexity in the relationship among the subscales and the unlikelihood that one would exist without the other, as seen by the correlations in Table 4.c. While operationalizing a construct through only one of its component parts may be better than nothing at all, doing so can be misleading. However, without an appropriate measure to assess the proximal and distal stress domains, researchers and interventionists did not have suitable alternatives for measuring and discussing the stress domains. Prior to the recent development of the SMASI (Schrager et al., 2018), there was no measurement for adolescent minority stress broadly, much less the domains that comprise it. This study addressed the gap in the literature by further validating the SMASI's original measurement model and then extending the model to account for proximal and distal stress domains. Overall, results from the present study suggest that this extended model could be used for future applications of the SMASI within research and practice.

Specifically, and level by level, the SMASI appears to do an adequate job of grouping items on subscales, with observed items loading appropriately onto latent subscales and latent subscales loading appropriately onto domain-level factors. A previous study had found that distal and proximal composite scores derived from the SMASI had high internal consistencies and predictive value in determining concurrent

harmful psychological and behavioral outcomes (Weeks et al., 2021). The current study furthered that work by evaluating the structural validity at the latent level through a CFA and model comparisons with the original structure. Similar to the findings by Weeks et al. (under review), the current study determined through model comparison that the proximal and distal domains not only adequately capture the experiences of sexual minority adolescents but are of greater value than merely looking at global minority stress on its own. Further, the proximal and distal variables accounted for a moderate percentage of the variance found in global minority stress.

Limitations

Limitations within the current study include the operationalization of the minority stress model within the measure used (SMASI). As stated in the introduction, various measures exist for assessing minority stress, including the Heterosexist Harassment, Rejection and Discrimination Sale (Szymanski, 2009), the Gay-related Stressful Life Events Scale (Rosario et al., 2002), The Daily Heterosexist Experiences Questionnaire (Balsam et al., 2013), and the LGBT People of Color Microaggressions Scale (Balsam et al., 2011). While these measures are not currently validated with youth, they raise the point that minority stress can be operationalized in multiple ways beyond how it is operationalized in the SMASI. The current study captured youth minority stress based on the combination of some of the most widely accepted minority stress frameworks (Goldbach et al., 2014; Hatzenbuehler, 2011; Meyer, 2003); however, future research would benefit from validating the model using alternate measures and across diverse demographic groups (e.g., racial and gender). Additionally, this measure phrased items in a negative manner with the more items endorsed as "yes" indicating higher experiences

of minority stress. Future research could further investigation in this area by measuring the minority stress through strengths-based or acceptance-based item phrasing and Likert-type responses to determine if the results hold across alternate valences and scalings.

Other methodological limitations were also present in the current study. Sampling using purposive procedures that required participants to partake via computer or smartphone and required internet connection likely limited members without access from lower socio-economic families. Additionally, the sample, while large enough for the current analytic approach, was comprised of a combination of two different timepoints of data collection occurring over a year apart. Lastly, the higher-order factor of global minority stress was mostly included in the model (Figure 4.a) to represent the theoretical framework utilized in the SMASI. However, due to the nature of a two-indicator CFA, loadings for proximal and distal stress onto global minority stress could not be estimated.

Conclusion

Based on the importance of the minority stress theory model in its utility for understanding behavioral health disparities among sexual minority individuals, including adolescents, empirically validating the measurement of each theoretical level is important. Proximal and distal stress present as two mid-level domains in identifying and describing the experiences that contribute to minority stress. Past literature has assessed the directionality and relationships of proximal and distal stress in terms of sexual minority adolescent's psychological outcomes, though not as latent domain-level variables. Assessing minority stress at this level is important because it is broad enough that it can adequately capture significant differences in experience, but not so broad that it cannot inform where to intervene (Weeks et al., under review). It may also have greater

generalizability across multiple theoretical operationalizations of minority stress theory. This study confirms the psychometric defensibility of the proximal and distal domains, their utility, and presents an updated measurement model that can appropriately capture these constructs via the SMASI. Future researchers and interventionists may benefit from using the SMASI and the domain-level factors of proximal and distal stress to predict risk and harm and assess where to intervene with accuracy and integrity.

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Tables

Table 4.a

Demographic Frequencies and Percentages (N = 445)

Demographic Variable	Count	%
Age		
13	20	4.5
14	43	9.7
15	98	22
16	100	22.5
17	148	33.3
18	36	8.1
Gender		
Woman	283	63.6
Man	83	18.7
Transgender Woman	3	0.7
Transgender Man	13	2.9
Gender Fluid	49	11
I identify differently	14	3.1
Sexual Orientation		
Asexual	13	2.9
Bisexual	234	52.6
Fluid	6	1.3
Gay	44	9.9
Lesbian	57	12.8
Pansexual	41	9.2
Queer	10	2.2
Questioning	28	1.1
Demisexual	5	1.1
I identify differently	6	1.3
I prefer not to answer	1	0.2
Race/Ethnicity		
Asian	28	6.3
Multiracial	53	11.9
Black or African American	55	12.4
Hispanic or Latinx	75	16.9
Middle Eastern	8	1.8
American Indian or Native American	10	2.2
White or European	204	45.8
I prefer not to answer	11	2.5
I identify differently	1	0.2

Table 4.b

Descriptive Statistics for Central Tendency, Distribution, and Internal Consistency

Reliability for All Study Variables

Measure	*M*	*SD*	*min*	*max*	*skewness*	*kurtosis*	*α*	*H*
GMS	17.98	10.68	0	49	0.37	-0.39	.93	.95
DMSD	12.66	7.55	0	33	0.37	-0.45	.91	.91
PMSD	5.32	4.06	0	16	0.62	-0.38	.86	.99
Fa Re	4.42	3.58	0	11	0.27	-1.25	.88	.96
Ho Cl	1.63	1.45	0	4	0.36	-1.26	.77	.92
Ho Co	3.55	1.48	0	5	-0.91	-0.16	.70	.88
Ne Di	1.63	1.57	0	5	0.70	-0.62	.71	.87
So Ma	1.42	1.90	0	8	1.57	1.85	.80	.94
Id Ma	1.16	1.05	0	3	0.39	-1.10	.57	.79
In Ho	1.55	1.99	0	7	1.34	0.79	.84	.97
Ne Ex	1.44	1.17	0	3	0.06	-1.49	.70	.86
In	1.17	1.15	0	3	0.41	-1.32	.70	.98

Note. GSM = Global Minority Stress; DMSD = Distal Minority Stress Domain; PMSD =

Proximal Minority Stress Domain; Fa Re = Family Rejection; Ho Cl = Homonegative Climate;

Ho Co = Homonegative Communication; Ne Di = Negative Disclosure Experiences; So Ma =

Social Marginalization; Id Ma = Identity Management; In Ho = Internalized Homonegativity; Ne

Ex = Negative Expectancies; In = Intersectionality.

Table 4.c

Pearson's Bivariate Correlation Matrix for All Study Variables

Measures	GMS	Id Ma	Ne Ex	Ne Di	Fa Re	In Ho	Ho Co	Ho Cl	So Ma	In	DMSD	PMSD
GMS												
Id Ma	.56*											
Ne Ex	.75*	.49*										
Ne Di	.69*	.30*	.38*									
Fa Re	.81*	.31*	.53*	.52*								
In Ho	.62*	.46*	.53*	.29*	.37*							
Ho Co	.62*	.22*	.40*	.38*	.44*	.23*						
Ho Cl	.69*	.34*	.55*	.43*	.35*	.33*	.46*					
So Ma	.72*	.32*	.43*	.39*	.46*	.35*	.31*	.59*				
In	.64*	.34*	.43*	.39*	.45*	.25*	.45*	.43*	.43*			
DMSD	.95*	.40*	.63*	.73*	.85*	.44*	.65*	.68*	.74*	.57*		
PMSD	.85*	.72*	.80*	.44*	.54*	.83*	.42*	.53*	.51*	.62*	.66*	

*$p < .01$.

