

Abstract

Sexual and gender minority (SGM) individuals report higher rates of substance use and mental health symptoms compared to cisgender and heterosexual peers. Meyer's Minority Stress Model explains these disparities as arising from attempts to cope with proximal (e.g., internalized homophobia, expectations of rejection) and distal (e.g., discrimination, violence) minority stress. Emerging adult development factors like identity exploration and instability may contribute uniquely to experiences of SGM stress among emerging adults in ways existing measures do not capture. Accurate measurement of SGM stress among emerging adults is important to clarify the relationships proposed by Meyer's model and identify individuals who are most at risk for substance use and mental health symptoms. The goal of this project was to develop and validate the first SGM stress measure that includes developmental factors specific to emerging adults. This was accomplished by following all stages of measure development: faculty subject experts ($N=8$) and emerging adult SGM college students ($N=10$) were recruited to evaluate item content and adapt items for emerging adults. A separate sample of SGM emerging adult US college students ($N=218$) was recruited for an online validation survey. Contrary to our hypothesis, a five-factor model provided the best fit for the Emerging Adult Inventory of Minority Stress (EAIMS). Reliability and validity of the EAIMS was established through significant and positive associations with an existing measure of minority stress and with measures of alcohol use and consequences, cannabis use and consequences, anxiety, general life stress, and depression. The final measure included items drawn from both minority stress and emerging adult stress measures. Further validation of this new measure with a larger, more diverse sample could strengthen the rationale for emerging adult specific measurement of SGM stress.

Keywords: minority stress, LGBTQ+, emerging adult, measure development.

DEVELOPMENT OF THE EMERGING ADULT INVENTORY OF SEXUALITY AND
GENDER MINORITY STRESS

by

Jeremy M. Ramos

B.A., Smith College, 2015
M.S., Syracuse University, 2020

Dissertation

Submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy in *Clinical Psychology*.

Syracuse University
August 2023

Copyright © Jeremy M Ramos 2023

All Rights Reserved

Table of Contents

	Page
Table of Contents.....	iv
List of Tables.....	v
List of Figures.....	vi
List of Appendices.....	vii
Chapter	
I. Review of the Literature.....	1
II. Summary and Hypotheses.....	13
III. Steps 1-3: Item Development Methods and Results.....	16
IV. Steps 4-7: Reliability and Validity Methods.....	27
V. Steps 4-7: Reliability and Validity Results.....	32
VI. Discussion.....	37
Tables.....	46
Figures.....	59
Appendices.....	62
References.....	84
Curriculum Vitae	114

List of Tables

1. CCMS Participant Demographic Characteristics.....46

2. Step 1 – Emerging Adult and SGM Stress Measure Psychometrics.....47

3. Step 2 – Content Expert Participant Demographic Characteristics.....48

4. Step 2 – Qualitative Themes, Comments, and Proposed Changes.....49

5. Step 4 – Reliability and Validity Participant Demographic Characteristics.....52

6. Item Loadings (Pattern Coefficients) and Communalities for Correlated Five-Factor Model.....53

7. Model Fit Indices of 19-Item Emerging Adult Inventory of Minority Stress for Between One- and Five-Factor Models.....55

8. Correlations between 19-Item Emerging Adult Inventory of Minority Stress Factors.56

9. Descriptive Statistics for Validity Variables.....57

10. Results of Hierarchical Regression Models for EAIMS Subscales and Alcohol Use, Cannabis Use, Depression, and Anxiety.....58

List of Figures

1. Minority Stress Theory.....59

2. Bifactor Model of the Five Factor Emerging Adult Inventory of Minority Stress.....60

3. Emerging Adult Minority Stress Model.....61

List of Appendices

Appendix	Page
A. Step 1 – Initial Emerging Adult and SGM Stress Item Pool.....	62
B. Step 2 – Round 1 Instructions and Open Text Questions.....	67
C. Step 2 – Round 2 Instructions.....	68
D. Step 2 Codebook.....	69
E. Pre-testing – 40 Item Emerging Adult Inventory of Minority Stress.....	73
F. Pretesting Quality Assurance Questionnaire.....	75
G. 41-Item Emerging Adult Inventory of Minority Stress.....	76
H. 19-item Emerging Adult Inventory of Minority Stress.....	81

Development of the Emerging Adult Inventory of Sexuality and Gender Minority Stress

Individuals who identify as lesbian, gay, bisexual, transgender, queer (LGBTQ+) or with any sexual or gender minority category (SGM) are significantly more likely to experience mental health and substance use related problems compared to cisgender and heterosexual individuals. SGM women (Adjusted Odds Ratio (aOR) =2.9, 95% CI = 1.6, 5.5), and men (aOR = 4.2, 95% CI = 2.2, 8.2) are at significantly greater risk for symptoms of Alcohol Use Disorder (AUD; McCabe et al., 2009), Cannabis Use Disorder (CUD; aOR_{women}=3.9, 95% CI = 2.3; 6.9; aOR_{men}=1.5 95% CI =1.3, 1.7; Philbin et al., 2019), as well as depression (aOR_{women}=1.9, 95% CI = 0.71, 4.98; aOR_{men} = 3.6, 95% CI = 1.71,7.43; Cochran et al., 2003) and anxiety (aOR_{women}= 1.7, 95% CI = 1.02; 3.0; aOR_{men} = 2.4, 95% CI =1.2, 4.7) compared to heterosexual peers (Bostwick et al., 2010). Across the lifespan, the highest rates of substance use and mental health problems are reported among SGM emerging adults aged 18-25 (Medley et al., 2016), and most individuals who will experience a substance use or mental health problem first report significant symptom impairment during this age range (Sussman & Arnett, 2014). Taken together, the emerging adult and SGM stress literature suggest that the elevated risk experienced by this population arises simultaneously from their SGM status and their developmental stage.

Substance Use and Mental Health among SGM Emerging Adults

Emerging adults report the highest levels of alcohol use, cannabis use, and mental health symptoms of any age cohort, and alcohol and cannabis use are more common within this cohort than any other substances (Lipari, 2018). Higher rates of mental health symptoms and substance use in this age cohort can be understood through Arnett's Theory of Emerging Adulthood (2000, 2005), which identifies factors such as identity exploration, uncertainty about the future, and instability of self-concept that distinguish this developmental period from adolescence and older

adulthood. These developmental factors introduce new sources of strain and offer potentially the first opportunity for significant decision making separate from care-giver oversight (Reifman et al., 2007). This stage-based model is more appropriate than a continuous model because the factors described above do not occur simultaneously or sequentially across emerging adults (Arnett, 2007), and they do not scale up such that an 18-year-old will reliably be more or less uncertain than a 25-year-old. Rather, most 18-25 years old individuals will at some point in this stage initiate significant lifestyle changes and begin to explore their identities in some way. During this transitory period, attempts to cope with this increased stress and manage new expectations and responsibilities may contribute to the development or worsening of mental health symptoms and/or substance use behaviors, with SGM status offering another layer of specificity for these developmental experiences.

SGM emerging adults are at particular risk for anxiety, depression, and substance use due to both their developmental stage and the discrimination experiences associated with claiming an SGM identity (Goulet & Villatte, 2020; Salvatore & Daftary-Kapur, 2020). While SGM status seems to increase risk for all age groups, some data suggest that disparities are even more pronounced among emerging adults compared to other age cohorts. For example, gay men 18–25 years of age were 1.5 times as likely and lesbian women 18–25 years were nearly three times as likely to report past year cannabis use when compared to same-gender heterosexuals, but not among those aged 26-34 or 35-49 (Schuler et al., 2019). Further, SGM college students are between 1.6 to nearly three times more likely to report frequent distress associated with mental health concerns and between 2.3 to nearly three times more likely to report any current mental health diagnosis compared to cisgender and heterosexual peers (Przedworski et al., 2015). The

United States (U.S.) college environment itself offers a layer of unique risk for mental health and substance use outcomes.

Overall, SGM college students are more likely to report more severe and more frequent consequences of alcohol use than non-SGM college-attending peers (Reed et al., 2010; Talley et al., 2010), including driving under the influence of alcohol, having unplanned sex after drinking and, having suicidal thoughts after drinking (McCabe et al., 2003). Additionally, more sexual minority college students report feeling anxious (63%) over the past 12 months than heterosexual college students (46%), with similar disparities for symptoms of depression (50% vs 28%; Oswalt & Wyatt, 2011). These data suggest that SGM emerging adult college students exist at a nexus of risk for mental health and substance use (Parent et al., 2019), with their developmental stage, college attendance, and SGM status contributing to higher rates of mental symptoms and substance use when compared to cohorts that are only matched on age or SGM status. Emerging adult specific factors, such as identity development and instability, may partially explain these developmental stage-related disparities.

Emerging Adult Factors, Anxiety, Depression, and Substance Use

As noted above, emerging adult college students experience stress associated with identity development, exploration, and instability that is distinct from other age cohorts due to shifting social expectations and contexts, especially within the U.S. college environment. College in the U.S. is characterized as a time of intense identity development, and college students are encouraged to seek out new experiences with reduced oversight from caregivers in ways that are dissimilar from non-college attending peers (Jones & Abes, 2013). While identity exploration is normal and healthy, identity-related worry and concern may increase risk for substance use and other mental health-related problems (Alessi et al., 2017). For example,

significantly greater identity distress scores are observed among college students diagnosed with or treated for substance use problems, anxiety, or depression compared to students who were not diagnosed or treated for any mental health concern (Samuolis et al., 2015). As such, identity development and associated stress presents an important risk factor for greater substance use, anxiety and depression among college attending emerging adults.

A meta-analysis of the association between emerging adult stressors and substance use among college students found small, but significant associations between identity exploration, experimentation/possibilities, negativity/instability, feeling in-between and substance use ($b = .07$, [95% CI .01,.13]). Those with more severe substance use problems demonstrated the strongest effects (Davis et al., 2018). Additionally, anxiety and depression have been found to be positively and significantly associated with measures of identity stress (Sica et al., 2014) and negativity/instability (Goodman et al., 2015). Recent literature indicates that SGM emerging adults may experience development of an SGM identity and overall self-concept during this developmental stage differently than those who form an SGM identity as an adolescent or older adult (Bosse, 2019), highlighting the intersection between developmental stage and identity development processes.

Identity development – and particularly sexual identity development – differs between SGM and non-SGM college attending emerging adults, with SGM students placing more emphasis on building self-knowledge through sexual identity-based community (Craig & McInroy, 2014). Sexual orientation self-concept ambiguity and pressures related to development of an SGM identity play an important role in coping with stress (Felner et al., 2019; Hancock et al., 2018), and SGM emerging adults may be more responsive to developmental strain (i.e., instability and feeling in between; Clary et al., 2022), potentially explaining substance use

disparities with cisgender and heterosexual peers. These identity development-related factors associated with emerging adulthood contribute to increases in minority stress among SGM college students (Frost et al., 2020), which in turn may drive greater symptoms of anxiety and depression, as well as greater substance use, in this population.

Models of Sexuality and Gender Minority Stress

The mental health and substance use-related disparities between SGM and non-SGM individuals are often explained using minority stress theory (Brooks, 1981; Hendricks & Testa, 2012; Meyer, 2003; Meyer & Frost, 2013). Meyer's minority stress model suggests that substance use and mental health disparities between SGM and non-SGM emerging adults arise from external discrimination based on assumed or known SGM status that an individual experiences or witnesses (*distal stressors*). These discrimination experiences then contribute to the development and internalization of negative thoughts and beliefs related to SGM status (*proximal stressors*). The effect of these proximal and distal stressors for SGM individuals is a higher risk of drinking or using other substances to cope with negative affect and a greater likelihood of mental health symptoms such as anxiety and depression (see Figure 1; Meyer & Frost, 2013). Of note, the impact of SGM stress has been shown to be distinct from other life stressors (Frost et al., 2015; Meyer & Frost, 2013), with SGM stress predicting outcomes such as depression symptoms and psychological distress (Cox et al., 2008; Hoy-Ellis & Fredriksen-Goldsen, 2017), even when controlling for general life stressors.

Meyer's original model was developed with cisgender sexual minority individuals, but it has also been modified to explicitly address concerns like gender identity and internalized transphobia (Hendricks & Testa, 2012). Other theories and models designed to explain the relationship between SGM stress and health outcomes like anxiety, depression, and substance

use contain similar factors to Meyer's model (e.g., structural stigma, social estrangement; Graugaard et al., 2015; Israeli & Santor, 2000; Watson, 2016) and propose a similar process of coping with SGM stressors. While SGM stress is distinct from other forms of discrimination (e.g., race, disability, weight), Meyer's model is also conceptually similar to models of racial and weight-based discrimination (e.g., structural bias, social rejection) that propose an association between coping with discrimination and negative mental health and substance use outcomes (Carter et al., 2017; Emmer et al., 2020; Pieterse & Powell, 2016). These stress models align with the Self-Medication Hypothesis of substance use, in that increased substance use is an attempt to avoid or ameliorate negative affect and mental health symptoms (Khantzian & Albanese, 2008). This framing is supported in the literature, with SGM individuals both more likely to report anxiety and depression, and more likely to indicate seeking medication to manage symptoms (Gonzales & Green, 2020). Neurological differences in reward pathways and early stress experiences contribute to susceptibility to mental health symptoms and substance use (Koob et al., 2020), but SGM individuals are no more exposed to these factors than cisgender and heterosexual peers, yet still report more widespread symptomology. SGM stress responses then exist as part of a larger biopsychosocial mental health framework, with self-medication and SGM stressors providing important context for which individuals are most at risk for negative health outcomes.

Meyer's Minority Stress Model is thus best suited to examine SGM health disparities because it aligns with other models of discrimination while parsimoniously describing the interplay between experiences of SGM discrimination and health outcomes. Though minority stress models are frequently used in the literature to explain health disparities (Mereish, 2019), predicted associations between SGM stress and outcomes like substance use, anxiety, and

depression are inconsistent, especially among emerging adults. What follows is a review of this literature coupled with an argument that the variability in findings across studies may be a result of inadequate measurement tools.

The Association Between SGM Stressors, Anxiety, Depression and Substance Use

Proximal and distal SGM stress are variably linked to health outcomes like anxiety, depression, and substance use among emerging adults, with contradictory findings between different health outcomes and minority stress constructs. Some studies have reported significant associations between SGM stress and substance use, anxiety, and/or depression among SGM emerging adults (e.g., Feinstein & Newcomb, 2016; Hatzenbuehler & Pachankis, 2016; Livingston et al., 2016; Pachankis et al., 2014), but other studies report null findings (e.g., Kelley & Robertson, 2008; Puckett et al., 2017; Swann et al., 2019). While there is, to our knowledge, no published literature review with SGM emerging adults, a literature review of SGM stress and alcohol use among SGM *adolescents* suggests that the strongest risk factors for alcohol use are proximal and distal minority stress (mean $r = .24$ 95% CI [.06,.41]), psychological stress (mean $r = .19$ 95% CI [.04,.34]), experiencing any kind of violence (mean $r = .60$ 95% CI [.32,.87]), and internalizing (mean $r = .23$ 95% CI [.12,.34]) and externalizing problem behaviors (mean $r = .38$ 95% CI [.17,.58]; Goldbach et al., 2014). While, as noted above, emerging adults represent a distinct developmental category, it is difficult to describe associations with minority stress, anxiety, depression, and substance use within this population because they are often combined with either adolescents or older adults in models and analyses, as reviewed next.

Proximal minority stress

Much of the literature on SGM *proximal stress* does not separate emerging adults from the larger adult category. A 2010 meta-analysis reported small to moderate effect sizes for

positive correlations between internalized homophobia and anxiety and depression with SGM adults ($r = .268$, $ESr = .262$; Newcomb & Mustanski, 2010), with a stronger correlation for depression compared to anxiety. No similar analysis has been completed with emerging adults, but multiple recent studies with SGM emerging adult samples have produced null or mixed findings for associations between proximal minority stress and anxiety (McDonald et al., 2021; Parra et al., 2018), binge alcohol use (Puckett et al., 2017), and other substance use (Swann et al., 2019). Internalized homophobia in particular seems to offer weak support for associations with alcohol use (Flood et al., 2013; Kalb et al., 2018; Lea et al., 2014) and mental health outcomes like aggression (Kelley & Robertson, 2008) within this age group. A meta-analysis of sexual orientation concealment and anxiety, depression, and substance use indicated that concealment was positively associated with depression and anxiety ($ES = 0.126$; 95% CI [0.102, 0.151]), especially among emerging adults and adolescents, but it was negatively associated with substance use problems ($ES = -0.061$; 95% CI [-0.096, -0.026]; Pachankis et al., 2020). Overall, these results suggest that certain proximal stress factors, like internalized homophobia, may be less strongly associated with anxiety and depression for emerging adults than older SGM adults, while others, like concealment of SGM identity, may be even more strongly associated within this age group for anxiety and depression, but not substance use.

Distal minority stress

SGM *distal stress* presents a similarly mixed literature; some studies have verified the associations predicted by Meyer's model for greater depression (Molina et al., 2015), alcohol use and consequences (Villarreal et al., 2020; Wilson et al., 2016), and stress and anxiety (Seelman et al., 2017; Woodford et al., 2015), while other studies failed to replicate significant findings for discrimination or violence and measures of alcohol or drug use (Lea et al., 2014) or alcohol or

cannabis problems (Dyar et al., 2019). A recent national survey indicated that emerging adults report the highest rates of SGM discrimination, but they are also the only adult age group with no significant association between any substance use disorder and discrimination (Evans-Polce et al., 2020). Protective factors like identity acceptance may weaken the positive relationship between minority stress and health outcomes (Meyer, 2003), so it is also possible emerging adults are better supported than other age cohorts, thus reporting low levels of negative health outcomes regardless of their minority stress experiences. Meyer's theory was developed with adults as a broad category, but the mixed findings for associations between SGM stress with alcohol use, cannabis use, anxiety and/or depression among emerging adults highlights the potential for age-based differences in conceptualizations of SGM stress. If SGM emerging adults experience minority stress constructs differently from adults and adolescents, then measures designed for other age groups will not capture the totality of emerging adult SGM stress or provide accurate tests of theory-driven hypotheses.

Measurement of Proximal and Distal SGM Stress

The theory and literature presented thus far suggests that emerging adult SGM stress may represent a distinct construct from adolescent and adult SGM stress. However, no single measure captures proximal and distal SGM stress in a developmentally tailored fashion for emerging adults. Psychometrics and theoretical development of stress measures has been identified as a weakness in the minority stress field (Morrison et al., 2016; Newcomb & Mustanski, 2010; Pachankis et al., 2020; Peterson et al., 2017), and there is a clear need for a theoretically supported and developmentally tailored measure of SGM stress that can accurately capture Meyer's model and the unique minority stress experiences of SGM emerging adults. To our knowledge, there are four existing measures of SGM stress that include both proximal and distal

stressors, none of which were developed with emerging adult samples. Furthermore, each measure adds or removes constructs from Meyer's model without a strong rationale.

Both the Daily Heterosexist Experiences Questionnaire (DHEQ; Balsam et al., 2013) and Lewis et al.'s Stressors measure do not have a factor that aligns with Internalized Homophobia (Lewis et al., 2001), one of the main proximal factors under Meyer's theory. The Sexual Minority Adolescent Stress Inventory includes Religion as a distal SGM stressor (Schrager et al., 2018) and the DHEQ includes Parenting and HIV/AIDS as distinct stressors, but both lack theoretical rationale for these new categories. In addition, all four existing measures either included too few transgender participants to allow for analysis (Balsam et al., 2013), or excluded them entirely (Hatzenbuehler et al., 2008; Lewis et al., 2001; Schrager et al., 2018). Of the four measures, one was developed specifically for use with adolescents (age 14-17; Schrager et al., 2018), and the mean age of participants was over 30 for the remaining three (Balsam et al., 2013; Hatzenbuehler et al., 2008; Lewis et al., 2001). Overall, atheoretical modifications restrict how comprehensively the above measures' can describe SGM stress, while their sample age ranges limit their ability to separate developmental stressors from general stressors, particularly for the specific population of emerging adults.

Measurement of Emerging Adult Stress

Emerging adult specific stress is a relatively newer field compared to SGM stress, and only two measures attempt to capture stress experiences distinct to this age group. The Inventory of the Dimensions of Emerging Adulthood (IDEA; Reifman et al., 2007) aligns closely with Arnett's theory of emerging adulthood (2000, 2005), and identifies broad general experiences like Identity Exploration, Experimentation/Possibilities, Negativity/Instability, Other-Focused, Self-Focused, and Feeling "In-Between" adolescence and adulthood as the defining features of

emerging adulthood (Reifman et al., 2007). However, the IDEA does not contain language specific to gender identity and/or sexual orientation, and it does not allow respondents to indicate if they feel more stable in one facet of their identity, but less stable in another. For example, a college sophomore actively exploring their gender presentation may rank their gender and sexual identity as unstable, while still feeling secure in their racial and ethnic identity. The IDEA has been used in samples that contain SGM college students (e.g., Nelson et al., 2015), but has never been psychometrically validated with a sample of SGM college students.

The only other measure of emerging adult stress, the Emerging Adult Stress Inventory (EASI; Murray et al., 2020) is newer than the IDEA, and at the time of this writing only one conference paper has been published referring to it outside its initial validation study (Amanda & Roswiyani, 2021). The EASI asks participants to recall the number of specific encounters with parents, peers, partners and other individuals and institutions that produce stress. No sexual orientation data were collected in the initial measure validation study or the conference paper, but the authors reported significant associations with general stress, anxiety, and depression (Murray et al., 2020) and with isolation and self-judgment in mixed gender samples (Amanda & Roswiyani, 2021). Combining these two measures would capture both the internal experiences that contribute to developmental stress among emerging adults (IDEA), as well as the specific stress events that emerging adults experience differently from other age cohorts (EASI). However, these measures were developed without consideration of the ways sexual orientation and gender identity influence emerging adulthood and identity development, which may limit their usefulness and appropriateness for SGM emerging adults.

Importance of the Development of a Measure of Emerging Adult SGM Stress

No single measure exists that captures both SGM stress and emerging adult stress, and no existing measure includes SGM stress constructs developmentally tailored to emerging adults. Measures of SGM stress vary greatly in their content and developmental process, with reviews noting many measures of SGM discrimination were developed with only one SGM subgroup (e.g., gay men; Moradi et al., 2009) or retain non-inclusive language that is no longer used by SGM communities (e.g., homonegativity; Peterson et al., 2017). These concerns extend to questions of scale validity. A recent psychometric review of sexual minority discrimination measures noted that of the 32 included scales, none provided evidence that experts or community members had confirmed content validity, none administered an additional measure of minority stress to confirm criterion validity, and only one scale included any analysis of score differences based on known correlates of minority stress to demonstrate construct validity (Morrison et al., 2016). A meta-analysis of adolescent minority stress and substance use found that measures of general distress were highly correlated with substance use ($r = .60$), but measures adapted to capture only distal minority stress were less strongly related ($r = .24$; Goldbach et al., 2014). These findings highlight how definitions of SGM stress may determine the relationships reported, and how poor measure development and validation may impede efforts to examine and define SGM stress as a construct.

Additionally, if SGM stress functions as a latent variable as hypothesized in Meyer's model, then measures of individual SGM stress concepts like internalized homophobia (e.g., Currie et al., 2004; Puckett et al., 2017) or harassment (Kelley & Robertson, 2008; Swann et al., 2019) may demonstrate weaker or non-significant relationships with substance use, anxiety, or depression symptoms individually, but may rather contribute indirectly to the underlying constructs described by Meyer. These factors too, may demonstrate stronger associations when

they are conceptualized for distinct developmental stages rather than the total lifespan (Schrager et al., 2018). If, as a field, we aim to describe the role SGM stress plays in health disparities and develop interventions that decrease it, we must have measures that accurately assess SGM stress, tailored to distinct developmental phases. All proximal and distal SGM stress measures include factors not supported by theory, or they exclude factors without theoretical rationale for the decision. Eschewing theory in favor of statistical connections could contribute to the fragmentary and often contradictory findings in the emerging adult SGM stress literature, and the field may struggle to develop a comprehensive picture of health disparities if there is a disconnect between the measures used to capture data, and the theory used to explain the results.

Summary and Purpose of Present Study

SGM emerging adults are at increased risk for alcohol use, cannabis use, anxiety, and depression compared to their cisgender and heterosexual peers, and this risk is likely attributable to the combined effects of minority and emerging-adult-related stress. To test this theory-supported assumption, a minority stress scale that includes *all* aspects of Meyer's model developmentally tailored to emerging adults is needed. Meyer's model assumes that multiple kinds of stress experiences contribute to an individual's latent experience of proximal and distal stress, and no single question or subscale can capture the level of stress an individual is feeling. The majority of current SGM stress measures lack construct and criterion validity (Morrison et al., 2016), and question wording and design process were often not inclusive of all SGM identity sub-groups (Peterson et al., 2017). Additionally, SGM emerging adults may not accurately report their stress level on measures that were designed for age groups and identities they do not belong to, contributing to the variable relationships between minority stress and alcohol use, cannabis use, anxiety and depression among SGM emerging adults. Finally, accurate measurement of

psychological factors is important for the field of psychology as a whole because it allows researchers and clinicians to evaluate relationships between variables and track intervention efficacy with confidence that those models and measures reflect the true relationships between variables (Embretson & Hershberger, 1999; Michell, 1997). If measures lack reliability and validity, they may not accurately capture the variables they claim to assess (Barker et al., 1994; Borghi & Fini, 2019), rendering any relationships and models that use them spurious and inaccurate.

Therefore, the overall purpose of the proposed study was to develop and validate the Emerging Adult Minority Stress (EAIMS) scale – a new SGM stress measure that includes developmental factors specific to SGM emerging adults. The proposed study followed all steps of best practices for measure development (Boateng et al., 2018; Worthington & Whittaker, 2006), including: (1) a review of the literature to identify the domains of interest and define key terms for use in the study (McCoach et al., 2013), and the subsequent generation of items from qualitative data collection and/or existing measures (Boateng et al., 2018); (2) establishment of content validity of proposed items via feedback from subject experts and the target population, using a standardized decision-making method called a Delphi Process (Fitch et al., 2001); (3) administration of the preliminary measure to the target population for pre-testing (Fowler, 1995). (4) After modifications are made in response to the pre-testing, administering the revised measure to the target population with a sufficient sample to capture the latent constructs measured (MacCallum et al., 1999), and conduct reliability analyses (Boateng et al., 2018); (5) removal of items based on Classical Test Theory and/or Item Response Theory (IRT); (6) extraction of domains via exploratory factor analysis (EFA); and (7) confirmation that the factor structure from the EFA is maintained via confirmatory factor analysis and/or tests of

measurement invariance and determination of scale reliability via Cronbach's Alpha and reliability correlations. Criterion validity is also determined at this step via correlations with scores on validated measures that assess a similar construct, or behavior that the measure predicts. Finally, construct validity is determined by correlating scores on the new measure with validated measures of other constructs that would be theorized to relate with the domain of interest. Following these steps resulted in the development of a valid and reliable measure that captures experiences of SGM stress that are specific to emerging adults. The hypotheses of this study were as follows:

Hypothesis 1

We hypothesized that after developing the measure through steps 1-3 and administering it to a sample of SGM emerging adults (step 4), during step 6 the EFA of the Emerging Adult Inventory of Minority Stress (EAIMS) would demonstrate a two-factor structure representing proximal and distal minority stress.

Hypothesis 2

Hypothesis 2a. We predicted that the EAIMS would demonstrate reliability with a Cronbach's alpha above .70 for all factors and for the total scale.

Hypothesis 2b. We predicted that the EAIMS would demonstrate concurrent criterion validity through a moderate correlation ($r = 0.3 < 0.7$) with an existing measure of SGM stress, the Daily Heterosexist Experiences Questionnaire.

Hypothesis 3

Hypothesis 3a. We predicted that the EAIMS would demonstrate convergent construct validity via positive, and significant, bivariate correlations between experiences of SGM

emerging adult stress and alcohol use and consequences, cannabis use and consequences, anxiety, and depression.

Hypothesis 3b. We predicted that at Step 7, the EAIMS would demonstrate divergent validity via nonsignificant correlations between EAIMS scores (factor, total) and age.

Exploratory Hypothesis

If a multi-factor model is supported, EAIMS factor scores will demonstrate significant positive associations with all outcomes in linear regressions.

Methods

Overview

This was a measure development study using the steps described above – qualitative data collection, item ratings, and a cross-sectional online survey—to develop a measure of SGM emerging adult stress, the EAIMS. All procedures were approved by the Syracuse University Institutional Review Board (IRB #:21-296). All steps of the process were undertaken sequentially to complete the final measure. Steps 1-3 of this project drew from a previous cross-sectional study that examined the association between SGM stress and several alcohol use outcomes among SGM college students (The College Coping with SGM stress study (CCMS); Ramos et al., 2020). The CCMS study recruited 140 SGM college students (see Table 1), aged 18-25, from college and university LGBTQ center listservs, associated forums, and Amazon Mechanical Turk. The proposed research built off the measures, recruitment methods, and research practices utilized throughout the CCMS study to recruit a new sample from the same population. A 3-month timeframe was used for all variables, including the EAIMS, to ensure synchronicity across measures.

Steps 1-3: Overview

The goal of steps 1-3 was to develop an initial item pool for the EAIMS and collect feedback from key stakeholders (SGM emerging adult college students and faculty content experts) to determine face validity and comprehension of items. At step 1, deductive item selection was used to draw items from existing emerging adult and SGM stress measures. At step 2, SGM emerging adult college students ($N=10$) and experts in emerging adulthood and/or SGM stress ($N=8$) provided qualitative and rating feedback on the content and language of items through an online Delphi Process (Fitch et al., 2001; Santaguida et al., 2018). After modification of items based on participant responses, step 3 consisted of pre-testing draft survey questions and all proposed measures with 11 new SGM emerging adult Syracuse University students, above the minimum sample size recommended to detect problems with question content and wording (Blair & Conrad, 2011).

Step 1: Domain Identification and Item Generation

A comprehensive review of the SGM stress literature was conducted and identified psychometrically valid and reliable measures of SGM and emerging adult stress. Meyer's minority stress model identifies three domains of proximal stress (i.e., internalized homophobia, concealment, expectations of rejection) and two of distal stress (i.e., violence and discrimination). The original model has been expanded to include beliefs about people with marginalized genders (i.e., internalized transphobia; Hendricks & Testa, 2012) under proximal stress and comments and actions that indirectly or implicitly target people based on SGM status (i.e., microaggressions; Wright & Wegner, 2012) under distal stress. There are over 30 measures that capture SGM stress (Morrison et al., 2016), but the measures selected stand out for their theoretical similarity with Meyer and their psychometrics (see Table 2). All items from each measure were included in the Delphi process to ensure coverage of the target domains, but any

items that seemed functionally similar in wording or content were evaluated for removal. In these cases, the more comprehensive item was included (e.g., “Disagreements between you and your family members because you are LGBTQ?” & “Lack of understanding by parents because you are LGBTQ?” vs “Treated unfairly by your family because you are LGBTQ?”). After these removals, a total of 96 items were selected for the initial item pool (Appendix A).

Step 2: Content Expert Validation

SGM emerging adult participants were 10 undergraduate students ($M_{\text{age}} = 19.40$, $SD = 0.97$) recruited from Syracuse University LGBTQ Resource Center and SGM student organization email listservs over the Fall 2021 and Spring 2022 academic semesters. A brief description of the study was included in weekly announcement emails and posted to Syracuse University’s SONA research participant recruitment pool, with a link for participants to read more about the study and complete screening and informed consent online. Student participants were considered eligible if they indicated (1) age between 18 and 25 and (2) currently attending Syracuse University as an undergraduate student and were excluded if they endorsed (1) identifying as exclusively cisgender and exclusively heterosexual, and (2) if they were unable to provide electronic informed consent in English.

Content expert participants were eight faculty who specialized in research on the topic of SGM minority stress, emerging adulthood, or stress measure development. Initially recruitment focused on Syracuse University faculty, who were identified as potentially eligible if their university bio, Curriculum Vitae (CV), or lab website mentioned research on sexual and gender minority stress, emerging adulthood, or measure development. This process identified 24 potentially eligible participants who were contacted individually via email. A total of 11 faculty responded to the emails, with eight declining to participate and three agreeing and completing

the consent process. To meet target recruitment goals, a list of potentially eligible experts with faculty affiliation at other institutions was generated by searching department biographies and CVs for faculty members at the 87 colleges and universities with the largest student populations. Over the Spring 2022 academic semester, 62 faculty were identified in this way and 42 were contacted before recruitment closed. Expert participants were included if they indicated (1) current faculty affiliation with a United States college or university and (2) at least one published peer reviewed journal article or chapter with a topic of emerging adulthood, minority stress theory, and/or stress measure development, and they were excluded if (1) they were unable to provide electronic informed consent in English. On average, faculty held academic positions in their chosen field for 11 years ($SD = 6.73$). See Table 3 for Delphi Process SGM emerging adult and faculty content expert demographics.

Step 2 Procedures. All data collection and recruitment was completed online, as online data collection is an accepted modification of the Delphi process (e.g., Hepworth & Rowe, 2018; Rowe et al., 2019; Santaguida et al., 2018). Prospective participants accessed online information about the study and Delphi process through an email or posting, and then elected to click a link to continue to the informed consent. The screening, electronic consent, and all surveys were administered via Research Electronic Data Capture (REDCap). Participants entered their email address at this time and indicated whether they preferred to receive compensation in person as cash or virtually as an Amazon gift card. Participants were compensated \$10 for each completed rating form (\$20 total), in line with past online Delphi process compensation procedures (Rowe et al., 2019; Santaguida et al., 2018).