Note: GSM = Global Minority Stress; Fa Re = Family Rejection; Ho Cl = Homonegative Climate; Ho Co = Homonegative Communication; Ne Di = Negative Disclosure Experiences; So Ma = Social Marginalization; Id Ma = Identity Management; In Ho = Internalized Homonegativity; Ne Ex = Negative Expectancies; In = Intersectionality; DMSD = Distal Minority Stress Domain; PMSD = Proximal Minority Stress Domain. The information in this table was originally reported in Weeks et al. (2020).

Table 4.d

Standardized Item Factor Analysis of a Two-Level Two-Factor Model With 49

Dichotomous Indicators (N = 445) Using WLSMV Estimation Methods

Factor	Item	WLSMV λ	WLSMV τ	Factor	Item	WLSMV λ	WLSMV τ
Id Ma	1	0.46	-0.56	Ne Ex	4	0.81	-0.55
	2	0.83	-0.18		8	0.85	-0.71
	3	0.73	-0.50		9	0.85	-0.27
Ho Co	21	0.84	-0.33	In Ho	14	0.96	-0.41
	42	0.66	-0.33		15	0.85	0.12
	45	0.87	-0.43		16	0.97	0.24
	48	0.56	-0.02		17	0.88	0.28
	49	0.64	-0.28		18	0.83	-0.25
Ne Di	5	0.70	0.12		19	0.55	-0.33
	6	0.82	-0.01		20	0.86	-0.31
	11	0.54	-0.36	Ho Cl	31	0.84	-0.27
	12	0.77	0.42		33	0.76	-0.76
	13	0.78	0.35		34	0.90	-0.65
Fa Re	7	0.77	0.80		35	0.86	-0.62
	10	0.88	0.40	So Ma	32	0.86	0.12
	22	0.85	0.18		36	0.69	-0.27
	23	0.82	0.48		37	0.80	0.34
	24	0.89	0.17		38	0.67	1.07
	25	0.65	0.24		39	0.72	-0.22
	26	0.85	0.55		40	0.89	-0.16
	27	0.74	1.02		41	0.73	0.14
	28	0.69	0.16		43	0.86	-0.42
	29	0.83	0.32	In	44	0.89	0.04
	30	0.80	0.57		46	0.87	-0.04
					47	0.75	-0.21

Proximal	Factor	λ	σ^2	Distal	Factor	λ	σ^2
	Id Ma	0.80	0.36		Ne Di	0.80	0.38
	Ne Ex	0.98	0.04		Fa Re	0.81	0.35
	In Ho	0.69	0.53		Ho Co	0.81	0.34
	In	0.80	0.37		Ho Cl	0.79	0.37
					So Ma	0.83	0.31

ψ_1^1	0.88
df	1164
P value	<.001

Note. WLSMV = weighted least squares estimator with mean and variance adjustments;

In Ho = internalized homonegativity; Id Ma = identity management; Ne Ex = negative

expectancies; In = intersectionality; Fa Re = family rejection; So Ma = social

marginalization; Ho Co = homonegative communication; Ho Cl = homonegative climate;

Ne Di = negative disclosure experiences. For SMASI item content reference Appendix A.

Figures

Figure 4.a

Two-factor distal and proximal stress model
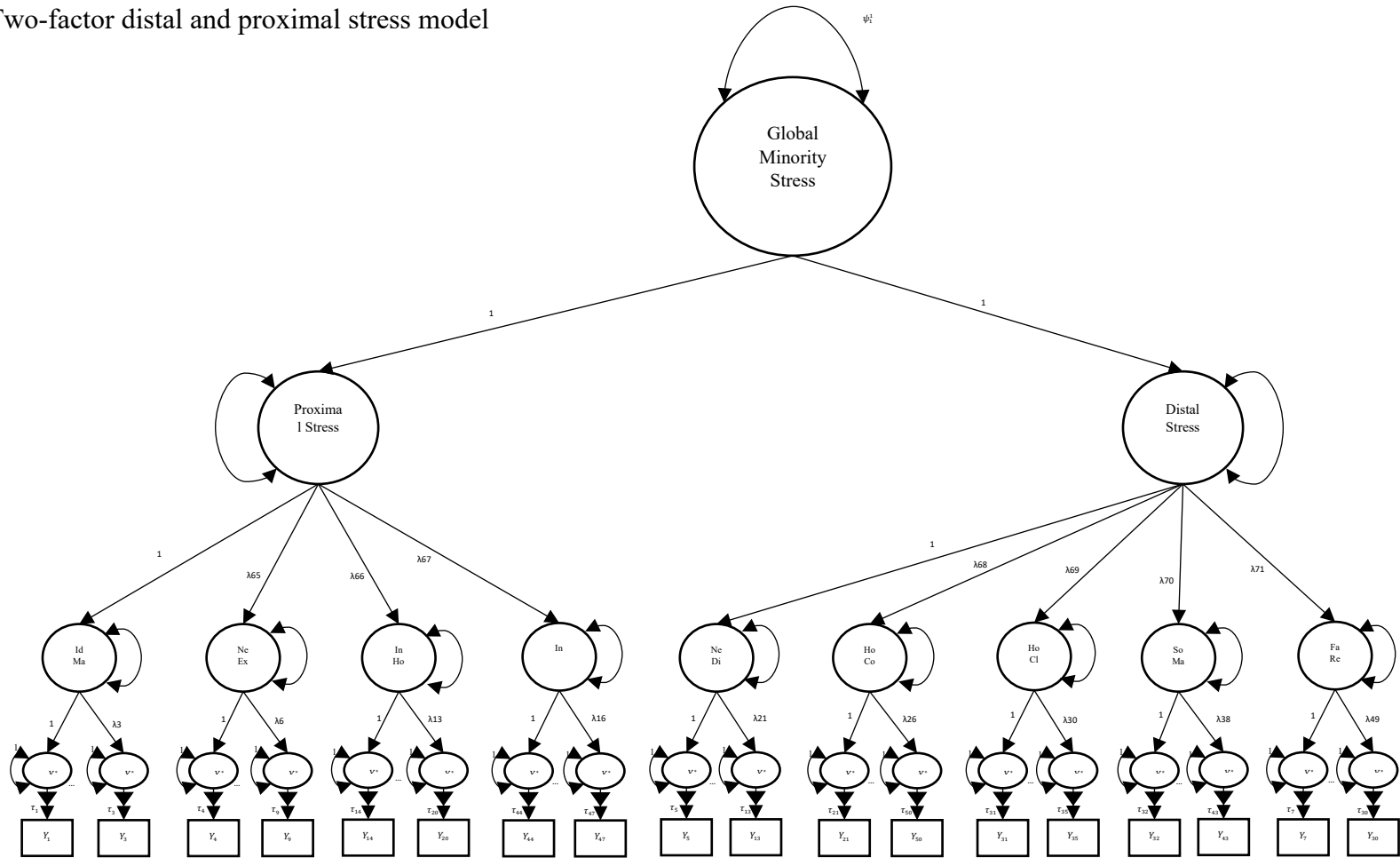
Figure 4.b