After providing demographics and data related to sexual identity, attraction, and behavior, and gender (Fraser, 2018; Wolff et al., 2017), participants used a 7-point (1 = Strongly

Disagree - 7= Strongly Agree) Likert-type scale to rate all 96 items from Step 1 individually on face validity (i.e., “Higher scores on this item would correspond with higher levels of SGM stress for emerging adults.”) and comprehension (i.e., “SGM emerging adults would understand this item as written and self-report their stress level reliably”). Participants were asked to provide qualitative open text comments for any item they rated a 4 (Neutral) or lower. Additionally, at the end of each survey round, participants were asked to provide open text responses to questions of discriminant validity, overall face validity, overall wording and comprehension, with an open space for any comments not captured by previous questions (Appendix B). Once all 18 participants had completed ratings for all items, participants were contacted again and asked to respond to a second REDCap survey. Four months elapsed between the earliest Round 1 survey completion and the earliest Round 2 completion. Of the 10 student and eight faculty participants who completed the first round of ratings, five and seven completed the second round respectively, falling within the expected attrition range of 40-60% (Rowe et al., 2019; Santaguida et al., 2018). In this follow-up survey, participants were provided with text responses and simple statistics (i.e., mean, median, mode, SDs) for all items from all other participant responses (See Appendix C). They were then asked to re-rate all items and instructed that changing their ratings was permitted (Niederberger & Spranger, 2020). The survey remained open until March 31, 2022, at which time no more responses were collected for the second round. A minimum of six members is recommended for a Delphi process (Fitch et al., 2001). Sufficient sampling was achieved, such that 18 participants were enrolled ($N = 8$ faculty content experts; $N = 10$ SGM college students) and 12 participants provided responses at Round 2 ($N = 7$ faculty content experts; $N = 5$ SGM college students).

Step 2 Data Analysis. Under Delphi Process methodology, panelists' responses are considered in agreement if all rankings fall within 3 points of the median (Fitch et al., 2001). Only items with a median rating of 5 or greater for all scores at the second round were automatically included in the Step 3 pre-testing administration, with items receiving below a 5 on either face validity or comprehension discussed by the research team and inclusion in the final measure only for items with unanimous approval (Holey et al., 2007; Schragar & Goldbach, 2017). Consensus was measured through standard deviations for means (Fitch et al., 2001), with smaller standard deviations between rounds indicating increased consensus.

All deidentified text responses from participants were downloaded from REDCap and uploaded to Dedoose (<http://www.dedoose.com>), a secure qualitative analysis software program. Thematic analysis was used to analyze this qualitative data, as it offers a theory-based approach for identifying commonalities of experience across participants (Kiger & Varpio, 2020), reinforcing the consensus building of the Delphi Process. In line with Kiger & Varpio's recommendations, the graduate PI read all qualitative responses and took notes on items or response patterns of interest to build familiarity with the dataset. A preliminary codebook was developed with seven parent codes and 18 child codes from these notes (See Appendix D). Each entry contained a model response, a brief definition, a full definition and guidelines for appropriate use of the code. Using the initial codebook, the graduate PI and another graduate member of the research team coded all qualitative responses by participant ID number, completing coding for four randomly selected participants before meeting to discuss coding difficulties, discrepancies, and emerging themes.

Step 2 Results. Initially 28 items were retained due to receiving an average score above a 5 on both face validity and comprehension. An additional 12 items that received average scores

below cutoffs were retained for theoretical reasons, described in the Step 1 and 2 Discussion below. Of the 40 items retained, all participant scores for both face validity and comprehension fell within 3 points of the median and SDs decreased for all items at Round 2, indicating increased consensus and agreement for final ratings. As such, participants were considered to be in agreement that approved items were valid and understandable representations of SGM stress.

Approximately half of comments (55%) related to comprehension or question wording and did not mention item content. Similar to a measure developed with sexual minority adolescents (Schrager et al., 2018), multiple participants noted the importance of specificity to the developmental stage of participants and the variation in what experiences are considered stressful. Four themes related to question content emerged over the two rounds of the Delphi process. The content themes were as follows: Differences between Gender and Sexual Minority stress, Non-Specific Stress Experiences, Non-Stressful Experiences, and Distal Stress Experiences. Themes, subthemes, and associated questions and comments are described in greater detail in Table 4.

Step 2 Discussion. The initial item pool contained 96 items, with the goal of this stage of the measure development process to reduce the number of items by approximately 50%. Ultimately, 68 items scored below a 5 on either comprehension or face validity during one or both rounds of step 2, with the research team meeting to discuss removals. Many of the emerging adult stress items (71%) received low scores on face validity in both rounds, as they had not been modified to be specific to SGM stress. These items were retained, as multiple participants left suggestions for ways to make the items more relevant to SGM stress, and the current project aimed to integrate SGM stressors with emerging adult stressors. All 40 items were modified to incorporate feedback from participants or standardize language and distributed for discussion

within the research team. A three-month time frame was chosen to allow for sufficient sampling and recall of substance use and stress experiences, as the majority of participants in previous studies of SGM stress and substance use over shorter time frames often reported no or limited SGM stress or substance use events (Livingston et al., 2017).

Several participants questioned the presence of distal stress items in the pool, reflecting a division in the literature that separates the distress an individual experiences about their gender identity and/or sexual orientation from experience of discrimination based on gender identity and/or sexual orientation (Douglass & Conlin, 2022). Both Meyer (2003) and Testa et al., (2015) hold that distal minority stress experiences contribute to the latent construct of overall SGM stress, and that experiencing a distal stressor contributes to negative health outcomes, even if the individual does not appraise the situation as stressful (Livingston et al., 2017; Slater et al., 2017). Previous measures of SGM stress that included both proximal and distal stressors demonstrated high validity and moderate correlation between proximal and distal stress factors (e.g., Balsam et al., 2013; Schrage et al., 2018), confirming proximal and distal stressors as interrelated yet distinct features of SGM stress measurement. After comments and feedback from the research team were resolved, pre-testing with the 40 item EAIMS was initiated (See Appendix E).

Step 3: Pre-Testing

Pre-testing participants were 11 undergraduate students ($M_{age} = 18.27$ [$SD = 0.65$, range = 18-20) recruited from Syracuse University over the Summer and Fall 2022 academic semesters. The majority of participants were white (64%), cisgender (91%), and identified as bisexual women (81%). Recruitment, screening, informed consent compensation, and data collection procedures occurred online, and were identical to procedures described in Step 1. Students were considered ineligible if they had participated in the Delphi Process described in Step 2.

Step 3 Procedures. Participants completed the 40 items approved for inclusion in the initial EAIMS using Likert-type scales (e.g., 1 = Strongly Disagree to 7 = Strongly Agree). Participants were asked to flag any questions that seemed (1) difficult to understand, (2) problematic, offensive, or exclusionary in their language, (3) unrelated to SGM emerging adult stress, or (4) for any other reasons and to provide qualitative feedback for all items they flagged. Items that were flagged by a majority of participants (60%) were modified if suggestions were provided and the research team met to discuss potential modifications to flagged items. Flagged items were excluded if no comments were provided and the research team was not able to suggest modifications. Participants also completed all validity measures intended for use in Step 4 to collect data on average completion time for the full measure set.

Step 3: Measures.

Emerging Adult Inventory of Minority Stress - Pre-test. (Appendix E) The Emerging Adult Inventory of Minority Stress (EAIMS) at the time of pre-test was a 40-item measure of SGM emerging adult stress. In the pre-testing phase, internal consistency was excellent for the entire measure (Cronbach's $\alpha = .92$). Participants also answered qualitative questions on overall understanding of items, ease of completing the survey as well as quantitative questions on survey length and question language (See Appendix F).

Alcohol Use and Consequences. Alcohol use and consequences were assessed using the 10-item Alcohol Use Disorder Identification Test modified for a three-month range (AUDIT; Babor et al., 2001; Saunders et al., 1993).

Cannabis Use and Consequences. Cannabis use and consequences were assessed using the 8-item Cannabis Use Disorder Identification Test - Revised (CUDIT-R; Adamson et al., 2010).

Anxiety and depression. Anxiety was assessed with the 7-item General Anxiety Disorder -7 (GAD-7; Spitzer et al., 2006). Symptoms of depression were assessed using 8-items from the Patient Health Questionnaire (PHQ-8; Kroenke et al., 2001, 2009).

Daily Heterosexist Experiences Questionnaire. The Daily Heterosexist Experiences Questionnaire (DHEQ; Balsam, Beadnell, & Molina, 2013) is a 50-item measure of proximal and distal SGM stress. Subscales for the DHEQ include Gender Expression, Vigilance, Parenting, Discrimination/Harassment, Vicarious Trauma, Family of Origin, HIV/AIDS, Victimization, and Isolation. Participants used a Likert-type scale (0- 5) to indicate how much an experience bothered them over the past 3 months. In the original study by Balsam et al. (2013) of SGM adults, internal consistency was excellent for the entire measure (Cronbach's $\alpha = .97$).

LGBTQ College Campus Climate Scale. The LGBTQ College Campus Climate Scale (Szymanski & Bissonette, 2020) is a 6-item measure of SGM related attitudes and policies on college and university campuses, with two subscales: College Response to LGBTQ Students and LGBTQ Stigma. Participants use a 7-point Likert-type scale to indicate how true they perceive a statement to be about their campus. In the original study of SGM college students, internal consistency was excellent for the entire measure (Cronbach's $\alpha = .87$).

Stress and Adversity Inventory for Daily Stress (STRAIN). General life stress was measured using the Stress and Adversity Inventory for Daily Stress (STRAIN; Shields et al., 2017; Slavich & Shields, 2018) is a 17-item scale that asks participants to indicate the frequency of stress events over the past 3 months from 0 = did not happen/not applicable to me to 5 = 5 or more instances. In the original study of mixed gender adults, test-retest reliability was excellent for the measure (r values $\geq .87$, p values $< .001$; Slavich & Shields, 2018).

Step 3 Results. All but one participant completed the 40 item EAIMS between 6 and 25 minutes. No participants indicated transgender identity or history as the identity they considered while completing items, but the one nonbinary participant did select “gender” as a salient identity. Nine participants indicated they thought of their sexuality, of those, three also endorsed gender, and of those three one also endorsed race. One participant completed all EAIMS items but did not complete any post-survey items. The majority of participants ($N = 7$) selected LGBTQ+ as preferred community language. The majority ($N = 6$) also indicated the survey was “Not too short or too long” and that they ($N = 8$) would be “likely” to “very likely” to complete a survey similar to the EAIMS if they encountered it online.

The optimal median response time to promote survey completion is 10 minutes and the maximum average response time for maintaining data quality is 20 minutes (Revilla & Ochoa, 2017). Excluding the two participants who did not complete all validity measures, the nine participants who completed all measures in a single sitting took an average of 42 ($SD = 45.4$) minutes to complete all forms, with 5 participants completing in under 25 minutes. Our goal was to achieve an average survey completion time under 30 minutes, similar to previous survey research with SGM emerging adult college students (Kalb et al., 2018).

Qualitative Data. Overall, participants did not indicate disagreement with the selection of items, the language used, or the phrasing of items. Several participants mentioned stress from “coming out” as a potential area of identity concealment that was not indexed. To address this, the item “If I come out, it will cause problems with my family and/or friends” from the Sexual Minority Adolescent Stress Inventory was added to the measure (Schrager et al., 2018). Several participants also highlighted that some questions were not specific to transgender experiences, so

questions were modified to refer to “gender and/or sexual orientation” and language in the instructions specifically mentions transgender identity.

Steps 4 -7

The goal for steps 4-7 was to administer and validate the 41-item version of the EAIMS developed in Steps 1-3. A national sample was recruited from LGBTQ+ resource center list serves, social media, and online forums in order to promote generalizability of the EAIMS with a more diverse sample and increase the variability in stress exposure from different institutions. Item Response Theory was used to evaluate items, removing items that did not contribute to factor or scale scores. Subsequently, an Exploratory Factor Analysis (EFA) was completed to evaluate the factor structure of the new measure and determine if it matched the two-factor structure proposed by Meyer (i.e., proximal, distal; 2003). Finally, construct validity was assessed by replicating theoretically predicted relationships between the measured construct (SGM stress) and outcome measures (alcohol use and consequences, cannabis use and consequences, anxiety and depression). Divergent validity was assessed by correlating the EAIMS scores (factor, total) and age. Reliability was measured through Cronbach’s alpha of EAIMS factors and total scale scores. A new sample of SGM emerging adult college students was recruited online ($N=218$) and administered the 41-item EAIMS. Eligibility requirements were identical to Step 3, with the exception that participants could attend *any* college or university in the US and could not have participated in Steps 2 or 3.

Steps 4-7 Participants

Participants were 218 U.S. college-attending emerging adults between the ages of 18 and 25 who did not identify as cisgender and heterosexual, of which 205 completed all measures. All participants identified with either a marginalized sexual identity, gender identity, or both, with

66% of participants indicating a marginalized sexuality only, 2% indicating a marginalized gender only, and 32% indicating both a marginalized gender and a marginalized sexuality. On average, participants reported attending schools where the campus climate was neither strongly supportive nor strongly hostile to LGBTQ+ students, in line with previous research (Szymanski & Bissonette, 2020). Comparison of the recruitment sources on demographics via chi square tests indicated a significant difference for age ($p < .001$), gender ($p < .05$), Hispanic or Latine heritage ($p < .05$), and transgender status ($p < .005$); all other differences were non-significant (see Table 5).

Steps 4-7 Procedures

Materials describing the study were distributed through social media and LGBTQ Resource Center email lists and posted to SONA. Recruitment, screening, informed consent, compensation, and data collection procedures occurred online, and were similar to procedures described in previous steps. A total of 174 colleges were contacted, and 25 colleges agreed to distribute recruitment materials. Information describing the survey was also posted to 13 online Reddit forums or Facebook Groups related to SGM identity. The majority of participants accessed the survey after receiving an email or seeing a flyer at an LGBTQ+ resource center (57%), followed by those recruited through social media (28%), and through the Syracuse University SONA system (15%). Participants in the final sample reported attending 87 different colleges in 31 states.

Eligible participants completed the 41-item EAIMS (Appendix G) and measures of alcohol use and consequences, cannabis use and consequences, anxiety, and depression described in Step 3. To control for order effects, questionnaire order was randomized. Participants recruited through listservs and social media could enter a raffle for one of two \$25 Amazon gift cards

upon consent by supplying an email address, with access to a raffle for one of forty \$25 Amazon gift cards upon survey completion. Of the 781 participants who completed the screener, 60% ($N = 468$) were eligible and 44% of those eligible completed the full survey with all measures ($N = 205$). The survey took participants an average of 25 minutes to complete.

Steps 4-7 Reliability and Validity Data Analysis

Data management. Data collection was monitored daily throughout the study for completion and common errors by human inspection and computer algorithms. A codebook was created describing each variable and scoring system. Upon completion of data collection, any survey responses that (1) did not indicate any SGM status (2) did not indicate age between 18 and 25 (3) did not contain one at least 75% complete measure of either alcohol use and consequences, cannabis use and consequences, anxiety, or depression, (4) did not contain an at least 75% completed DHEQ, or (4) did not contain an at least 75% completed EAIMS were examined for removal. In the final sample, the correlation between the missingness of EAIMS items and gender, race and sexual orientation ($r_s < .05$) was examined, with no significant correlations, suggesting that data were missing completely at random. Little's MCAR test was also non-significant for the full data set (Chi-Square = 1495.59, DF = 17515, $p = 1.00$). All eligible participants who began the EAIMS measure completed over 75% of items for the measure, and so were included in the final data set. Responses for individual measures that were 75% or above complete were addressed through full-information maximum likelihood imputation of missing data values (Mazza, Enders, & Ruehlman, 2015).

Attention and accurate responding were assessed by asking participants (1) how much attention they devoted to the survey on a scale of 0 = no attention to 5 = 100% of their attention and (2) if they believed their responses should be used in research (yes/no). Those who indicated

they devoted no attention to the survey (0) or that they did not believe their responses should be included in research were excluded from the final analysis. No eligible participants were removed from the final data set due to the attention check. In addition to attention checks, participants were assigned a code during the screening process to enter before beginning the full survey, linking their responses. Participants that were not able to provide a valid code were examined for good faith responses, with potential removal for invalid or contradictory responses. All participants who were removed for this reason did not provide evidence of eligibility in their responses, thus no eligible participants were removed in this way.