Single factor global minority stress model
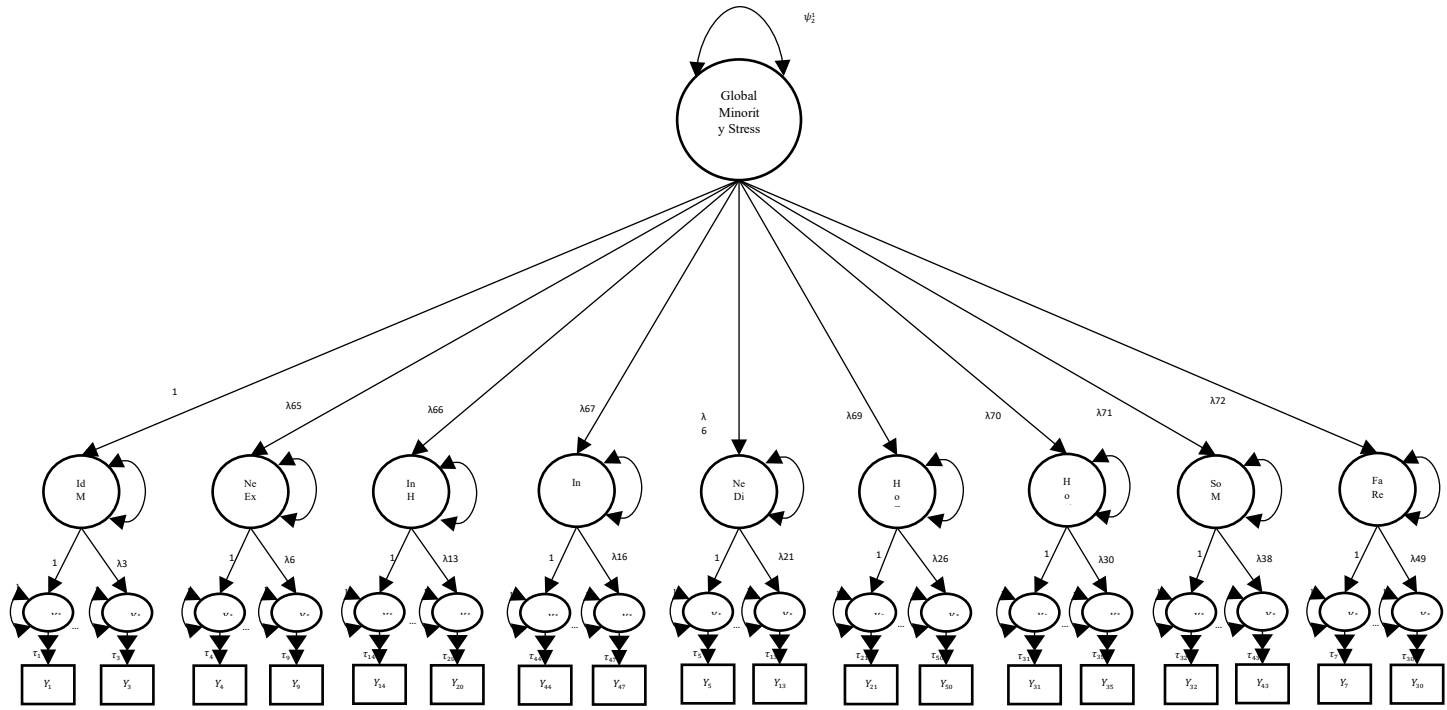
CHAPTER 5

Summary and Future Directions

This multiple paper dissertation investigated aspects of the minority stress theory as a framework for understanding health disparities observed in sexual minority adolescents. As it stands, more young people are identifying as sexual minorities than ever (Jones, 2021) and young adults who identify as sexual minorities seem to be struggling most severely with psychological distress compared with older adults (Meyer et al., 2021). This confluence of findings raises alarm and offers a rationale for further research into the topic. While past research has overwhelmingly focused on minority stress to address these issues, it has typically been done within adult populations, with few reviews including a focus on youth (Dürrbaum & Sattler, 2020). This current series of papers joins the shift in focus toward youth, and specifically toward sexual minority adolescents. Furthermore, recent literature investigating the effects of minority stress in adolescents has only begun to assess the construct in a psychometrically sound manner and fails to capture two very important theoretical underpinnings within the model: distal and proximal stress. The papers presented in this dissertation especially emphasize the domain-level contributions to adolescent minority stress and wellbeing.

The SMASI has been used to explore the differential predictive power of minority stress' specific subprocesses (Goldbach et al., 2017). The first aim of this multiple paper dissertation was to investigate the differential predictive power of these subprocesses compared to both mid-level domain scores and an overall composite score. Findings from an initial study toward this end (see Chapter 2, Paper 1) indicated that the score produced by the SMASI that appears to have the most empirical value for predicting sexual

minority adolescents' mental health outcomes is at the domain level (i.e., proximal and distal stress). Specifically, compared to both global minority stress and specific stressors, the domain score representing distal stress was the strongest predictor of suicidality, substance misuse, and psychological inflexibility. Additionally, distal stress significantly predicted harmful outcomes when proximal stress did not, and better predicted outcomes when proximal stress did have predictive power. Knowing that distal stress appears to be the best predictor of harmful outcomes, compared to other levels of minority stress captured by the SMASI (specific and general), may have implications for informing applied assessment and research in this area (see Chapter 2, Paper 1).

Given the importance of distal factors highlighted above, the second aim of this multiple paper dissertation was to investigate the influence of potentially protective distal factors on sexual minority adolescents' minority stress and wellbeing. Accepting family and school climates have been cited as strong protective factors against harmful outcomes for sexual minority youth (Ryan et al. 2009; Ryan et al. 2010). While both variables appear important, previous studies have looked at one or the other as predictors, but never both in the same model as concurrent and competing predictors. This neglects the potential interaction of these two distal factors on sexual minority youth's experience of minority stress and, in turn, its influence on their mental health and satisfaction across both environments. This dissertation proposed the first study to address this gap in the literature. Specifically, Chapter 3 (Paper 2) investigated the role of an accepting school climate in relation to family climate on sexual minority adolescents' life, family, and school satisfaction, mediated by minority stress. Findings indicated that minority stress partially mediated the relationship between school climate and family climate on global

life satisfaction, with accepting climates reducing reported minority stress, which in turn increased ratings of satisfaction. School climate stood out as the stronger and more consistent predictor of life, family, and school satisfaction. These results suggest that addressing minority stress in the school environment through various levels of intervention may influence life satisfaction overall, in the school, and at home by reducing minority stress. Understanding the influences of home and school climate in an integrated way, that did not solely reflect one or the other, but instead accounted for both factors, provides meaningful information on where to promote protective factors for sexual minority adolescents.

For the studies presented in Chapter 2 and Chapter 3, the SMASI was used to measure sexual minority adolescents' minority stress. As mentioned earlier, the SMASI was initially intended to capture general (composite score) and specific (subscale scores) aspects of minority stress, but it neglects the mid-level (domain scores) constructs of distal and proximal stress. The study presented in Paper 1 extended the SMASI by calculating domain scores from the subscale scores representing specific distal and proximal stressors and provided a rationale for further investigating distal factors (i.e., family and school climates) in Paper 2 (Chapter 3). Findings in Paper 1 (Chapter 2) showed that the SMASI domain level scores have good internal reliability and concurrent validity (Weeks et al., under review). However, factor analyses were needed to determine the structural validity of the domain-level scores as well as their fit within the larger multidimensional measurement model for the SMASI. The third aim of this dissertation was therefore to investigate the structural validity of the SMASI's measurement model when including domain-level factors for distal and proximal stress. After collecting two

rounds of data on the SMASI (Paper 1 and Paper 2), Chapter 4 (Paper 3) combined these datasets for further validation of the recently developed measure's latent factor structure. Results provided evidence for the structural validity of the proximal and distal domains within the SMASI's measurement model and suggest this updated model has more informational value than the original model for appropriately capturing minority stress constructs.

Taken together, the three papers included in this dissertation offer an investigation of sexual minority adolescents' minority stress—measured by the SMASI—as a multidimensional predictor of adverse mental health outcomes (Paper 1), as a mediator between school and home climates and life satisfaction (Paper 2), and as a three-level, hierarchal measurement model consisting of specific stressors, domains of stress, and general minority stress (Paper 3). Results from this series of studies generally support theory and findings from the past literature in that minority stress was found to be a meaningful predictor of mental health in sexual minority youth (e.g., Meyer, 2003) and that school and home climates were found to be important variables in understanding sexual minority youth wellbeing (Heck et al., 2013; Ryan et al., 2010). However, the current set of papers went beyond confirming past research and offered new contributions to the literature by identifying domain level differences in minority stress' predictive ability with adolescents (Paper 1), showing how school and home climates interact in their influence on sexual minority youths' wellbeing and that school climates offer a better explanation for the wellbeing of sexual minority adolescents both directly and indirectly through minority stress (Paper 2), and providing psychometric support for the domain level constructs within theoretical model of minority stress for adolescents.

Findings from this series of studies may help support the knowledge and measurement necessary for informing practice to reduce mental health disparities in sexual minority youth. Future researchers may use this information to update applied studies aimed at improving evidence-based assessments or interventions for sexual minority adolescents.

Although the findings add value to the literature, there is still more work to be done to inform a truly scientific approach to assessment and intervention with this population. Future research might benefit from conducting controlled studies targeting minority stress. Intervention in the schools could be tested across tiers and include families and the community. Regardless of study type, based on results from the current body of literature, best practice would suggest accounting for the effects of school and home environments in studies together. Additionally, future studies might look at other social environments in which sexual minority adolescents engage, including church and work. Given the shift in social attitudes toward the LGBTQ+ communities (Worthen, 2020), researchers might also aim to assess similar research questions across demographics, including with gender diverse youth and with younger children, whose social influence might still depend more on caregivers. Intersectionality and minority stress may also be beneficial topics to explore, as current studies suggest different cultures can contribute to structural stigma, racism, and gender policing (Schmitz et al., 2020), and these factors may differentially affect sexual minority youths' wellbeing. Lastly, findings from the current set of studies should be replicated, generalized, and updated over time as politics and social attitudes change. While the current study's purpose was to expand the literature on minority stress among sexual minority

adolescents, heeding these recommendations might further advance the area to improve

the quality of life for sexual minority adolescents.

APPENDICES

Appendix A

The Sexual Minority Adolescent Stress Inventory (SMASI)

We'd like to understand more about stress experienced by LGBTQ youth. This survey includes statements that reflect thoughts, feelings and experiences that may be happening to you now or have happened sometime in the past. Some questions and statements have different instructions so please read each of these instructions carefully. There are no right or wrong answers.

 Below are statements that reflect different types of stressful thoughts or events that you may have experienced. Please read each statement and answer "Yes" if it has ever happened to you in the past, or "No" if it hasn't. If you said "Yes" to a statement, please also answer the follow-up question about whether it is currently happening. For the follow-up questions, you should answer "Yes" if it happened to you within the past 30 days, or "No" if it happened to you more than 30 days ago.

You should select the one option that best represents your experience for each statement.

	Yes	No
1. I am questioning how to label my sexual orientation.	○	○
∟→ **IF YES**: was it within the past 30 days?	○	○
2. I am having trouble accepting that I am LGBTQ.	○	○
∟→ **IF YES**: was it within the past 30 days?	○	○
3. I feel pressured to label myself as gay or lesbian.	○	○
∟→ **IF YES**: was it within the past 30 days?	○	○
4. I am concerned that if I am LGBTQ, I will have a worse life than if I were straight.	○	○
∟→ **IF YES**: was it within the past 30 days?	○	○
5. A family member told other family members that I am LGBTQ without my permission.	○	○
∟→ **IF YES**: was it within the past 30 days?	○	○
6. A family member told me not to tell other family members that I am LGBTQ.	○	○
∟→ **IF YES**: was it within the past 30 days?	○	○
7. I have to lie to my family about being LGBTQ.	○	○
∟→ **IF YES**: was it within the past 30 days?	○	○
8. I think I will lose friends if I come out as LGBTQ.	○	○
∟→ **IF YES**: was it within the past 30 days?	○	○

	Yes	No
9. I expect people to reject me when they find out that I am LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
10. If I come out, it will cause problems within my family.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
11. A family member asked me if I was gay or lesbian before I wanted to talk about it.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
12. I was forced to come out to someone because I got "caught".	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
13. I was "outed" by someone other than my family without my permission.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
14. There are times when I do not want to be LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
15. If I could, I would become straight.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○

	Yes	No
16. I hate being LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
17. I think it is wrong for me to be LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
18. I hope that being LGBTQ is just a phase for me.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
19. I think negatively about other LGBTQ people who act "too gay".	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
20. I am uncomfortable with being LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
21. I have heard a family member make negative comments about LGBTQ people.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
22. My family does not want to talk to me about being LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
23. Someone who lives with me has told me they disapprove of me being LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
24. I feel as though I am a disappointment to my family because I am LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
25. My family has told me that being LGBTQ is just a phase.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
26. My parents are uncomfortable with LGBTQ people.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○

	Yes	No
27. My mother (or female caregiver) does not accept me as LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
28. My father (or male caregiver) does not accept me as LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
29. My parents are sad that I am LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
30. My family tries to make me straight.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
31. I felt unsafe or threatened in school because I am LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
32. Other youth refuse to do school activities with me because I am LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
33. I have seen other LGBTQ youth treated badly at my school.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
34. It's hard to be an LGBTQ person at my school.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
35. Other students make fun of me for being LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
36. I have seen other LGBTQ youth treated badly in the neighborhood where I live.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○

	Yes	No
37. I have felt unsafe or threatened in the neighborhood where I live because I am LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
38. I have had to move or change where I live because I am LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
39. I have felt isolated or alone in the neighborhood where I live because I am LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
40. Other people in the neighborhood where I live make fun of me for being LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
41. I have been physically assaulted in the neighborhood where I live because I am LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
42. My friends make jokes about LGBTQ people.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
43. Other youth refuse to hang out with me because I am LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
44. Other people who are in my racial/ethnic community judge me for being LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○

	Yes	No
45. I have heard negative comments from others in my racial/ethnic community about being LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
46. I feel as though I don't fit in my racial/ethnic community because I am LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
47. As an LGBTQ person in my racial/ethnic community, I feel like I am a minority within a minority.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
48. I hear other LGBTQ people use words like "fag" or "dyke."	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
49. My family is part of a religion that has homophobic beliefs.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
50. I have heard negative messages about being LGBTQ from religious people.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
51. I would not be accepted as an LGBTQ person in my family's religion.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
52. I believe it is wrong for me to be LGBTQ because of my religion.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
53. A religious leader has encouraged me to reconsider my sexual orientation.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
54. A religious leader tried to change my sexual orientation.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○

Please also answer the following if you are currently, or have previously been, employed.

	Yes	No
55. I have seen other LGBTQ youth treated badly at work.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
56. I have felt unsafe or threatened at work because I am LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
57. I have had to leave or change jobs because I am LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
58. I have felt isolated or alone at work because I am LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
59. I have lost friendships since coming out as LGBTQ at work.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
60. It's hard to be LGBTQ at my workplace.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
61. I have been physically assaulted by people at work because I am LGBTQ.	○	○
↳ **IF YES**: was it within the past 30 days?	○	○
62. My workplace does not protect LGBTQ employees.	○	○

∟→ **IF YES**: was it within the past 30 days?	○	○
63. People at work talk about me being LGBTQ behind my back.	○	○
∟→ **IF YES**: was it within the past 30 days?	○	○
64. My boss is unsupportive of me because I am LGBTQ.	○	○
∟→ **IF YES**: was it within the past 30 days?	○	○

Appendix B

AFQ-Y8

Name:	Age:	Gender:
Date:	Grade:	Race/ethnicity:

We want to know more about what you think, how you feel, and what you do. Read each sentence. Then, circle a number between 0-4 that tells <u>how true</u> each sentence is for you.