Power Analysis. There are various recommendations regarding minimum sample size and respondent-to-item ratio for EFA, ranging from 5:1 to 20:1, and minimum $N = 200$ suggested for EFA (Kyriazos, 2018; MacCallum et al., 1999). Ultimately 276 participants consented and completed at least one survey item, with 205 eligible participants completing all measures and an additional 13 completing the EAIMS and at least one validity measure, above the suggested minimum. The criterion for statistical significance was set to an alpha level of .05. Bonferroni corrections were used to address use of multiple comparisons within models.

Item Response Theory (Step 5). R was used to conduct all IRT analyses through the *irt* and *mirt* packages. Measurement invariance for the final model across race and ethnicity (non-Hispanic white, all other races/ethnicities), transgender status, and sexual orientation (lesbian/gay/homosexual, asexual, bisexual/pansexual) was evaluated through multi-group analysis with constrained item loadings and item intercepts across groups using the *lavaan* package of R (Liu et al., 2017; Millsap & Yun-Tein, 2004). Groups were formed to allow for sufficient sample size for analysis, and participants who did not identify with a group large enough for analysis were not included in measurement invariance models. Differential item

functioning was indexed through one-parameter logistic models for each item (Harvey & Hammer, 1999; Zanon et al., 2016), with likelihood ratio tests comparing the models with the direct effect of the grouping variable to those without. According to Weston and Gore (2006) when sample sizes are less than 500, models with a comparative fit index (CFI) and Tucker Lewis index (TLI) of .95 or greater and root mean square error of approximation (RMSEA) and root mean square residual (RMR) values less than .06 signify an excellent fitting model. Models with CFI and TLI values between .90 and .94 and RMSEA and RMR values between .06 and .10 signify an adequate fit to the data. Inter-item correlations were examined to detect redundancy, with any items correlated above .5 with any other item considered for removal (Field, 2018).

Exploratory factor analysis and reliability (Step 6). SPSS was used to complete exploratory factor analysis and parallel analysis was completed using the paran package for R. A significant Bartlett's test of sphericity and a Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) above the acceptable minimum of 0.50 was used to determine if patterns of correlations are compact and factor analysis can be used to reliably identify distinct factors (Field, 2018). Parallel analysis was used to determine the minimum eigenvalue necessary for inclusion for each factor (Glorfeld, 1995), and any factor where the initial eigenvalue exceeds the average from the parallel analysis was included (Hayton et al., 2004). Items that loaded at least moderately (≥ 0.40) onto only one factor were included, items that loaded between 0.40 and 0.30 on one factor or that loaded moderately (≥ 0.40) on more than one factor were examined for inclusion on the basis of theoretical rationale (Osborne et al., 2008), and items that loaded below 0.30 on all factors were excluded (Field, 2018). As the data was not normally distributed, principal axis factoring was used in exploratory factor analysis. Direct oblimin rotation was used,

as proximal and distal stress are theorized to be correlated with each other. Cronbach's alpha and split-half reliability was used to index reliability for the overall measure and for each factor.

Validity Analyses (Step 7). Criterion validity was examined through correlation between EAIMS and DHEQ total scores. A series of bivariate correlations for each outcome (cannabis use, alcohol use, alcohol consequences, anxiety, and depression) were used to evaluate concurrent construct validity by examining the association between the EAIMS total score, followed by partial correlations controlling for general stress. Divergent validity was examined through bivariate correlations between age and EAIMS total and factor scores.

Steps 4-7 Reliability and Validity Results

Item response theory. On the 41-item EAIMS, participants reported mean scores of 167 ($SD = 33.05$, range 51-287). There were no gender ($F(4, 183) = .46, p = .76$), transgender status ($t(174) = 1.14, p = .26$), or racial/ethnic ($F(6, 184) = 1.22, p = .30$) differences for variance. Variance for sexual orientation differed significantly ($F(4, 184) = 3.70, p < .01$), with those indicating homosexual, lesbian or gay reporting the highest mean ($m = 173, SD = 33.55$), and those reporting that no specific orientation label fit reporting the lowest ($m = 167, SD = 50.81$).

The full model with all 41 items demonstrated modest fit (RMSEA = 0.14 (0.14-0.14), RMR = .13, CFI = 0.68, TLI = 0.67), but all items displayed adequate fit with the model as evidenced by RMSEA values below .06. The interim mean of all items was .18, approaching the suggested .2 level, but indicating that the 41 items did not represent a homogenous construct. A total of 18 items had inter-item correlations below .2, and 3 items had item total correlations below .3. In 1 parameter logistic models, the same 3 items evinced item discrimination below .14, indicating they could not adequately distinguish between participants at different trait levels. These three items were removed from the data set, and all IRT analyses were re-run.

Deleting the 3 items improved model fit but did not achieve acceptable levels (RMSEA = 0.127 (0.122-0.131), RMR = .12, CFI = 0.75, TLI = .74). Examination of inter-item and item total reliability indicated that mean inter-item correlation was acceptable for the total scale ($r = .22$), but 17 items demonstrated low item total reliability, suggesting removal. Inter item correlations were above .5 for 9 of the items considered for removal, with 4 of these items also demonstrating low item total reliability, suggesting redundancy. Removal of these 17 items demonstrated acceptable fit for the total model (RMSEA = 0.08 (0.067-0.088), RMR = .09, CFI = 0.92, TLI = .91), as a result, factor loadings were compiled for the 21-item measure.

Measurement invariance for the final model indicated differences in means between non-Hispanic white and other participants (Df(378), AIC = 16513, BIC = 16790, Chisq diff = 58.253, $p < .01$) and transgender and cisgender participants (Df(378), AIC = 16114 BIC = 16390 Chisq diff = 81.522, $p < .001$). These results support weak invariance of factor loadings between groups, but not strong invariance of intercepts. Both weak invariance and strong invariance were supported for sexual orientation, indicating that the latent construct of emerging adult minority stress functions similarly across groups regardless of sexual orientation identification.

Exploratory Factor Analysis. Tests of correlations within the data (chi-square test of sphericity = 1618.61, $p < .001$) and sampling adequacy (Kaiser-Meyer-Olkin measure of sampling adequacy = .85) indicated the data was appropriate for factor analysis. The initial model produced a 6-factor solution, but 2 items failed to load above .3 on any factor. The two items mentioned experiencing either general “judgement” or “suspicion” related to LGBTQ+ identity and loaded most strongly with items that indexed rejection in the context of relationships. As social relationships are particularly salient for emerging adults (Salvatore & Daftary-Kapur, 2020), the two items may have failed to load because they index a general fear of

rejection rather than the emerging adult specific relational context. As such, both items were removed. Factor analysis was completed on the 19-item measure, with one factor dropping below an eigenvalue = 1, resulting in a 5-factor solution. All items loaded above .4 on one factor with no cross-loadings in the five-factor model. Final item content, factor loadings, and communalities (h^2) are displayed in Table 6. Inter-item correlations ranged from .01 to .69, with a mean interitem correlation of .24. Parallel analysis with 5000 iterations confirmed a 5-factor structure. The final model demonstrated excellent fit for the data (RMSEA = 0.03 (0.01-0.05), SRMR = .04, CAF = 0.49, TLI = .97; see table 7).

The first 6-item factor explained 30% of the variance and described events of discrimination or violence and so was labeled **Distal Stress**. The second 4-item factor explained 11% of the variance and described negative self-thoughts that related to SGM status and so was labeled **Internalized SGM Negativity**. The third 4-item factor explained 8% of the variance and was related to potential negative responses and changes in behavior from family and friends and in relationships more broadly related to SGM status, and so was labeled **Relational Vigilance**. The fourth 2-item factor explained 6% of the variance and contained questions of identity uncertainty and exploration, and so was labeled **Identity Instability**. The fifth 3-item factor explained 5% of the variance and described a sense of anxiety and potential for unfair treatment related to SGM identity, and so was labeled **SGM Identity- Related Apprehension**. The five factors explained a cumulative 59% of variance. The correlations between these factors fell between .10 and .60 (See table 8). This indicates that while the factors are related, at most they share less than 10% of the variance, and so multicollinearity is not a concern (Tabachnick & Fidell, 2007). The final 19-item scale is presented in Appendix H.

Bifactor Modeling was used to index dimensionality. The bifactor model (Figure 2) indicated that the items loaded well onto the proposed factors and the general factor provided weaker loadings for all items. These results suggest that the individual sub scales provide sufficient information to index particular categories of emerging adult stress experience. Given this, the EAIMS used a single total score for the final 19 items for all validity analyses, with the 5 subscales entered separately for exploratory analysis.

Reliability. Cronbach's alpha ($\alpha = .87$) and split half reliability were both excellent for the final 19-item scale ($rs = .86$). The 2-item Identity Instability items were significantly correlated at the bivariate level ($r = .60, p < .001$). For the larger subscales, Distal Stress ($\alpha = .84$), Internalized SGM Negativity ($\alpha = .77$), and Relational Vigilance ($\alpha = .73$) demonstrated excellent reliability, while the three item SGM Related Apprehension subscale approached acceptable reliability ($\alpha = .66$).

Validity. Item level responses were examined for outliers truncated to three standard deviations above or below the group mean of each validity measure (Tabachnick & Fidell, 2007). No outliers were found. All validity and EAIMS scale and total scores met assumptions of normality as evidenced by both skewness and kurtosis below cutoffs (Skewness > 2.0 , Kurtosis > 2.0 ; George & Mallery, 2010). Means and standard deviations for validity variables and the 19 item EAIMS are found in Table 9. Significant bivariate correlations between predictor variables were greater than .21 and well below the cutoff of .8, suggesting limited concerns with multicollinearity (Field, 2018).

Criterion validity was established through bivariate correlations between the EAIMS total score and the Daily Heterosexist Experiences Questionnaire Distress score. The DHEQ demonstrated a moderate positive correlation with the EAIMS total score ($r = .56, p < .001$),

indicating that while the two constructs are related, the EAIMS indexes a distinct latent construct. The EAIMS was significantly and positively correlated with alcohol use ($rs = .39, p < .001$), cannabis use ($rs = .21, p < .01$), anxiety ($rs = .21, p < .01$), and depression ($rs = .31, p < .001$) supporting the hypothesized association between greater emerging adult minority stress and greater symptoms of substance use and mental health-related problems. Age ($rs = .26, p < .001$) was significantly associated with emerging adult minority stress. When subscale scores were considered separately, distal stress ($rs = .45, p < .001$) and SGM related Apprehension ($rs = .20, p < .005$) were the only factors associated with age.

Exploratory Analyses. As age and general life stress were significantly associated with AUDIT total score, they were included as covariates in the exploratory analyses. When subscale scores were entered into the model, Distal Stress ($\beta = .47, p < .001$), Relational Vigilance ($\beta = .26, p < .001$), Internalized SGM Negativity ($\beta = .15, p < .05$), and SGM Related Apprehension ($\beta = .20, p < .01$) were positively associated with AUDIT total score, explaining over 20% of the variance ($\Delta R^2 = .23, p < .001$). The final model explained 55% of the variance in AUDIT total score (see Table 10). General life stress was significantly associated with CUDIT-R total score, so was included in Step 1 of exploratory analysis. When subscale scores were entered into the model at Step 2, Distal Stress ($\beta = .35, p < .001$) and Relational Vigilance ($\beta = .21, p < .05$) were positively associated with hazardous cannabis use, explaining over 10% of the variance ($\Delta R^2 = .11, p < .001$). The final model explained 24% of the variance in hazardous cannabis use (see Table 10). For symptoms of anxiety, Distal Stress ($\beta = .31, p < .001$) and SGM related Apprehension ($\beta = .36, p < .001$) were positively associated with anxiety, explaining 10% of the variance after controlling for general life stress ($\Delta R^2 = .10, p < .001$). The final model explained 30% of the variance in anxiety related symptoms (see Table 10). Finally, for symptoms of

depression, Distal Stress ($\beta = .18, p < .05$) and SGM related Apprehension ($\beta = .25, p < .01$) were positively associated with depression after controlling for general life stress, explaining nearly 10% of the variance ($\Delta R^2 = .09, p = .001$). The final model explained 27% of the variance in depression related symptoms (see Table 10).

Discussion

This study developed and validated a new measure of emerging adult minority stress (Emerging Adult Inventory of Minority Stress; EAIMS) with a national sample of sexual and gender minority undergraduate students. This project advances the literature by producing the first measure of SGM stress developed and validated with emerging adults while following best practices for measure development (Boateng et al., 2018). The new measure did not evidence the predicted two-factor proximal and distal stress structure; rather one factor indexed Distal Stress and three factors (Internalized SGM Negativity, Relational Vigilance, SGM Related Apprehension) seemed related to proximal stress (Internalized Homophobia, Expectations of Rejection). It is important to note that SGM Related Apprehension seems to differ from both Internalized Homophobia and Expectations of Rejection in that it expresses a general sense that SGM status contributes to fears about life circumstances without ascribing the negativity to a specific event or belief about being SGM. This is, however, congruent with Arnett's conceptualization of Emerging Adult Negativity/Instability (Arnett, 2000, 2005) as a time of general worry due to unpredictability about the future and uncertainty surrounding choices and outcomes. Criterion validity was demonstrated through moderate association between the EAIMS total score and an existing measure of minority stress, supporting our hypothesis that the new measure is similar yet distinct from widely used measures of SGM stress developed with adults.

Our hypotheses concerning concurrent construct validity were supported, as the EAIMS total score was positively, and significantly, associated with alcohol use, cannabis use, depression and anxiety. The significant associations at the bivariate level are promising, as multiple studies using existing measures of minority stress designed for adults report non-significant associations for these same outcomes (e.g., McDonald et al., 2021; Parra et al., 2018; Puckett et al., 2017; Swann et al., 2019). The EAIMS is also substantially shorter (19 items vs 50 items and 31 items) than existing measures for SGM and emerging adult stress respectively. These findings suggest that the EAIMS could prove a useful brief tool for assessing both SGM and emerging adult stress and their associations with mental health and substance use outcomes.

Similar to existing measures of SGM stress, the EIAMS did not demonstrate significant associations between all factors and outcomes, but the total score did evince significant associations with all outcomes. Among the EAIMS factors, Distal Stress was associated with all outcomes, SGM Related Apprehension was associated with alcohol use, depression, and anxiety, Relational Vigilance was associated with alcohol use and cannabis use, and Internalized SGM Negativity was associated with alcohol use in adjusted models. However, Identity Instability was not associated with any outcome while still contributing to the larger emerging adult stress construct. This suggests identity instability in isolation may not be experienced as stressful by emerging adults, which participants raised as a possibility early in the item development process. Emerging adult specific stress is variably associated with mental health and substance use outcomes (Davis et al., 2018; Murray et al., 2020), so it is possible identity instability could contribute to how emerging adults respond to the other SGM stress factors, increasing levels of the latent SGM emerging adult stress variable and strengthening associations with mental health and substance use outcomes through that pathway. Variance in how subscales related to

outcomes highlights the potential for differences in how stressful different aspects of SGM emerging adult stress are appraised to be, and ways this age cohort may differ from other groups.

Distal stress is frequently associated with mental health and substance use outcomes among SGM adults (e.g., Bostwick et al., 2014; Busby et al., 2020; Feingold et al., 2015), but the literature among emerging adults is mixed (Dyer et al., 2015; Lea et al., 2014). Distal Stress items related to discrimination from school counselors, employers and supervisors may be particularly salient for emerging adults who are potentially navigating interactions with authority figures without caregiver oversight for the first time (Arnett, 2004; Baggio et al., 2017; Cui et al., 2019). Our Distal Stress factor may be more comprehensive than other measures, in that it contains items that index physical and verbal violence as well as employment and school related discrimination. Given this, it is possible our Distal Stress Factor may have demonstrated associations with both mental health and substance use outcomes because it offered the most direct measure of distress compared to the other subscales, which tended to describe an indirect sense of negative affect rather than specific events.

While Identity Instability was not associated with any outcome, the SGM Related Apprehension factor also contained items drawn from the emerging adult literature that characterize the current period of life as one marked by stress and worry due to gender identity and/or sexual orientation, concepts which are not reflected in other measures of SGM stress (Schrager & Goldbach, 2017). These emerging adult specific factors are theorized to relate to substance use and mental health outcomes (Salvatore & Daftary-Kapur, 2020), with lack of support from parents and peers highlighted as a contributing factor to this emerging adult developmental distress. Relatedly, the Relational Vigilance factor's association with alcohol use aligns with the existing emerging adult (Yang et al., 2019) and SGM adolescent alcohol use

literature (McDonald, 2018), with positive associations between rejection and greater alcohol use and consequences. However, Relational Vigilance and SGM related Apprehension were not associated with anxiety and depression in models where all subscales were included. Anxiety and depression may be moderated by peer support (Parra et al., 2018), weakening associations between anxiety and depression for these factors, which future studies could investigate. Taken together, our subscales support Meyer's model of minority stress in some ways, while suggesting that incorporating concepts from the emerging adult literature reflecting the roles of parents, authority figures, and sense of negativity and instability in the current period of life could strengthen the model's application to this developmental stage.