		Not at all true	A little true	Pretty true	True	Very true
1.	My life won't be good until I feel happy.	0	1	2	3	4
2.	My thoughts and feelings mess up my life.	0	1	2	3	4
3.	The bad things I think about myself must be true.	0	1	2	3	4
4.	If my heart beats fast, there must be something wrong with me.	0	1	2	3	4
5.	I stop doing things that are important to me whenever I feel bad.	0	1	2	3	4
6.	I do worse in school when I have thoughts that make me feel sad.	0	1	2	3	4
7.	I am afraid of my feelings.	0	1	2	3	4
8.	I can't be a good friend when I feel upset.	0	1	2	3	4

Appendix C

SUICIDAL IDEATION QUESTIONNAIRE

> **INSTRUCTIONS:** Listed below are a number of sentences about thoughts that people sometimes have. Please indicate *which of these thoughts you have had in the **past month***. Fill in the circle below the answer that best describes your own thoughts. Be sure to fill in one response for each sentence. *Remember, there are no right or wrong answers.*

THIS THOUGHT WAS IN MY MIND:	Almost every day	Couple of times a week	About once a week	Couple of times a month	About once a month	I had this thought before but not in the past month	I never had this thought
1. I thought it would be better if I was not alive.	○	○	○	○	○	○	○
2. I thought about killing myself.	○	○	○	○	○	○	○
3. I thought about how I would kill myself.	○	○	○	○	○	○	○
4. I thought about when I would kill myself.	○	○	○	○	○	○	○
5. I thought about people dying.	○	○	○	○	○	○	○
6. I thought about death.	○	○	○	○	○	○	○
7. I thought about what to write in a suicide note.	○	○	○	○	○	○	○
8. I thought about writing a will.	○	○	○	○	○	○	○
9. I thought about telling people I plan to kill myself.	○	○	○	○	○	○	○
10. I thought about how people would feel if I killed myself.	○	○	○	○	○	○	○
11. I wished I were dead.	○	○	○	○	○	○	○
12. I thought that killing myself would solve my problems.	○	○	○	○	○	○	○
13. I thought that others would be happier if I was dead.	○	○	○	○	○	○	○
14. I wished that I had never been born.	○	○	○	○	○	○	○
15. I thought that no one cared if I lived or died.	○	○	○	○	○	○	○

Appendix D

The Alcohol Use Disorders Identification Test: Self-Report Version

PATIENT: Because alcohol use can affect your health and can interfere with certain medications and treatments, it is important that we ask some questions about your use of alcohol. Your answers will remain confidential so please be honest. Place an X in one box that best describes your answer to each question.

Questions	0	1	2	3	4	
1. How often do you have a drink containing alcohol?	Never	Monthly or less	2-4 times a month	2-3 times a week	4 or more times a week	
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more	
3. How often do you have six or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
4. How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
5. How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
8. How often during the last year have you been unable to remember what happened the night before because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
9. Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year	
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year	
					Total	

Appendix E

LGBTQ-Specific Family Support Scale

How much do you feel that your family [members] . . .
1. Taunt or mock you because you are an LGBTQ person?[a]
2. Say negative comments about you being an LGBTQ person?[a]
3. Say bad things about LGBTQ people in general?[a]
4. Make you feel like you are bad because you are an LGBTQ person?[a]
5. Like you as you are in regards to being an LGBTQ person?
6. Say they were 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?

[a]Reverse coded items.

Appendix F

1. How often have you heard comments about students not acting "masculine" enough? Frequently Often Sometimes Rarely Never

2. How often have you heard comments about students not acting "feminine" enough?

---

5. **Does your school have a policy or a procedure for reporting incidents of harassment or assault in school?**

☐ Yes   ☐ No   ☐ Don't know

5a. **Does this policy specifically mention sexual orientation?**

☐ Yes   ☐ No   ☐ Not Sure

5b. **Does this policy specifically mention gender identity/expression?**

☐ Yes   ☐ No   ☐ Not Sure

---

6. **In the current school year, were you taught about lesbian, gay, bisexual, or transgender (LGBT) people, history, or events in any of your classes?**

☐ No *(Go to 7)*

☐ Yes *If yes, please check which classes (check as many as apply)*

☐ History/Social Studies   ☐ Foreign Language
☐ Science   ☐ Music
☐ Health   ☐ Math
☐ Gym/Physical Education   ☐ Art
☐ English   ☐ Other _____

6a. **Overall, in those classes where LGBT topics were taught, do you think the representations of LGBT people, history, or events were:**

☐ Very positive   ☐ Somewhat positive   ☐ Somewhat negative   ☐ Very negative

---

7. **In your school health classes, was discussion about sexual orientation ever included, such as in discussions of dating, sexuality/sex education, or family relationships?**

☐ Yes   ☐ No   ☐ Don't know   ☐ Not applicable

7a. **How positive or negative were representations of LGBT people?**

☐ Very positive   ☐ Somewhat positive ☐ Somewhat negative   ☐ Very negative

7b. **In your school health classes, does your school follow an "abstinence-only" curriculum when teaching sexuality/sex education? For example, were you taught that you are expected to wait until marriage to engage in sexual activity, or that sexual activity outside of marriage is likely to have harmful effects on you?**

☐ Yes   ☐ No   ☐ Don't know   ☐ Not applicable

---

8. **Do any of your textbooks contain information about LGBT people, history, or events?**

☐ Yes   ☐ No   ☐ Don't know

---

11. Does your school have a Gay/Straight Alliance (GSA) or another type of club that addresses LGBT student issues?

☐ Yes   ☐ No *(Go to 13)*

15. How many teachers or other school staff at your school are open about being lesbian, gay, bisexual, or transgender?

☐ None   ☐ One   ☐ Between 2 and 5   ☐ Between 6 and 10   ☐ More than 10

16. Besides yourself, how many other LGBT students are there in your school that you know of?

☐ None   ☐ One   ☐ Between 2 and 5   ☐ Between 6 and 10   ☐ More than 10

17. In general, how supportive do you think people in your community are of LGBT people?

☐ Very Supportive   ☐ Somewhat Supportive   ☐ Neutral   ☐ Somewhat Unsupportive   ☐ Very Unsupportive

Scoring Instructions

Primarily, data have been reported at the individual item level. Mean scale scores can be used for various subsections (simple arithmetic mean).

References

Kosciw, J. G., & Diaz, E. M. (2006). *The 2005 National School Climate Survey: The experiences of lesbian, gay, bisexual and transgender youth in our nation's schools*. New York: GLSEN.

Developer's Contact Information

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Appendix G

Multidimensional Students' Life Satisfaction Scale[1]

The MSLSS was designed to provide a holistic assessment of the wellbeing of young people. It has five subscales: family, friends, school, living environment and self. Each segment can be considered separately. It is a validated tool, and has been tested for effectiveness in the USA and middle east.

Data is available on the average scores of a diverse sample of 313 American students aged 14 – 18, which can act as a comparison.

		1	2	3	4	5	6
	<u>Family</u>	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1	I enjoy being at home with my family.						
2	My family gets along well together.						
3	I like spending time with my parents.						
4	My parents and I doing fun things together.						
5	My family is better than most.						
6	Members of my family talk nicely to one another.						
7	My parents treat me fairly.						

		1	2	3	4	5	6
	<u>Friends</u>	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
8	My friends treat me well.						
9	My friends are nice to me.						
10	I wish I had different friends.*						
11	My friends are mean to me.*						
12	My friends are great						

---

[1] Source: Huebner, S (2001); Manual for the Multidimensional Students' Life Satisfaction Scale. Available online at https://ww2.cas.sc.edu/psyc/sites/default/files/directory_files/huebslssmanual_0.pdf

13	I have a bad time with my friends.*						
14	I have a lot of fun with my friends.						
15	I have enough friends.						
16	My friends will help me if I need it.						

		1	2	3	4	5	6
	School	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
17	I look forward to going to school.						
18	I like being in school.						
19	School is interesting.						
20	I wish I didn't have to go to school.*						
21	There are many things about school I don't like.*						
22	I enjoy school activities.						
23	I learn a lot at school.						
24	I feel bad at school.*						

		1	2	3	4	5	6
	Living Environment	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
25	I like where I live.						
26	I wish there were different people in my neighborhood.*						
27	I wish I lived in a different house.*						
28	I wish I lived somewhere else.*						
29	I like my neighborhood.						
30	I like my neighbors.						
31	This town is filled with mean people.*						
32	My family's house is nice.						
33	There are lots of fun things to do where I live.						

	Self	1 Strongly Disagree	2 Moderately Disagree	3 Slightly Disagree	4 Slightly Agree	5 Moderately Agree	6 Strongly Agree
34	I think I am good looking.						
35	I am fun to be around.						
36	I am a nice person.						
37	Most people like me.						
38	There are lots of things I can do well.						
39	I like to try new things.						
40	I like myself.						

VITA

Sean Weeks, M.S.

EDUCATION

Graduate Coursework (Ph.D.), School Psychology   2017 – 2023
Utah State University, Logan, Utah   (anticipated)
Chair: Tyler Renshaw, Ph.D., NCSP

Master of Science (M.S.), Psychology   2017 – 2020
Utah State University, Logan, Utah
Chair: Tyler Renshaw, Ph.D., NCSP

Bachelor of Arts (B.A.), Psychology   2008 – 2012
University of Kentucky, Lexington, Kentucky
Graduated Cum Laude with Departmental Honors

PROFESSIONAL LICENSES

Student Teacher/Intern License, Utah State Board of Education
(#712612)   2017 – 2021
Early Intervention Specialist, Utah Department of Health (#1239)   2019 – 2020

CLINICAL EXPERIENCE

Graduate Student Clinician   August 2020 – May 2021
Gender and Sexual Minority Support Services, Logan, Utah
Supervisor: Tyler Lefevor, Ph.D., LP
- Provided individual process-based therapeutic services to sexual and gender minorities across the lifespan.
- Provided affirming mental health services for youth and families.
- Wrote letters of support for hormone replacement therapy and affirming surgical procedures.

School Mental Health Intern   August 2020 – May 2021
Logan High School, Logan, Utah
Supervisor: Tyler Renshaw, Ph.D., NCSP
- Assessed, interpreted, and provided evaluative feedback to parents and students regarding mental health.
- Developed individualized treatment plans and progress monitoring for high school students with internalizing and externalizing problems.
- Worked collaboratively with school personnel and parents.
- Provided crisis prevention and response.

Volunteer Student Clinician   May 2020 – August 2020
Utah Pride Center, Salt Lake City, Utah
Supervisor: Joshua Bravo, M.S., LCSM
- Provided individual therapeutic services to adults and youth with gender and sexuality related problems.
- Facilitated a support group for parents of transgender youth.
- Assessed for appropriateness and advocated for gender affirming surgery through letters of readiness.

Graduate Student Clinician   August 2019 – May 2020
Integrated Assessment Division, Behavior Health Clinic, Logan, Utah
Supervisor: Maryellen McClain Verdoes, Ph.D., NCSP, LP
- Conducted diagnostic interviews, psychological evaluations, and diagnostic feedback for individuals across the lifespan suspected of autism and related neurodevelopmental disabilities.
- Scored and interpreted results from autism-specific and other achievement, adaptive, cognitive, developmental, and psychosocial assessments.
- Wrote comprehensive reports and recommendations for families.
- Presented and staffed client cases with interdisciplinary teams.

Behavior Specialist   May 2019 – May 2020
Up to 3 Early Intervention, Utah Department of Health, Logan, Utah
Supervisor: Gretchen Peacock, Ph.D., LP
- Provided home-based parent training and behavior support through Utah's state-run early intervention program to families with children under 3.
- Consulted and teamed with multidisciplinary groups.

August 2018 – June 2019

School Psychology Practicum Student
Granite School District, West Valley City, Utah
Supervisors: Paul McClatchy, Ed.S., NCSP & Megan Heyborne, Ph.D., LP
- Provided school-based cognitive assessments (verbal & non-verbal), interventions (class wide & individual), and consultation (parents & teachers).
- Conducted psychotherapy (individual), crisis intervention, and family intervention.
- Reported student updates and progress at Multi-Tiered Systems of Support meetings with school staff and administrators.

Mental Health Counselor   August 2018 – June 2019
Bridges Day Treatment Program, Canyons School District, Midvale, Utah
Supervisors: Aaron Fischer, Ph.D., LP & Megan Heyborne, Ph.D., LP
- Aided in the development, launch, and continual restructuring of a school-based day treatment center.
- Provided psychotherapy (individual) for children presenting with severe emotional and behavioral disorders.

Social/Emotional Skills Group Co-Facilitator   January – May 2018
Bear River Charter School, Logan, Utah
Supervisor: Donna Gilbertson, Ph.D., NCSP, LP
- Co-facilitated evidence-based social-emotional and mindfulness-based group therapy for elementary and secondary students.
- Developed and implemented behavior management plans in groups of up to 40.

Academic Intervention Practicum Student   January – May 2018
Edith Bowen Laboratory Elementary School, Utah State University, Logan, Utah
Supervisor: Donna Gilbertson, Ph.D., NCSP, LP
- Assessed reading, writing, and math skills in elementary children.
- Provided weekly evidence-based reading and writing interventions (individual & group).
- Collected data for progress monitoring and intervention adaptation.

Adolescent Counselor/Group Leader   June – Aug. 2015
Northwest Behavioral Healthcare Services, Portland, Oregon
Supervisor: Ellen Bennington, QMHA
- Assisted in the substance use and behavioral treatment and rehabilitation of adolescents.
- Managed adolescent behavior in group therapeutic classes.
- Developed and led recreational activities for patients.

Mental Health and Adaptive Group Assistant   Jan. – May 2012

Eastern State Psychiatric Hospital, Lexington, Kentucky
Supervisor: Sung Hee Kim, Ph.D.
- Assisted and led inpatient rehabilitation courses.
- Observed diagnostic assessments and treatment planning.

PEER SUPERVISION

Undergraduate Student-Researcher Supervisor   September 2021 – Present
School Mental Health Lab
Supervisor: Tyler Renshaw, Ph.D., NCSP
- Managed undergraduate research assistants' coding for ACT and MBI systematic reviews.
- Organized meetings to ensure timeliness and task awareness.
- Supported research assistants by addressing any project barriers.

Graduate Student-Clinician Peer Supervisor   August 2021 – Present
School Mental Health Collaborative
Supervisor: Tyler Renshaw, Ph.D., NCSP
- Advised beginner graduate students in a school-based practicum setting.
- Supervised clinical services at the individual, class-, and school-wide level.
- Supported in the collection of school-wide screening data.

RESEARCH EXPERIENCE

Principal Investigator, Doctoral Dissertation   June 2020 – November 2021
Utah State University, Logan, Utah
Supervisor: Tyler L. Renshaw, Ph.D., NCSP
- ***Dissertation:*** Minority stress: A model for understanding sexual minority adolescents' mental health

Data Manager   May 2021 – Present
Utah Rural School Mental Health Collaborative
Supervisor: Tyler L. Renshaw, Ph.D., NCSP
- Responsible for organizing and collecting school-wide screening data in rural schools.
- Analyzed and interpreted data.

Research Assistant   May 2020 – Present
Utah State University, Logan, Utah
Supervisor: Tyler L. Renshaw, Ph.D., NCSP
- Assisted in writing multiple book chapters on mindfulness-based interventions in schools.
- Developed, wrote, and submitted empirical research projects to journals for publication on topics of bullying, student access to social supports, measurement validation, public health and screening in schools, and ACT and mindfulness with youth in schools.