Contrary to our hypothesis, age was correlated with total EAIMS score, with distal stress and SGM related Apprehension driving the association. As our data was collected over the Summer and Fall of 2022, it is possible that participants who were already emerging adults when COVID-19 related restrictions began experienced a disruption of their adult identity development (Halliburton et al., 202; Mitchell et al., 2022), and so responded to questions of SGM emerging adult stress differently. Research on social distancing restrictions impacts on SGM emerging adults suggest lower connection to SGM community, and less sense that current problems were attributable to SGM discrimination after restrictions were in place (Scroggs et al., 2021; Woznicki et al., 2021). The youngest members of our sample (age 18) who identified as LGBTQ+ upon entering college may have come from more supportive environments and identity security (Dunlap, 2016), where our oldest members (age 25) likely represented a range of support and identity structures built during college. Longer term exposure to stressors like distal stress without parental support could further explain the association between age and higher rates

of SGM emerging adult stress in the sample. Administering the measure to a new sample who all began emerging adulthood during social distancing could address this concern.

In summary, our new measure demonstrated excellent reliability and criterion validity and promising construct validity across subscales. This work raises the possibility that emerging adult substance use and mental health symptoms are more responsive to SGM factors like distal stress and SGM related Apprehension than to emerging adult factors like identity exploration and instability. The significance of age in several models highlights the presence of developmental factors, and the possibility of difference even within developmental stages. Our final measure incorporates both emerging adult and SGM stress factors, indicating the potential for models of developmentally specific SGM stress and related interventions. The EAIMS advances the field by integrating SGM and emerging adult stressors, highlighting how the simultaneous experience of these stressors could more accurately describe stress and health behaviors among SGM emerging adults than by considering each stressor in isolation.

Limitations

This study has several limitations to note. First, the item development sample was primarily White and non-Hispanic or Latine students. A more diverse sample is needed to increase generalizability of items and account for intersections between race, gender, and sexual orientation that impact experiences of minority stress. “Double discrimination” (Hayes et al., 2011; Williams et al., 2020), the experience of multiple compounding minority stress experiences, could lead to differences in SGM emerging adult stress responses between participants (e.g., transgender women of color and cisgender white men). At the pre-testing phase, one multi-racial participant indicated that they considered race, gender, and sexuality while completing the items, raising the possibility that other participants in the validation phase

responded similarly. Limited research examines race within the context of emerging adult stress (Syed & Mitchell, 2016) or identity development (Parmenter et al., 2020), but recent studies suggest greater endorsement of emerging adult stress among white participants (Zorotovich & Johnson, 2019) and greater substance use as a result (Spencer et al., 2021). A more diverse sample at the item development phase and qualitative questions related to the role of identity intersectionality while responding to items could ensure a more representative and comprehensive conceptualization of emerging adult SGM stress.

Second, our initial item pool contained more items drawn from SGM stress measures than emerging adult stress measures. The literature for SGM stress measures is more developed than the emerging adult stress literature, and as a result, there are fewer measures to draw from and less validation of existing emerging adult stress measures with SGM emerging adults. The final measure contains only five items drawn from emerging adult stress measures, and the one item drawn from the EASI (Item 7 in the final measure) references disagreements between family members, which is not emerging adult specific. No items related the emerging adult concepts of identity exploration or experimentation/possibilities were included in the final scale, and it is possible that these experiences were not viewed as stressful when compared to the negativity/instability items that remained.

Finally, all items in the EAIMS mention both gender and sexual orientation, rather than creating a transgender minority stress subscale as some participants suggested in the item development phase. The pre-testing question assessing which identities were most salient was not included in the validation sample, making it difficult to determine whether participants would answer questions differently if gender identity and sexual orientation were separated. Some research with SGM youth suggests conflation of sexuality and gender identity (Bates et al., 2020;

Hammack et al., 2022), however, much of the minority stress measurement literature focuses on sexual orientation or gender identity in isolation (Schrager & Goldbach, 2017). While EAIMS total and factor scores were not significantly associated with transgender status, thoughtfulness about variations and intersections of different SGM identities is warranted in future studies.

Directions for Future Research and Implications for Clinical Practice

Future research could validate the factor structure and associations found here with a larger national sample that contains greater racial and ethnic diversity, potentially including adolescents or older adults to affirm the specificity of the measure. A valuable next step would be validation with a comparison sample of non-college attending SGM emerging adults. While much of the research conducted with SGM emerging adults draws primarily from college student samples, research with a sample of emerging adult current college students, graduates, and non-students suggested that living outside the home was more strongly associated with developmental identity than college status itself (Blevins et al., 2021). Existing measures of emerging adult stress have been validated in non-college samples with comparable responses to college samples (Zorotovich & Johnson, 2019), and validation of the EAIMS with a non-college sample could support the generalizability of SGM emerging adult stress across the emerging adult developmental stage, rather than specifically to the US college environment.

The role of protective factors like group identification to reverse or weaken associations between minority stress and mental health and substance use outcomes is also important to consider (Scroggs & Vennum, 2021). The EAIMS does not contain any items that index moderating factors like coping with SGM stress, resilience, or connection to community supports (Schmitz & Tyler, 2019). Future projects could include these measures to further validate the EAIMS and build a more comprehensive model of SGM emerging adult stress. For example, a

question similar to one included in our pre-testing phase that evaluated which aspect of identity was most salient when the participant was completing the survey. It is possible that some identities may be more salient during different periods of time than others, for example an individual could actively question their sexuality for several months while feeling stable in their gender. A further area of refinement could include comparisons of stress responses for different time periods, for example, asking participants to reflect on the past month or the past 12-months. As SGM stress models presuppose an event level association between stress and health outcomes, modification of the EAIMS for daily diary or Ecological Momentary Assessment would allow for testing whether specific experiences of SGM emerging adult stress are associated with greater anxiety, depression, or substance use temporally. As a whole, the EAIMS could be applied in a variety of research settings to assess whether the mixed literature on SGM stress and mental health and substance use outcomes is due to a lack of association between variables, or if a developmentally tailored instrument like the EAIMS better captures SGM stress with this population.

The EAIMS holds important clinical potential as well. This new measure suggests the possibility of a modified minority stress model for SGM emerging adults, maintaining Distal Stress, grouping Internalized SGM Negativity, Relational Vigilance, SGM Related Apprehension under proximal stress, and adding emerging adult stress through Identity Instability (see Figure 3). SGM emerging adults in therapy may benefit from a discussion of the ways their beliefs about themselves, other SGM people, and their current developmental stage inform their self-concept, stress experience, and related health behaviors. Additionally, the EAIMS could be useful in intervention development, either in the creation of affirmative interventions to reduce rates of SGM emerging adult stress directly or as part of an intervention reducing negative

substance use or mental health outcomes through improved coping with SGM emerging adult stress. By recognizing the unique developmental experiences of SGM emerging adults, clinicians and researchers can improve applicability and reduce discrepancies associated with SGM stress models, interventions, and measures developed for adolescents and adults.

Conclusion

SGM emerging adults report higher rates of substance use and mental health symptoms compared to cisgender and heterosexual peers (Baker, 2019; Gonzalez et al., 2017; Medley et al., 2016). Minority stress models and emerging adult stress models both describe processes which may play a role in SGM emerging adult health behaviors, yet they are infrequently employed together. The EAIMS is a newly validated measure that adapted existing measures of SGM stress and emerging adult stress to better reflect the intersection of developmental and sexual and/or gender minority stress factors that SGM college students face. While this SGM stress measure is tailored to emerging adults, further assessment may help distinguish it from existing measures of emerging adult and SGM stress. More research is needed to extend validity of the EAIMS and incorporate the coping, community, and resilience building processes that inform how SGM emerging adults experience and respond to SGM and developmental stress during this life stage. Overall, the Emerging Adult Inventory of Minority Stress synthesizes the emerging adult and SGM stress measure literature, suggesting potential for a SGM stress model modified for the specific emerging adult identity experiences and stressors of this unique developmental stage.

Table 1*CCMS Participant Demographic Characteristics*

Variable	Total (<i>N</i> = 122) %
Age	<i>M</i> = 20.88 (<i>SD</i> = 2.00)
Race or Ethnicity	
White	76%
More than one Race	10%
Black	6%
Asian or Pacific Islander	5%
Another race or ethnicity	3%
Hispanic or Latine	
Yes	12%
No	88%
Gender	
Women	37%
Men	29%
Non-binary	26%
Agender	4%
None of these fit	4%
Sexual Orientation	
Bisexual/Pansexual	54%
Asexual	6%
Homosexual	33%
Heterosexual	2%
None of these fit	5%
Transgender Status	
Transgender	43%
Cisgender	57%

Table 2*Step 1 - Emerging Adult and SGM Stress Measure Psychometrics*

Theoretical domain	Measure Name	Number of Items	Cronbach's α
Proximal Stress (Internalized Homophobia)	Internalized Homophobia Scale (IHS)	20	$\alpha = .92$
Proximal Stress (Internalized Transphobia)	Gender Identity Self-Stigma Scale (GISS)	8	$\alpha = .87$
Proximal Stress (Concealment)	Gender and Sexual Minority Presentation Management Inventory (GSPMI)	5	$\alpha = .91$
Proximal Stress (Expectations of Rejection)	Lesbian, Gay, and Bisexual Identity Scale - acceptance concerns (LGBIS)	3	$\alpha = .79$
Proximal Stress (Expectations of Rejection)	Vigilance for Others' Suspicions scale (VOS)	3	$\alpha = .84$
Distal Stress (Violence)	Violence Scale	9	$\alpha = .85$
Distal Stress (Discrimination)	Heterosexist Harassment, Rejection, and Discrimination Scale (HHRDS)	14	$\alpha = .97$
Distal Stress (Microaggressions)	Homonegative Microaggressions Scale - Assumed Deviance and Second-Class Citizen (HMS)	17	$\alpha = .93$
Emerging Adult Stress	Inventory of the Dimensions of Emerging Adulthood - Identity Exploration, Experimentation/Possibilities, and Negativity/Instability (IDEA)	14	$\alpha = .85$
Emerging Adult Stress	Emerging Adult Stress Inventory - Stress of Family/Home Life, Stress of Peers/Friends, Stress of Romantic Relationships, Stress of Employment (EASI)	22	$\alpha = .80-90$

Notes: HHRDS items modified to include SGM individuals broadly (Sutter & Perrin, 2016). The HHRDS contains two items that are nearly identical in their wording to questions on the violence scale. The EASI contains 6 items that index disagreement with family members, 5 items that index employment discrimination, and 1 item that indexes disagreements with friends, which are similar to items in the HHRDS in terms of their content and wording.

Table 3*Step 2 – Content Expert Participant Demographic Characteristics*

Variable	Student (<i>N</i> = 10)	Faculty (<i>N</i> = 8)
Age	<i>M</i> = 19.40 (<i>SD</i> = 0.97)	<i>M</i> = 23 (<i>SD</i> = 1.48)
	<i>N</i>	<i>N</i>
Race or Ethnicity		
White	7	7
More than one Race	1	0
Black	0	1
Asian or Pacific Islander	1	0
Another race or ethnicity	1	0
Hispanic or Latine		
Yes	1	0
No	9	8
Transgender Status		
Transgender	4	3
Cisgender	5	5
None of these fit	1	0
Gender		
Woman	5	3
Man	1	3
Non-binary	4	1
None of these fit	0	1
Sexual Orientation		
Bisexual/Pansexual	5	1
Asexual	1	0
Homosexual	3	1
Heterosexual	0	3
None of these fit	1	3

Table 4
 Step 2 - Qualitative Themes, Comments, and Proposed Changes

Theme	Sub-theme	Example Comments	Proposed changes
Comprehension	Wording	<ul style="list-style-type: none"> – Several participants stated they found the wording of some question “confusing”. – Other comments asked for definitions of certain words 	<ul style="list-style-type: none"> – Wording changes suggested by multiple participants were adopted.
	Formatting	<ul style="list-style-type: none"> – Some participants indicated variable use of stems (e.g., “How many times...”) could be “confusing” – Other comments seemed to arise from confusion about whether the responses for the Delphi questionnaire itself would be used in the final measure. – Some participants commented on reverse coded items designed to be negatively associated with SGM stress, affirming the association between the item and SGM stress and supporting reverse coding the item. 	<ul style="list-style-type: none"> – Formatting and response options were standardized – All items that were phrased as questions were modified to statements to allow for a unified response option on a 7-point Likert scale.
Differences within Gender and Sexual Minority stress	Transgender Experiences	<ul style="list-style-type: none"> – Some participants noted that some items may be interpreted differently by someone with a gender only minority identity or with a sexuality only minority identity. For example, “Being LGBTQ is a natural expression in human beings.” (e.g., <i>I might again tease out being LGBTQ vs being trans. There are people who are sexual minorities who are very anti-trans (see LGB in the UK, anti-queer movements, etc.)</i>) – Several participants also noted that some items which may indicate stress and negative affect among sexual minority individuals (i.e., “I try to act more masculine or feminine.”) may be experienced differently by binary transgender individuals or may not be applicable to nonbinary individuals who do not use clothing or behavior to signal a masculine or feminine identity. 	<ul style="list-style-type: none"> – Item language that combined sexual and gender identity was used. – Participants were asked which aspects of their identity were salient while completing the measure.

Differences within Gender and Sexual Minority stress (Cont.)	Bisexual Experiences	<ul style="list-style-type: none"> – Several participants noted differences between bisexual and monosexual identities (i.e., “When I am sexually attracted to another LGBTQ person, I do not mind if someone else knows how I feel.”). (e.g., <i>This is something that might need to be unpacked. The experience might look different for a gay man attracted to a trans man than for a bisexual cis man attracted to a bisexual cis woman...</i>) 	<ul style="list-style-type: none"> – Post-hoc comparisons on the basis of sexual orientation were completed. No changes made to items.
Non-Specific Stress Experiences	Emerging Adult stress	<ul style="list-style-type: none"> – Comments on items initially drawn from the IDEA (Reifman, 2007) were often coded as “Not LGBTQ specific” (e.g., “Do you feel like the current time in your life is a time of defining yourself?”). Participants tied the lack of specificity to the developmental stage of emerging adulthood itself (e.g., <i>Is this not just a universal experience of young adulthood?</i>). – Other responses acknowledged that stress may be higher for SGM individuals, but that stress may be unavoidable during certain experiences, particularly related to relationships and romantic rejection. 	<ul style="list-style-type: none"> – Items that were ranked below 5 but received comments on ways to improve specificity for SGM individuals were modified to include the phrase “because of your sexual orientation or gender”, items that did not receive suggestions were dropped.
Non-Stressful Experiences	Normative Emerging Adult development	<ul style="list-style-type: none"> – Some items from the IDEA (Reifman, 2007) were frequently coded non-stressful (e.g., Do you feel like the current time in your life is a time of deciding on your own beliefs and values?) as they were more illustrative of normative experiences than SGM stress. 	<ul style="list-style-type: none"> – Items that were ranked below 5 were dropped
	Affirming Experiences	<ul style="list-style-type: none"> – Some participants raised how actions like modifying behavior or appearance could be experienced as positive and affirming, particularly transgender individuals. (e.g., <i>Changing appearance be a good thing (EX: moving away from gender role expectations)</i>) – Participants noted that differences in motivation for changing appearance (e.g., concealment for cisgender sexual minority individuals, gender exploration for 	<ul style="list-style-type: none"> – As the original items did not distinguish motivation, the research team decided to omit items that referenced self-directed appearance changes and retain items that directly

		transgender individuals), could contribute to whether the experience is perceived as stressful, suggesting that behavior changes might indicate SGM stress only when the individual is attempting to conceal their identity.	mention concealment of gender and/or sexual orientation.
Non-Stressful Experiences (Cont.)	Outdated Language and Concepts	<ul style="list-style-type: none"> – Multiple participants highlighted references or language that is no longer associated with SGM experiences or stress (e.g., a question that referred to the television show Will and Grace, which featured a gay male protagonist and aired from 1998-2006, with a revival in 2017 and 2020). – In particular, the word deviant was highlighted as a word that may not have negative connotations for some emerging adults. 	<ul style="list-style-type: none"> – Items that referenced specific media or that included disputed terms were omitted.
Distal Stress Experiences		<ul style="list-style-type: none"> – Some participants noted the differences between proximal and distal stress and raised how distal stress experiences could influence proximal stress experiences. – Some participants noted that the actions of another person could lead to the increase in negative internal beliefs and behaviors associated with changing or minimizing SGM identity. – Other participants noted that distal stress experiences may be processed as more stressful if the participant believes the other party is also a member of the SGM community. – Other participants questioned whether distal stress can be considered a facet of SGM stress. – Commenters expressed that discrimination experiences are appraised as stressful at different levels by different participants, and so simply knowing that a distal stressor was experienced does not capture how or whether the participant experienced distress. 	<ul style="list-style-type: none"> – Distal stress items that were evaluated favorably by the majority of participants were included in the final measure, with some integration of violence related items

Table 5*Step 4 – Reliability and Validity Participant Demographic Characteristics*

Variable	Total % (<i>N</i> = 218)	Listservs (<i>N</i> =126)	Social Media (<i>N</i> =60)	SONA (<i>N</i> =32)	F	χ^2
Age	<i>M</i> = 21.23 (<i>SD</i> = 2.13)	<i>M</i> = 21.25 (<i>SD</i> = 2.08)	<i>M</i> = 21.27 (<i>SD</i> = 1.54)	<i>M</i> = 19.30 (<i>SD</i> = 1.82)	12.20***	
Race or Ethnicity						11.00
White	61%	66%	59%	70%		
Black	13%	10%	20%	7%		
Asian or Pacific Islander	8%	5%	8%	11%		
American Indian or Alaskan Native	9%	9%	8%	4%		
More than one race	6%	8%	4%	4%		
Another race	1%	1%	0%	0%		
Hispanic or Latine						12.14*
Yes	23%	35%	16%	11%		
No	73%	64%	84%	85%		
Transgender Status						17.16**
Transgender	31%	45%	30%	4%		
Cisgender	65%	52%	65%	88%		
None of these fit	4%	3%	6%	7%		
Gender						17.64*
Women	35%	34%	32%	67%		
Men	41%	37%	44%	26%		
Non-binary	16%	23%	12%	4%		
Agender	3%	4%	4%	4%		
None of these fit	4%	3%	8%	0%		
Sexual Orientation						13.56
Homosexual	42%	44%	55%	30%		
Bisexual/Pansexual	38%	36%	22%	60%		
Asexual	12%	13%	16%	4%		
Heterosexual	2%	2%	3%	0%		
None of these fit	6%	5%	4%	6%		

Note: Not all percentages sum to 100, as 4% of participants declined to answer for Hispanic heritage and 2% of participants declined to answer for race.