Graduate Student Researcher   August 2017 – Present
School Mental Health Lab, Utah State University, Logan, Utah
Supervisor: Tyler L. Renshaw, Ph.D., NCSP
- Conducted systematic reviews of current literature on Acceptance and Commitment Therapy with youth and ethical decision-making models for professionals in helping fields.
- Presented preliminary finding at national conferences.

Principal Investigator, Master's Thesis   August 2017 – May 2020
Utah State University, Logan, Utah
Supervisor: Tyler L. Renshaw, Ph.D., NCSP
- ***Thesis:*** The moderating role of psychological flexibility in the relationship between minority stress, substance misuse, and suicidality in LGB+ adolescents.

Undergraduate Research Assistant   Jan. 2011 – May 2012
University of Kentucky, Lexington, Kentucky
Supervisor: Nathan DeWall, Ph.D.
- Assisted with design, execution, and evaluation of research projects related to social psychology, including response to rejection and political affiliation.
- Obtained participant data through observation in lab settings.

PUBLICATIONS

Peer-Reviewed Journal Articles

Weeks, S. N., Renshaw, T. L., & Roberson, A. J. (2021). Screening depression and anxiety via brief measures of psychological inflexibility. *Journal of Psychoeducational Assessment*. Advance online publication. https://doi.org/10.1177/07342829211050739 PsyArXiv preprint: https://psyarxiv.com/rwhgj/

Weeks, S. N., Renshaw, T. L., Vinal, S. A. (2021). Minority stress as a multidimensional predictor of LGB+ adolescents' mental health outcomes. *Journal of Homosexuality*. Advance online publication. http://dx.doi.org/10.1080/00918369.2021.2006000 PsyArXiv preprint: https://psyarxiv.com/cxe5s/

Johnson, M. K., **Weeks, S. N.**, Peacock, G. G., & Domenech Rodríguez, M. M. (2021). Ethical decision-making models: a taxonomy of models and review of issues. *Ethics & Behavior*, 1-16. https://doi.org/10.1080/10508422.2021.1913593

Weeks, S. N., Renshaw, T. L., Galliher, R. V., Tehee, M. (2020). The moderating role of psychological inflexibility in the relationship between minority stress, substance misuse, and suicidality in LGB+ adolescents. *Journal of Contextual Behavioral Science, 18,* 276-286. https://doi.org/10.1016/j.jcbs.2020.10.007

Book Chapters

Renshaw, T. L., Barr, J., Farley, C., Franzmann, T. K., Vinal, S., & **Weeks, S. N.** (in press). Mindfulness-based curricula for classrooms and schools. In Renshaw, T. L., & Jimerson, S. R. (Eds.), *Mindfulness for improving mental health in schools*. Oxford University Press.

Renshaw, T. L., **Weeks, S. N.**, Roberson, A. J., Upton, S. R., Barr, J., Phan, M., & Farley, C. (in press). Cultivating mindfulness in schools. In K. Allen, M. Furlong, S. Suldo, & D. Vella-Brodrick (Eds.), *Handbook of positive psychology in schools* (3rd ed). Routledge. PsyArXiv preprint: https://psyarxiv.com/6gp8y

Renshaw, T. L., **Weeks, S. N**., Vinal, S., Barr, J., Farley, C., & Franzmman, T. (in press). Classroom-based mindfulness interventions. In T. L. Renshaw & S. R. Jimerson (Eds.), *Mindfulness for promoting mental health in schools*. Oxford.

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Technical Manuals

Weeks, S.N., Ficklin, E., Forsyth Lefevre, J., Curtright, T., Gabrielsen, T. (under review). *Rainbow spectrum: A practitioner's guide for inclusive clinical care for LGBTQIA+ individuals with autism.* Utah Regional Leadership Education in Neurodevelopmental Disabilities.

Fischer, A.J., Hidalgo, R., Feldman, E.D… **Weeks, S.N.** (2019*). Bridges program manual: Consultant version. Practical and Tutorial Manual.* Department of Educational Psychology, University of Utah, Salt Lake City, UT.

Fischer, A.J., Hidalgo, R., Feldman, E.D… **Weeks, S.N.** (2019). *Bridges program manual: Teacher version.* Practical and Tutorial Manual. Department of Educational Psychology, University of Utah, Salt Lake City, UT.

Other Works

Weeks, S. N. (2021). Minority stress: A model for understanding sexual minority adolescents' mental health. [Unpublished doctoral dissertation]. Utah State University.

Weeks, S. N. (2020, June 26). *What does it mean to be a queer individual seeking mental healthcare?* Utah Pride Center. https://utahpridecenter.org/mental-health/

Weeks, S. N. (2020). The Moderating Role of Psychological Inflexibility in the Relationship Between Minority Stress, Substance Misuse, and Suicidality in LGB+ Adolescents. [Unpublished master's thesis]. Utah State University.

RESEARCH IN-PROGRESS

Under Review

Weeks, S. N., Renshaw, T. L., Rainey, A., Hiatt, A. (under review). Youth Internalizing and Externalizing Problems Screener bifactor modeling.

Upton, S. R., Renshaw, T. L., **Weeks, S. N.** (under review). Components of psychological flexibility and inflexibility that predict risk-taking behaviors.

In-Progress

Weeks, S. N., Hicks, E. T., Renshaw, T. L. (in progress). The moderating role of screen time in the relationship of age and gender on experiences of traditional bullying and cyberbullying in middle and high school students.

Weeks, S. N., Renshaw, T. L., Phan, M. (in progress). How type and number of supports students access influence their subjective distress and suicidality.

Zaheer, I., Renshaw, T. L., **Weeks, S. N.,** Sedgewick, S. S. (in progress). Meta-analysis of ACT with youth.

EDITORAL & REVIEWS

Student Editorial Board Member   June 2020 – Present
School Psychology Review
Supervisor: Tyler L. Renshaw, Ph.D.,
NCSP

Ad Hoc Peer Reviewer   August 2021 – Present
Mindfulness
Supervisor: Tyler L. Renshaw, Ph.D.,
NCSP

Student Protocol & Manual Reviewer   May 2019 – August 2019
Technology in Training, Education, and
Consultation Lab at University of Utah
Supervisor: Aaron Fischer, Ph.D., LP

PRESENTATIONS

Conference Oral Presentations

Weeks, S.N., Tyler, R. L. (2021, November). *Home and school: How LGBTQ youth's environments influence wellbeing.* Session presented at the Annual Conference on Advancing School Mental Health, on-demand (pre-recorded) conference session.

Weeks, S. N., Ficklin, E., Forsyth Lefevre, J. (2021, April). *Intersections in healing the Rainbow Spectrum: LGBTQ+ individuals with autism and inclusive clinical environments.* Panel hosted at the 24th Annual Shepard Symposium on Social Justice, Healing Communities, University of Wyoming, Laramie, Wyoming. (Conference canceled).

Weeks, S. N., Ficklin, E., Forsyth Lefevre, J. (2020, April). *Intersections in healing the Rainbow Spectrum: LGBTQ+ individuals with autism and inclusive clinical environments.* Panel hosted at the 24th Annual Shepard Symposium on Social Justice, Healing Communities, University of Wyoming, Laramie, Wyoming. (Conference canceled).

Conference Poster Presentations

Weeks, S. N., Renshaw, T. L., Sedgwick, S. (2020, February) *Toward a Systematic Review of Acceptance and Commitment Therapy with Youth: Upshot of the*

Evidence and Implications for Practice. Poster presented at the National Association of School Psychology Conference, Baltimore, MD.

Renshaw, T. L., Sedgwick, S., **Weeks, S. N.** (2020, February) *Toward a Systematic Review of Dialectical Behavior Therapy with Youth: Upshot of the Evidence and Implications for Practice*. Poster presented at the National Association of School Psychology Conference, Baltimore, MD.