Table 6*Item Loadings (Pattern Coefficients) and Communalities for Correlated Five-Factor Model*

Item	Content	Distal Stress	Internalized SGM Negativity	Relational Vigilance	Identity Instability	SGM related Apprehension	<i>h</i> ²
28	I have experienced physical violence (e.g., punched, kicked, or beaten) because someone thought or knew I was LGBTQ+.	0.76	0.25	-0.11	-0.17	-0.06	0.73
15	I have been threatened with physical violence because people knew or thought I was LGBTQ+.	0.76	-0.03	0.05	0.05	-0.07	0.57
23	I have been treated unfairly by my employer, boss, or supervisors because of my gender and/or sexual orientation.	0.68	-0.02	0.07	0.16	-0.08	0.51
19	I have been sexually assaulted because people knew or thought I was LGBTQ+.	0.66	0.20	-0.14	-0.09	0.03	0.55
1	I have been treated unfairly by people in helping jobs (doctors, nurses, psychiatrists, caseworkers, dentists, school counselors, therapists, pediatricians, school principals, gynecologists, and others) because of my gender and/or sexual orientation.	0.61	0.06	-0.09	0.07	0.20	0.49
36	I have been verbally insulted (yelled at, criticized) because people knew or thought I was LGBTQ+.	0.55	-0.25	0.31	-0.03	0.09	0.50
30	Whenever I think about being LGBTQ+, I feel critical about myself.	-0.06	0.72	0.08	-0.09	0.16	0.53
10	I feel that my gender and/or sexual orientation is a personal shortcoming for me.	0.15	0.67	0.11	0.07	-0.13	0.60
35	Whenever I think about being LGBTQ+, I feel depressed.	0.18	0.54	0.04	0.06	-0.01	0.44
20	If I were both heterosexual and cisgender, I would probably be happier.	0.02	0.52	0.01	0.09	0.09	0.34

13	I have been rejected and/or not accepted by family members because of my gender and/or sexual orientation.	0.10	0.01	0.73	0.01	-0.06	0.55
34	If I come out, it will cause problems with my family and/or friends.	-0.15	0.25	0.64	-0.12	-0.07	0.36
26	There are disagreements between members of my family because of my gender and/or sexual orientation.	0.11	-0.01	0.60	0.16	0.01	0.49
7	I am quick to notice changes in how someone is treating me if they have reason to suspect me of being LGBTQ+.	-0.18	0.01	0.50	-0.07	0.31	0.43
18	I feel like the current time in my life is a time of instability for my gender and/or sexual orientation.	-0.03	0.07	-0.06	0.77	0.05	0.62
17	I feel like the current time in my life is a time of unpredictability for my gender and/or sexual orientation.	0.08	-0.01	0.01	0.76	0.03	0.60
6	I have been treated unfairly by strangers because of my gender and/or sexual orientation.	0.25	-0.09	0.04	-0.13	0.74	0.65
4	I feel like the current time in my life is a time of feeling stressed out about my gender and/or sexual orientation.	-0.06	0.09	-0.09	0.24	0.57	0.43
2	I feel like the current time in my life is a time of many worries because of my gender and/or sexual orientation.	-0.15	0.19	0.06	0.08	0.49	0.33

Table 7

Model Fit Indices of 19-Item Emerging Adult Inventory of Minority Stress for Between One- and Five-Factor Models

Model	<i>AIC</i>	<i>BIC</i>	RMSEA [95% CI]	CAF	TLI	SRMR
1	468.58	-77.95	0.13 [0.12 0.14]	0.30	0.501	0.14
2	170.92	-275.48	0.10 [0.09 0.11]	0.36	0.70	0.10
3	27.62	-275.48	0.08 [0.07 0.09]	0.41	0.83	0.07
4	-39.37	-372.84	0.06[0.04 0.07]	0.46	0.91	0.05
5	-72.47	-355.12	0.03[0 0.05]	0.49	0.97	0.04

Note. AIC = Akaike information criteria; BIC = Bayesian information criteria; RMSEA = root mean square error of approximation; CAF = common part accounted for; TLI = Tucker–Lewis index; SRMR = standardized root mean square residual; $p < .001$.

Table 8*Correlations between the 19-Item Emerging Adult Inventory of Minority Stress Factors*

	1	2	3	4	5
1. Distal Stress	--				
2. Internalized SGM Negativity	.54**	--			
3. Relational Vigilance	.30**	.14*	--		
4. Identity Instability	0.10	.33**	.29**	--	
5. SGM Related Apprehension	.27**	.16*	.60**	.39**	--

Note: * Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

Table 9
Descriptive Statistics for Validity Variables

	<i>N</i>	Mean	<i>SD</i>	Range	<i>a</i>	Correlation with EAIMS
Emerging Adult SGM Stress (EAIMS)	218	74.23	17.67	24-133	.87	-
Alcohol Use and Consequences (AUDIT)	209	12.01	9.22	0-29	.90	.39***
Cannabis Use and Consequences (CUDIT-R)	173	8.63	6.83	0-23	.88	.21**
Anxiety (GAD-7)	196	10.37	4.72	0-21	.83	.21**
Depression (PHQ-8)	195	13.47	5.10	0-27	.76	.31***
SGM Stress (DHEQ)	212	2.28	0.63	0.98-3.98	.94	.56***
LGBTQ College Campus Climate Scale - College Response to Stigma	199	4.02	0.72	0-12	.91	.41**
Daily Stress (STRAIN)	187	36.04	12.93	5-63	.80	.42***

Note: *SD* = Standard Deviation, AUDIT = Alcohol Use Disorder Identification Test, CUDIT-R = Cannabis Use Disorder Identification Test – Revised, GAD-7 = General Anxiety Disorder -7, PHQ-8 = Patient Health Questionnaire-8, DHEQ = Daily Heterosexist Experiences Questionnaire, STRAIN = Stress and Adversity Inventory for Daily Stress. ** Correlation is significant at the 0.01 level (2-tailed). *** Correlation is significant at the 0.001 level (2-tailed).

Table 10*Results of Hierarchical Regression Models for EAIMS Subscales and Alcohol Use, Cannabis Use, Depression, and Anxiety*

	Alcohol Use (AUDIT)			Cannabis Use (CUDIT-R)			Depression (PHQ-8)			Anxiety (GAD-7)		
	β (SE)	SE	ΔR^2	β (SE)	SE	ΔR^2	β (SE)	SE	ΔR^2	β (SE)	SE	ΔR^2
<i>Step 1</i>			.32**			.13***			.20***			.11***
Age	.32***	.26		-	-		-	-		-	-	
General Life Stress	.41***	.04		.37***	.04		.45***	.03		.34***	.03	
<i>Step 2</i>			.23***			.11***			.7*			.19***
Distal Stress	.47***	.73		.35***	.71		.18*	.48		.31***	.45	
Internalized SGM Negativity	.15*	.63		.01	.66		-.01	.47		.03	.44	
Relational Vigilance	.26**	.69		.21*	.74		.04	.50		.07	.46	
Identity Instability	.04	.59		.07	.62		.07	.44		.03	.41	
SGM Related Apprehension	.20**	.73		.10	.77		.25**	.54		.36***	.50	
Total R^2			.55***			.24***			.27***			.30***

Note: Coefficients shown are from the step on which the variables were entered; β =standardized beta, SE=standard error. *** $p < .001$, ** $p < .01$, * $p < .05$.

Figure 1: *Minority Stress Theory* (Meyer, 2003)

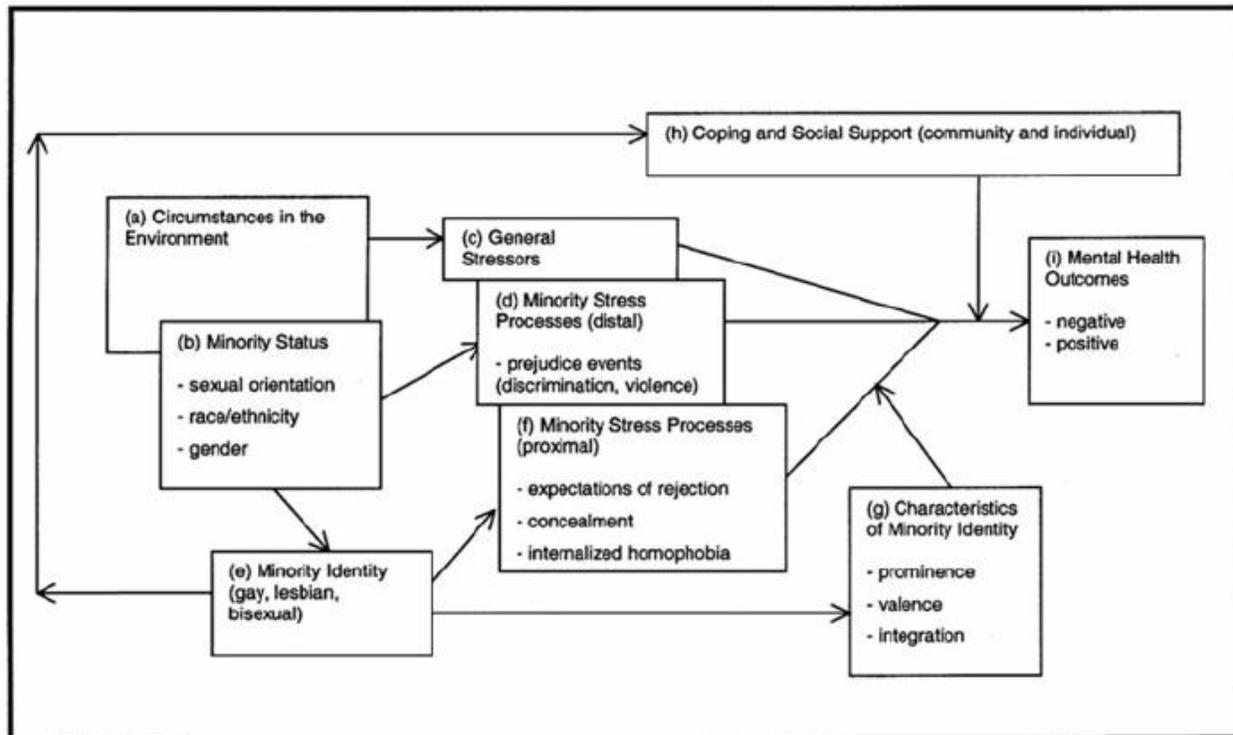


Figure 2: *Bifactor Model of the Five Factor Emerging Adult Inventory of Minority Stress*

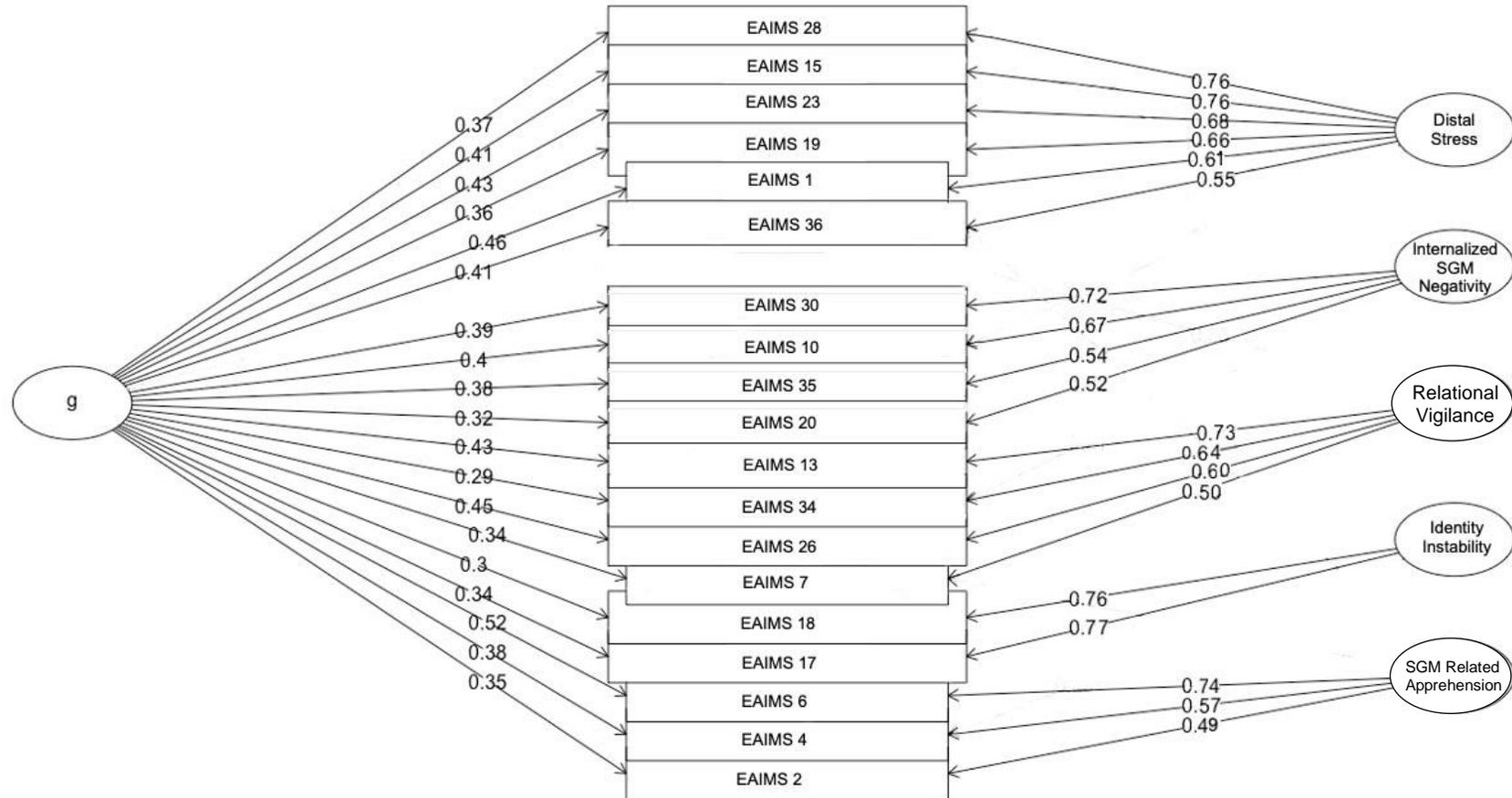
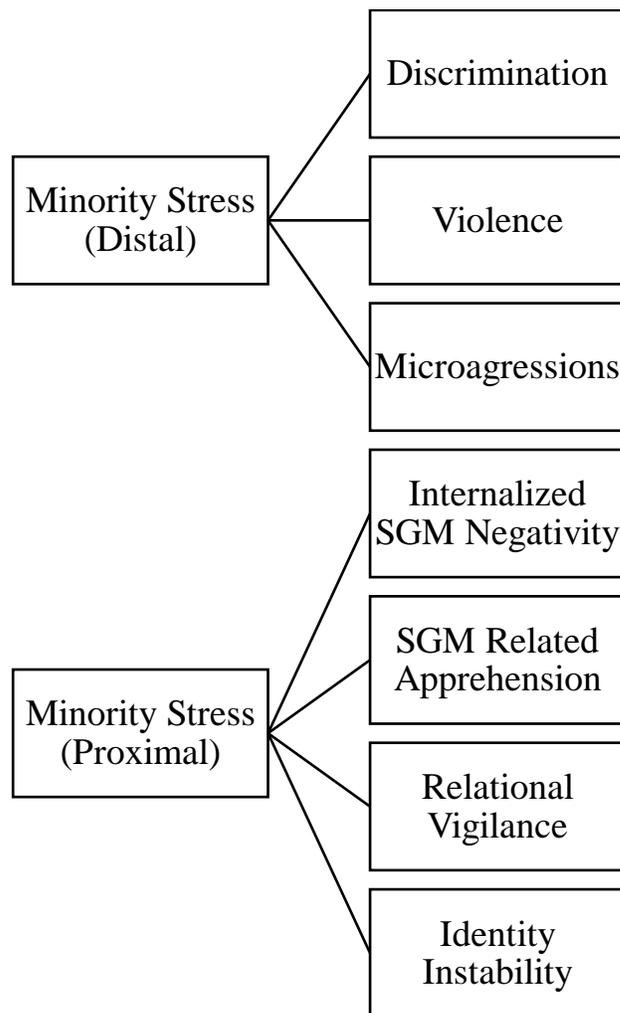


Figure 3: *Emerging Adult Minority Stress Model*



Appendix A

Step 1 – Initial Emerging Adult and SGM Stress Item Pool

Item	Original Scale	Theoretical domain
If it were possible, I would accept the opportunity to be completely cisgender and heterosexual.	IHS	Internalized Homophobia
I wish I could become more attracted to other genders.	IHS	Internalized Homophobia
I would not give up being LGBTQ even if I could.	IHS	Internalized Homophobia
Being LBGTQ is deviant.	IHS	Internalized Homophobia
It would not bother me if I had children who were LGBTQ	IHS	Internalized Homophobia
Being LGBTQ is a satisfactory and acceptable way of life for me.	IHS	Internalized Homophobia
If I were heterosexual and cisgender, I would probably be happier.	IHS	Internalized Homophobia
Most LGBTQ people end up lonely and isolated.	IHS	Internalized Homophobia
For the most part, I do not care who knows I am LGBTQ.	IHS	Internalized Homophobia
Being LGBTQ is a natural expression in human beings.	IHS	Internalized Homophobia
I have no regrets about being LGBTQ.	IHS	Internalized Homophobia
I wish I were heterosexual and cisgender.	IHS	Internalized Homophobia
When I am sexually attracted to another LGBTQ person, I do not mind if someone else knows how I feel.	IHS	Internalized Homophobia
Most problems that LGBTQ people have come from their status as an oppressed minority, not from their sexual orientation or gender per say.	IHS	Internalized Homophobia
Life as an LGBTQ person is not as fulfilling as life as a cisgender and heterosexual person.	IHS	Internalized Homophobia
I am glad to be LGBTQ.	IHS	Internalized Homophobia
Whenever I think a lot about being LGBTQ, I feel critical about myself.	IHS	Internalized Homophobia
I am confident that my LGBTQ status does not make me inferior.	IHS	Internalized Homophobia
Whenever I think a lot about being LGBTQ, I feel depressed.	IHS	Internalized Homophobia

I have tried to stop feeling like the gender I do in general.	GISS	Internalized Transphobia
I feel that my gender identity is a personal shortcoming for me.	GISS	Internalized Transphobia
I would like to get professional help in order to change my sexual and/or gender identity from what it is to something else.	GISS	Internalized Transphobia
I have tried to feel more like the sex I was assigned at birth.	GISS	Internalized Transphobia
I feel alienated from myself because of my gender identity.	GISS	Internalized Transphobia
I try to control how I talk (e.g., the pitch of my voice).	GSMPMI	Concealment
I try to modify my gestures and mannerisms.	GSMPMI	Concealment
I try to act more masculine or feminine.	GSMPMI	Concealment
I check myself in order to see if there is anything that gives me away.	GSMPMI	Concealment
I try to change my appearance.	GSMPMI	Concealment
I often wonder whether others judge me for my sexual orientation.	LGBIS-AC	Rejection
I can't feel comfortable knowing that others judge me negatively for my sexual orientation.	LGBIS-AC	Rejection
I think a lot about how my sexual orientation affects the way people see me.	LGBIS-AC	Rejection
I become preoccupied with whether people suspect me of being LGBT+.	VOS	Rejection
I pay close attention to whether people suspect me of being LGBT+.	VOS	Rejection
I am quick to notice changes in how someone is treating me if they have reason to suspect me of being LGBT+.	VOS	Rejection
How many times were you verbally insulted (yelled at, criticized) because you are or were thought to be LGBTQ?	Violence	Violence
How many times were you threatened with physical violence because you are or were thought to be LGBTQ?	Violence	Violence
How many times has someone threatened to tell someone else you are LGBTQ?	Violence	Violence
How many times have you had objects thrown at you because you are or were thought to be LGBTQ?	Violence	Violence
How many times have you been punched, kicked, or beaten because you are or were thought to be LGBTQ?	Violence	Violence
How many times was your personal property damaged because you are or were thought to be LGBTQ?	Violence	Violence
How many times were you followed or chased because you are or were thought to be LGBTQ?	Violence	Violence
How many times were you sexually assaulted because you are or were thought to be LGBTQ?	Violence	Violence

How many times were you spat upon because you are or were thought to be LGBTQ?	Violence	Violence
How many times have you been treated unfairly by teachers or professors because you are LGBTQ?	HHRDS	Discrimination
How many times have you been treated unfairly by your co-workers, fellow students, or colleagues because you are LGBTQ?	HHRDS	Discrimination
How many times have you been treated unfairly by people in service jobs (by store clerks, waiters, bartenders, waitresses, bank tellers, mechanics, and others) because you are LGBTQ?	HHRDS	Discrimination
How many times have you been treated unfairly by strangers because you are LGBTQ?	HHRDS	Discrimination
How many times have you been treated unfairly by people in helping jobs (by doctors, nurses, psychiatrists, caseworkers, dentists, school counselors, therapists, pediatricians, school principals, gynecologists, and others) because you are LGBTQ?	HHRDS	Discrimination
How many times have you been rejected by friends because you are LGBTQ?	HHRDS	Discrimination
How many times have you heard ANTI-LGBTQ remarks from family members?	HHRDS	Discrimination
How many times have you been rejected by family members because you are LGBTQ?	HHRDS	Discrimination
How many times have you been called a HETEROSEXIST name like fag, dyke, or other names?	HHRDS	Discrimination
How many times have you been treated unfairly by your family because you are LGBTQ?	HHRDS	Discrimination
How many times have you been treated unfairly by your employer, boss, or supervisors because you are LGBTQ?	HHRDS	Discrimination
How often have people said blanket statements about how society is full of diversity minimizing your experience of being different?	HMS	Microaggressions
How often have people said things like "I watched Will & Grace" to show they know about gay culture?	HMS	Microaggressions
How often have people equated themselves and their experience to yours as a LGBTQ person?	HMS	Microaggressions
How often have people made statements about why gay marriage should not be allowed?	HMS	Microaggressions
How often have people made statements against LGBTQ individuals adopting?	HMS	Microaggressions
How often have people told you to act differently at work or school in order to hide your gender and/or sexual orientation?	HMS	Microaggressions

How often have people told you to dress differently at work or school in order to hide your gender and/or sexual orientation?	HMS	Microaggressions
How often have people told you not to disclose your gender and/or sexual orientation in some context (like work or school)?	HMS	Microaggressions
How often have people conveyed that it is your choice to be LGBTQ?	HMS	Microaggressions
How often have people changed the subject/topic when reference to your gender and/or sexual orientation comes up?	HMS	Microaggressions
How often have people assumed you were a pervert or deviant?	HMS	Microaggressions
How often have people assumed you were a pedophile?	HMS	Microaggressions
How often have people assumed you have HIV/AIDS because of your sexual orientation?	HMS	Microaggressions
How often have people physically shielded their child/children from you?	HMS	Microaggressions
How often have people avoided proximity, like crossing the street to walk or waiting for the next elevator?	HMS	Microaggressions
How often have people told you to "calm down" or be less "dramatic"?	HMS	Microaggressions
How often have people told you it's wrong to be gay or said you were going to hell because of your sexual orientation?	HMS	Microaggressions
Do you feel like the current time in your life is a time of deciding on your own beliefs and values?	IDEA	Emerging Adult Stress
Do you feel like the current time in your life is a time of defining yourself?	IDEA	Emerging Adult Stress
Do you feel like the current time in your life is a time of feeling restricted?	IDEA	Emerging Adult Stress
Do you feel like the current time in your life is a time of feeling stressed out?	IDEA	Emerging Adult Stress
Do you feel like the current time in your life is a time of finding out who you are?	IDEA	Emerging Adult Stress
Do you feel like the current time in your life is a time of confusion?	IDEA	Emerging Adult Stress
Do you feel like the current time in your life is a time of high pressure?	IDEA	Emerging Adult Stress
Do you feel like the current time in your life is a time of instability?	IDEA	Emerging Adult Stress
Do you feel like the current time in your life is a time of learning to think for yourself?	IDEA	Emerging Adult Stress
Do you feel like the current time in your life is a time of many worries?	IDEA	Emerging Adult Stress
Do you feel like the current time in your life is a time of planning for the future?	IDEA	Emerging Adult Stress

Do you feel like the current time in your life is a time of seeking a sense of meaning?	IDEA	Emerging Adult Stress
Do you feel like the current time in your life is a time of separating from parents?	IDEA	Emerging Adult Stress
Do you feel like the current time in your life is a time of unpredictability?	IDEA	Emerging Adult Stress
Not enough time for your partner (romantic relationship).	EASI	Emerging Adult Stress
Disagreements between members of your family because you are LGBTQ?	EASI	Emerging Adult Stress
Disagreements between you and your friends because you are LGBTQ?	EASI	Emerging Adult Stress
Changes in relationships with friends because you are LGBTQ?	EASI	Emerging Adult Stress
Being judged by your friends because you are LGBTQ?	EASI	Emerging Adult Stress
Pressure to fit in with peers because you are LGBTQ?	EASI	Emerging Adult Stress
Lack of trust from others because you are LGBTQ?	EASI	Emerging Adult Stress
Being rejected by a person you would like to pursue a romantic relationship with because you are LGBTQ?	EASI	Emerging Adult Stress
Getting along with your partner because you are LGBTQ? (romantic relationship)	EASI	Emerging Adult Stress
Making your relationship with your partner work because you are LGBTQ? (romantic relationship)	EASI	Emerging Adult Stress
<p>Note: IHS = The Internalized Homophobia Scale, GISS = The Gender Identity Self-Stigma Scale, LGBIS-AC = Lesbian, Gay, and Bisexual Identity Scale – Acceptance Concerns, VOS = Vigilance for Others’ Suspicions, IDEA = The Inventory of the Dimensions of Emerging Adulthood, DHEQ-H/D = Daily Heterosexist Experiences Questionnaire - Harassment/Discrimination, HMS =The Homonegative Microaggressions Scale, IDEA = Inventory of the Dimensions of Emerging Adulthood - Identity Exploration, Experimentation/Possibilities, and Negativity/Instability subscales, EASI = Emerging Adult Stress Inventory - Stress of Family/Home Life, Stress of Peers/Friends, Stress of Romantic Relationships, Stress of Employment subscales</p>		

Appendix B

Step 2 – Round 1 Instructions and Open Text Questions

Please rate how much you agree or disagree with each of the following statements. You can think of your personal experiences, things you have heard from people who are LGBTQ emerging adults (age 18-25), or studies or articles you have read. The questions use LGBTQ to refer to any individual who is not cisgender and/or not heterosexual. This includes individuals who are gay, lesbian, bisexual, asexual, transgender, queer, and any other non-cisgender/heterosexual identity. This study uses SGM stress to refer to Sexual and Gender Minority Stress, this includes any experience of harassment, violence, or discrimination an individual experiences based on their gender identity and sexual orientation, as well as the negative thoughts and beliefs someone internalizes about themselves, or other LGBTQ people.

I have tried to stop feeling like the gender I do in general.

	Strongly Disagree	Disagree	Mildly Disagree	Neutral	Mildly Agree	Agree	Strongly Agree
Higher scores on this item would correspond with higher levels of SGM stress for emerging adults.	<input type="radio"/>						
SGM emerging adults would understand this item as written and self-report their stress level reliably.	<input type="radio"/>						

What changes would make this question better capture SGM emerging adult stress? _____

What changes would make this question easier to understand? _____

Think back over all the items you have read as you answer these questions. You may include as much detail or information as you think will be helpful. Please reference question numbers if possible.

What constructs would not relate to SGM emerging adult stress? That is, what are some things that you expect would not have a relationship with SGM emerging adult stress? _____

What overall comments do you have about how the questions addressed emerging adult sexual and gender minority stress? _____

What overall comments do you have about the question wording and comprehension of questions? _____

Any other comments? _____

Appendix C

Step 2 – Round 2 Instructions

Please rate how much you agree or disagree with each of the following statements. You can think of your personal experiences, things you have heard from people who are LGBTQ emerging adults (age 18-25), or studies or articles you have read. The questions use LGBTQ to refer to any individual who is not cisgender and/or not heterosexual. This includes individuals who are gay, lesbian, bisexual, asexual, transgender, queer, and any other non-cisgender/heterosexual identity. This study uses SGM stress to refer to Sexual and Gender Minority Stress, this includes any experience of harassment, violence, or discrimination an individual experiences based on their gender identity and sexual orientation, as well as the negative thoughts and beliefs someone internalizes about themselves, or other LGBTQ people.

You are being asked to respond to the same questions as the previous survey. Below each item you will see the mean, median, mode, and standard deviation from the previous round of surveys, as well as any comments left by other participants. You can change your ratings from previous rounds for any reason and you may add any additional comments or respond to other's comments.

I have tried to stop feeling like the gender I do in general.

Higher scores on this item would correspond with higher levels of SGM stress for emerging adults.

- (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

Mean = 5.11 SD = 1.78 Median = 5.5 Mode = 7

What changes would make this question better capture SGM emerging adult stress?

Commenter 1: no changes, Commenter 2: Maybe ask if there have been outside influences to make a person stop wanting to feel the gender they belong with., Commenter 3: , Commenter 4: , Commenter 5: , Commenter 6: Is it referring to a specific time frame? An emerging adult could have experienced this years in the past, and it would still be covered by 'have tried.', Commenter 7: , Commenter 8: , Commenter 9: maybe specify before/after self-discovery process, Commenter 10: , Commenter 11: , Commenter 12: , Commenter 13: , Commenter 14: , Commenter 15: , Commenter 16: , Commenter 17: , Commenter 18: , Commenter 19: , Commenter 20:

SGM emerging adults would understand this item as written and self-report their stress level reliably.

- (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

Mean = 3.76 SD = 2.02 Median = 4 Mode = 2

What changes would make this question easier to understand?