Renshaw, T. L., **Weeks, S. N.**, Sedgwick, S. (2019, November) *Systematic Review of Acceptance and Commitment Therapy with Youth: Upshot of the Evidence and Implications for Practice*. Poster presented at the Annual Conference on Advancing School Mental Health, Austin, TX.

Renshaw, T. L., Sedgwick, S., **Weeks, S. N.** (2019, November) *Systematic Review of Dialectical Behavior Therapy with Youth: Upshot of the Evidence and Implications for Practice*. Poster presented at the Annual Conference on Advancing School Mental Health, Austin, TX

Weeks, S. N., Renshaw, T. L. (2018, November). *The mediating roles of psychological flexibility and personal identity in the relationship between sexual orientation, substance misuse and suicidality in adolescents*. Poster presented at the meeting of the Utah Association of School Psychologists, Salt Lake City, UT.

Presentations, Webinars, & Workshops

Weeks, S. N., (2021, November). *Creating LGBTQ Affirming Clinical Environments*. Invited webinar at USU's Sorenson Center for Clinical Excellence in Logan, UT.

Weeks, S. N., (2021, October). *Creating LGBTQ Affirming Clinical Environments*. Invited presentation for USU's Sorenson Center for Clinical Excellence interprofessional team in Logan, UT.

Weeks, S. N., (2021, April). *Creating LGBTQ Affirming Clinical Environments*. Invited presentation for clinical receptionists and billing department in USU's Sorenson Center for Clinical Excellence in Logan, UT.

Weeks, S. N., (2021, March). *Creating LGBTQ Affirming Clinical Environments*. Invited presentation to speech-language pathology department at USU in Logan, UT.

Weeks, S. N., Ortiz, E. (2019, October). *Activities and Resources for After School*. Topic presented in Spanish to community members at South Main Clinic in Salt Lake City, UT.

Weeks, S. N. (2019, February). *Risk Assessment in Schools*. Topic presented to teachers and paraprofessionals of Canyons School District in Midvale, UT.

Weeks, S. N., Fischer, A. J., Silberman, M., Perez, L., Totsky, J. (2018, November). *Behavior Management in Groups*. Topic presented to teachers and paraprofessionals of Canyons School District in Midvale, UT.

Weeks, S. N., Domenech Rodríguez, M. M. (2018, October). *Diversity and Inclusion, Safe Passages for U*. Topic presented to teachers and administrators of Canyons School District in Salt Lake City, UT.

TEACHING EXPERIENCE

Graduate Teaching Assistant, Utah State University, Department of Psychology
Courses: Introduction to Psychology & Research Methods

Aug. 2017 – May 2019

- Provided support to over 500 undergraduate students by grading assignments and tests, providing meaningful feedback, meeting with students, and guest lecturing classes.

Guest Lecturer (6), Utah State University, Department of Psychology
Course: Introduction to Psychology (undergraduate coursework)
Course: Introduction to School Psychology (graduate coursework)

December 2019
February & March 2019
December 2018

English Teacher, Sumitomo Electric English Center, Amata City, Thailand

Nov. 2013 – Apr. 2014

- Taught English as a second language to Thai professional level employees.
- Developed the initial English Center and the course structure implemented in the classrooms.
- Designed lesson plans, activities, and tests for individual and peer-based learning.

English Teacher, Huayprab Public School, Rayong, Thailand

Nov. 2013 – Apr. 2014

- Taught English as a second language to middle school aged children.
- Created lesson plans, activities, and events designed to improve English ability.
- Collaborated with Thai faculty and administration to implement coursework.

FELLOWSHIPS

Utah Regional Leadership Education in Neurodevelopmental Disabilities, 2019
Mentor: Maryellen McClain Verdoes, Ph.D., NCSP, LP
- Interprofessional training program that admits a core group of trainees who complete 300 hours of research, didactic, and clinical experiences in neurodevelopmental disability positions.

HONORS AND AWARDS

Bill E. Robins Scholarship, Utah State University, 2021
- The most coveted of all Utah State honors, recognizing academic excellence, outstanding leadership, and dedication to Utah State.

Kenneth W. Merrell School Psychology Scholarship, Utah State University, 2021
- Departmental award for demonstrating outstanding academic achievement, commitment to the field of School Psychology, and involvement in school psychology activities outside of the program requirements.

School Psychology Review Service Award, 2021
- For important contributions as a member of the 2020 Editorial Board for *School Psychology Review*.

Utah Association of School Psychology Professional Grant, 2020
- Grant for travel to regional and national conferences to present research that enhance skills in working with students.

Anthony La Pray Scholarship, Utah State University, 2019
- Departmental scholarship based on academic achievement, progress, and engagement in research.

SERVICE TO PROGRAM/PROFESSION

Guest Panelist, USU Psychology Department Graduate Student Orientation	August 2020
Student Organizer, Graduate Student Interview Day	February 2020
Student Leader, USU National Association of School Psychology	May 2019 – April 2020
Student Representative, USU School Psychology	Sep. 2017 – May 2019
Chair, Community Service, USU Student Affiliates of School Psychology	August 2018 – May 2019
Diversity Event Coordinator, USU College of Education and Human Services	January 2018 – May 2019

Guest Panelist, USU Graduate Student Panel, PSY 2010 Feb. 2018 & Feb. 2019
Student Member, USU Department of Psychology May – July 2018
    Faculty Search Committee
Chair, Awareness, USU Student Affiliates of School January – May 2018
    Psychology

CERTIFICATIONS & TRAININGS

ADOS–2 Virtual Introductory/Clinical Workshop Toddler Module	July 2021
ADOS–2 Virtual Introductory/Clinical Workshop Modules 1-4	July 2021
Praxis Utah School Psychologist (5402) Licensing Exam	July 2020
Center for Positive Sexuality Sex Positivity in Therapy Training	June 2020
Transgender Affirming Therapy	June 2020
American Institute for Avalanche Research and Education (AIARE)	January 2020
American Heart Association First Aid CPR	Sep. 2019
Department of Health, Baby Watch Early Intervention	April 2019
Acceptance and Commitment Therapy workshop	April 2019
H.I.P.A.A. certified	October 2018
Question, Persuade, and Refer (QPR) Training for suicide prevention	Sep.2018
Cognitive Behavioral Intervention for Trauma in Schools (CBITS)	April 2018
Safe Passages for U, diversity and inclusion training	March 2018
LGBTQ Ally training	March 2018
FERPA training for confidentiality in schools	August 2017
Collaborative Institutional Training Initiative (CITI) ethical research	August 2017
Teaching English as a Foreign Language (TEFL) certification	October 2013

VOLUNTEER EXPERIENCE

Volunteer, Utah Pride Center, Salt Lake City, UT May – August 2020
- Provided mental health services, worked with youth and family services, and helped plan and execute events for fundraising and awareness.

Volunteer, Logan Pride Foundation, Logan, UT March – November 2019
- Facilitated allies trainings for Utah State University and the community.

                                             Jan. 2018 – Feb. 2020
Volunteer, Common Ground Outdoor Adventures,
Logan, UT
- Instructed individuals with physical and mental disabilities to ski.
- Organized group volunteer activities.

Volunteer, Legal Aid of the Bluegrass, Lexington, KY May – Dec. 2014
- Assisted the immigration attorney with any necessary duties.
- Translated letters and court documents.

Volunteer, Kloinomadelfia Orphanage, Santiago, Chile   January – April 2013
- Tutored children with emotional disabilities in their native Spanish language.
- Organized recreational activities, games, art projects, and workshops.

PROFESSIONAL AFFILIATIONS

The LGBTQ- Affirmative Psychotherapists Guild of Utah
Utah Regional Leadership Education in Neurodevelopmental and related Disabilities
Association of Psychological Science
National Association of School Psychologists
Utah Association of School Psychologists
Student Affiliates of School Psychology, American Psychological Association