Commenter 1: , Commenter 2: Make it clearer what the person is trying to agree or disagree with., Commenter 3: , Commenter 4: I don't understand it as is, Commenter 5: n/a, Commenter 6: There is a grammatical issue with the 'I do' toward the end, and it is not easy to fix. Maybe something like 'I have tried to force myself to feel like a man or a woman (or a boy or a girl)', Commenter 7: , Commenter 8: , Commenter 9: specify before/after self discovery, Commenter 10: gender in general or tried to in general?, Commenter 11: , Commenter 12: , Commenter 13: , Commenter 14: I'm not sure, but I had to read it a few times. Ending with 'gender I do in general' didn't read well., Commenter 15: Is the feeling in general or the gender?, Commenter 16: 'like the gender I do' sounds confusing to me. Could it be: 'I have tried to change my feelings about my gender?', Commenter 17: I don't understand what 'like the gender I do' means, Commenter 18: , Commenter 19: , Commenter 20:

Appendix D
Step 2 Codebook

#	Parent codes	Child codes	Definition	Example comment	Example Question
Question Content					
1	Gender vs Sexual Minority stress				
1.1		LGBTQ vs Transgender	Questions that collapse differences between trans and cis LGBTQ people	"I might again tease out being LGBTQ vs being trans. There are people who are sexual minorities who are very anti-trans (see LGB in the UK, anti-queer movements, etc.)"	Being LGBTQ is a natural expression in human beings.
1.2		Trans specific minority stress	Questions that would indicate transgender minority stress, but not cisgender sexual minority stress	"some of these questions may be harder to answer for some nonbinary people. For example, there are certainly gender diverse people who are seeking to modulate from one gender to another. There are others who would describe themselves as not having a gender, and that experience might be different."	I try to act more masculine or feminine.
2	Not Specific				
2.1		Not emerging adult specific	Questions that describe LGBTQ stress broadly but are not specific to emerging adults.		Code not used
2.2		Not LGBTQ Specific	Questions that describe emerging adult stress broadly but are not specific to LGBTQ people.	"Responses may not be specific to SGM stress. Many aspects of young adulthood are confusing."	Do you feel like the current time in your life is a time of confusion?
3	Not Stressful				

3.1		Not stressful for the sample broadly	May not be experienced as stressful for some participants.	"This could have nothing to do with being SGM, and it may or may not be experienced as stressful."	Do you feel like the current time in your life is a time of deciding on your own beliefs and values?
3.2		Not stressful for transgender people	May not be experienced as stressful for transgender participants.		Code not used
3.3		Not stressful for sexual minority people	May not be experienced as stressful for sexual minority participants.	"if deviant means uncommon, some people may agree and not feel stressed"	Being LBGTQ is deviant.
4	No recommendations		Participant does not offer feedback on how to improve the question	"not sure."	For the most part, I do not care who knows I am LGBTQ.
5	Distal Stress				
5.1		Perpetrator	Identity of perpetrator impacts stress	"It varies depending on if the person using the word is cis/hetero or LGBTQ"	How many times have you been called a HETEROSEXIST name like fag, dyke, or other names?
Question Comprehension					
6	Wording				

6.1		Inconsistent use of stems/scales	Questions that were not complete sentences.	"I would state the scale 'indicate the frequency to which...' hard to comment without that."	Being judged by your friends because you are LGBTQ?
6.2		Reword - clarity	Words that required additional definition, or to be changed to a different word.	"Include definition of deviant and what this exactly means." "specify negative changes" "Heterosexist name isn't the best word for that. Slur?"	Being LGBTQ is deviant.
6.3		Reword - offensive	Comment not to use specific words that could be triggering or offensive to read	"I would not write out the slurs because it could be triggering - you could write them some other way - 'anti-LGBTQ slurs and names'	How many times have you been called a HETEROSEXIST name like fag, dyke, or other names?
6.4		Reverse code	Questions that were intended to be reverse coded	"I would say that lower values measure higher levels of SGM stress"	Being LGBTQ is a satisfactory and acceptable way of life for me.
6.5		Time frame	Questions that could benefit from a specific time frame	"time frame is again unspecified, but any such experiences probably contribute to long-term stress"	How many times have you been punched, kicked, or beaten because you are or were thought to be LGBTQ?
Miscellaneous					
7.1		Agree/disagree confusion	Instances where participants seemed confused about the rating scale for the Delphi process vs	"how many times' and then agree or disagree is confusing"	How many times has someone threatened to tell someone else you are LGBTQ?,

			for the final measure.		
7.2		Trigger warnings	Recommendations to add trigger warnings to the measure/questions.	"Trigger warnings and add comment boxes"	How many times have you been called a HETEROSEXIST name like fag, dyke, or other names?
7.3		Unclear Comment	It is not possible to determine what the participant was trying to convey through this comment	"Back to discrimination questions"	How many times have you been rejected by friends because you are LGBTQ?
7.4		Survey Length/redundancy	Comments about survey length and/or questions repeating	"This is an obnoxiously long survey with much redundancy."	How many times have you been rejected by friends because you are LGBTQ?
7.5		Remove question	Recommendation to remove the item from the final scale	"Delete."	Do you feel like the current time in your life is a time of deciding on your own beliefs and values?

Appendix E

Pre-testing – 40 Item Emerging Adult Inventory of Minority Stress

#	Item	Theoretical Domain
1	I have been treated unfairly by people in helping jobs (by doctors, nurses, psychiatrists, caseworkers, dentists, school counselors, therapists, pediatricians, school principals, gynecologists, and others) because of my gender and/or sexual orientation.	Discrimination
2	I feel like the current time in my life is a time of many worries because of my gender and/or sexual orientation.	Emerging Adult Stress
3	I have been rejected and/or not accepted by friends because of my gender and/or sexual orientation.	Discrimination
4	I feel like the current time in my life is a time of feeling stressed out about my gender and/or sexual orientation.	Emerging Adult Stress
5	I feel like the current time in my life is a time of confusion about my gender and/or sexual orientation.	Emerging Adult Stress
6	I have been treated unfairly by strangers because of my gender and/or sexual orientation.	Discrimination
7	I am quick to notice changes in how someone is treating me if they have reason to suspect me of being LGBTQ+.	Rejection
8	I have been treated unfairly by co-workers, fellow students, or colleagues because of my gender and/or sexual orientation.	Discrimination
9	I often wonder whether others judge me for my gender and/or sexual orientation.	Rejection
10	I feel that my gender and/or sexual orientation is a personal shortcoming for me.	Internalized homophobia/transphobia
11	I pay close attention to whether people suspect me of being LGBTQ+.	Rejection
12	I feel like the current time in my life is a time of high pressure because of my gender and/or sexual orientation.	Emerging Adult Stress
13	I have been rejected and/or not accepted by family members because of my gender and/or sexual orientation.	Rejection
14	There are disagreements between me and my friends because of my gender and/or sexual orientation.	Emerging Adult Stress
15	I have been threatened with physical violence because people knew or thought I was LGBTQ+.	Violence
16	People told me to "calm down" or be less "dramatic" when discussing topics related to gender and/or sexual orientation	Microaggressions
17	I feel like the current time in my life is a time of unpredictability for my gender and/or sexual orientation.	Emerging Adult Stress
18	I feel like the current time in my life is a time of instability for my gender and/or sexual orientation.	Emerging Adult Stress
19	I have been sexually assaulted because people knew or thought I was LGBTQ+.	Violence
20	If I were both heterosexual and cisgender, I would probably be happier.	Internalized homophobia/transphobia
21	I have no regrets about realizing I am LGBTQ+.	Internalized homophobia/transphobia

22	I have heard Anti-LGBTQ+ remarks (e.g., arguing against marriage equality, participation of transgender athletes) from friends and/or family members.	Discrimination
23	I have been treated unfairly by my employer, boss, or supervisors because of my gender and/or sexual orientation.	Discrimination
24	People change the subject/topic when references to my gender and/or sexual orientation come up.	Microaggressions
25	Most LGBTQ+ people end up lonely and isolated.	Internalized homophobia/transphobia
26	There are disagreements between members of my family because of my gender and/or sexual orientation.	Emerging Adult Stress
27	I become preoccupied with whether people suspect me of being LGBTQ+.	Rejection
28	I have experienced physical violence (e.g., punched, kicked, or beaten) because someone thought or knew I was LGBTQ+.	Violence
29	I have been treated unfairly by teachers or professors because of my gender and/or sexual orientation.	Discrimination
30	Whenever I think about being LGBTQ+, I feel critical about myself.	Internalized homophobia/transphobia
31	I have tried to feel more like the sex I was assigned at birth.	Internalized Transphobia
32	People told me not to disclose my gender and/or sexual orientation in some context (like work or school).	Microaggressions
33	I can't feel comfortable knowing that others judge me negatively for my gender and/or sexual orientation.	Rejection
34	Whenever I think about being LGBTQ+, I feel depressed.	Internalized homophobia/transphobia
35	I have been verbally insulted (yelled at, criticized) because people knew or thought I was LGBTQ+.	Violence
36	I worry that other people do not trust me because I am LGBTQ+.	Emerging Adult Stress
37	Someone has threatened to tell someone else I am LGBTQ+.	Violence
38	People have told me to dress and/or act differently at work or school in order to hide my gender and/or sexual orientation.	Microaggressions
39	I am glad to be LGBTQ+.	Internalized homophobia/transphobia
40	I think a lot about how my gender and/or sexual orientation affects the way people see me.	Rejection

Appendix F

Pretesting Quality Assurance Questionnaire

While completing the survey questions I thought primarily about my...

- Transgender status and/or transition history
- Sexuality
- Gender
- Other aspects of my identity

Other:

What language to refer to a broader sexual and gender minority community do you think will be most appropriate and easily understood by other people?

- LGBTQ
- LGBTQ+
- LGBTQIA
- LGBTQIA+
- Queer
- Sexual and/or Gender Minority
- Marginalized sexual orientation and/or gender identity
- Other

Other:

Were there aspects of emerging adult sexual and gender minority stress that were left out? Please list any concepts or questions below.

Did the questions overall match how you view emerging adult stress and sexual and gender minority stress?

Are there any questions you expected that we would ask and that we didn't?

Are there any questions you feel may be too sensitive for an online survey or that we should consider deleting for other reasons? Please list the question number(s) and the reason(s). Please start a new line for each question

How long did completing the questionnaire feel?

- Very long
- Long
- Not too short or too long
- Short
- Very short

If you encountered a survey like this online, how likely would you be to take it?

- Very likely
- Likely
- Neutral
- Unlikely
- Very unlikely

Appendix G

41-item Emerging Adult Inventory of Minority Stress

Instructions. Think back over the past 3 months (90 days) of your life. Indicate how much you agree or disagree with the following statements for the past three months of your life. You can think about your gender, your sexual orientation, or the intersections between them while answering the questions. The questions may ask you to think about events or experiences that may be painful or uncomfortable to recall, such as violence and discrimination. You can leave the survey at any time and you can choose not to answer any questions you are not comfortable answering.

I have been treated unfairly by people in helping jobs (by doctors, nurses, psychiatrists, caseworkers, dentists, school counselors, therapists, pediatricians, school principals, gynecologists, and others) because of my gender and/or sexual orientation.

- (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

I feel like the current time in my life is a time of many worries because of my gender and/or sexual orientation.

- (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

I have been rejected and/or not accepted by friends because of my gender and/or sexual orientation.

- (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

I feel like the current time in my life is a time of feeling stressed out about my gender and/or sexual orientation.

- (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

I feel like the current time in my life is a time of confusion about my gender and/or sexual orientation.

- (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

I have been treated unfairly by strangers because of my gender and/or sexual orientation.

- (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

I am quick to notice changes in how someone is treating me if they have reason to suspect me of being LGBTQ+.

- (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

I feel that my gender and/or sexual orientation is a personal shortcoming for me.

- (1) Strongly Disagree
 - (2) Disagree
 - (3) Mildly Disagree
 - (4) Neutral
 - (5) Mildly Agree
 - (6) Agree
 - (7) Strongly Agree
-

I pay close attention to whether people suspect me of being LGBTQ+.

- (1) Strongly Disagree
 - (2) Disagree
 - (3) Mildly Disagree
 - (4) Neutral
 - (5) Mildly Agree
 - (6) Agree
 - (7) Strongly Agree
-

I feel like the current time in my life is a time of high pressure because of my gender and/or sexual orientation.

- (1) Strongly Disagree
 - (2) Disagree
 - (3) Mildly Disagree
 - (4) Neutral
 - (5) Mildly Agree
 - (6) Agree
 - (7) Strongly Agree
-

I have been rejected and/or not accepted by family members because of my gender and/or sexual orientation.

- (1) Strongly Disagree
 - (2) Disagree
 - (3) Mildly Disagree
 - (4) Neutral
 - (5) Mildly Agree
 - (6) Agree
 - (7) Strongly Agree
-

There are disagreements between me and my friends because of my gender and/or sexual orientation.

- (1) Strongly Disagree
 - (2) Disagree
 - (3) Mildly Disagree
 - (4) Neutral
 - (5) Mildly Agree
 - (6) Agree
 - (7) Strongly Agree
-

I have been threatened with physical violence because people knew or thought I was LGBTQ+.

- (1) Strongly Disagree
 - (2) Disagree
 - (3) Mildly Disagree
 - (4) Neutral
 - (5) Mildly Agree
 - (6) Agree
 - (7) Strongly Agree
-

People told me to "calm down" or be less "dramatic" when discussing topics related to gender and/or sexual orientation

- (1) Strongly Disagree
 - (2) Disagree
 - (3) Mildly Disagree
 - (4) Neutral
 - (5) Mildly Agree
 - (6) Agree
 - (7) Strongly Agree
-

I have been treated unfairly by co-workers, fellow students, or colleagues because of my gender and/or sexual orientation.

- (1) Strongly Disagree
 - (2) Disagree
 - (3) Mildly Disagree
 - (4) Neutral
 - (5) Mildly Agree
 - (6) Agree
 - (7) Strongly Agree
-

I often wonder whether others judge me for my gender and/or sexual orientation.

- (1) Strongly Disagree
- (2) Disagree
- (3) Mildly Disagree
- (4) Neutral
- (5) Mildly Agree
- (6) Agree
- (7) Strongly Agree

I feel like the current time in my life is a time of unpredictability for my gender and/or sexual orientation.	<input type="radio"/> (1) Strongly Disagree <input type="radio"/> (2) Disagree <input type="radio"/> (3) Mildly Disagree <input type="radio"/> (4) Neutral <input type="radio"/> (5) Mildly Agree <input type="radio"/> (6) Agree <input type="radio"/> (7) Strongly Agree
I feel like the current time in my life is a time of instability for my gender and/or sexual orientation.	<input type="radio"/> (1) Strongly Disagree <input type="radio"/> (2) Disagree <input type="radio"/> (3) Mildly Disagree <input type="radio"/> (4) Neutral <input type="radio"/> (5) Mildly Agree <input type="radio"/> (6) Agree <input type="radio"/> (7) Strongly Agree
I have been sexually assaulted because people knew or thought I was LGBTQ+.	<input type="radio"/> (1) Strongly Disagree <input type="radio"/> (2) Disagree <input type="radio"/> (3) Mildly Disagree <input type="radio"/> (4) Neutral <input type="radio"/> (5) Mildly Agree <input type="radio"/> (6) Agree <input type="radio"/> (7) Strongly Agree
If I were both heterosexual and cisgender, I would probably be happier.	<input type="radio"/> (1) Strongly Disagree <input type="radio"/> (2) Disagree <input type="radio"/> (3) Mildly Disagree <input type="radio"/> (4) Neutral <input type="radio"/> (5) Mildly Agree <input type="radio"/> (6) Agree <input type="radio"/> (7) Strongly Agree
I have no regrets about realizing I am LGBTQ+.	<input type="radio"/> (1) Strongly Disagree <input type="radio"/> (2) Disagree <input type="radio"/> (3) Mildly Disagree <input type="radio"/> (4) Neutral <input type="radio"/> (5) Mildly Agree <input type="radio"/> (6) Agree <input type="radio"/> (7) Strongly Agree
I have heard Anti-LGBTQ+ remarks (e.g., arguing against marriage equality, participation of transgender athletes) from friends and/or family members.	<input type="radio"/> (1) Strongly Disagree <input type="radio"/> (2) Disagree <input type="radio"/> (3) Mildly Disagree <input type="radio"/> (4) Neutral <input type="radio"/> (5) Mildly Agree <input type="radio"/> (6) Agree <input type="radio"/> (7) Strongly Agree
I have been treated unfairly by my employer, boss, or supervisors because of my gender and/or sexual orientation.	<input type="radio"/> (1) Strongly Disagree <input type="radio"/> (2) Disagree <input type="radio"/> (3) Mildly Disagree <input type="radio"/> (4) Neutral <input type="radio"/> (5) Mildly Agree <input type="radio"/> (6) Agree <input type="radio"/> (7) Strongly Agree
People change the subject/topic when references to my gender and/or sexual orientation come up.	<input type="radio"/> (1) Strongly Disagree <input type="radio"/> (2) Disagree <input type="radio"/> (3) Mildly Disagree <input type="radio"/> (4) Neutral <input type="radio"/> (5) Mildly Agree <input type="radio"/> (6) Agree <input type="radio"/> (7) Strongly Agree
Most LGBTQ+ people end up lonely and isolated.	<input type="radio"/> (1) Strongly Disagree <input type="radio"/> (2) Disagree <input type="radio"/> (3) Mildly Disagree <input type="radio"/> (4) Neutral <input type="radio"/> (5) Mildly Agree <input type="radio"/> (6) Agree <input type="radio"/> (7) Strongly Agree

I have tried to feel more like the sex I was assigned at birth.

(1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

People told me not to disclose my gender and/or sexual orientation in some context (like work or school).

(1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

I can't feel comfortable knowing that others judge me negatively for my gender and/or sexual orientation.

(1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

If I come out, it will cause problems with my family and/or friends.

(1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

Whenever I think about being LGBTQ+, I feel depressed.

(1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

I have been verbally insulted (yelled at, criticized) because people knew or thought I was LGBTQ+.

(1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

I worry that other people do not trust me because I am LGBTQ+.

(1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

There are disagreements between members of my family because of my gender and/or sexual orientation.

(1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

I become preoccupied with whether people suspect me of being LGBTQ+.

(1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

Someone has threatened to tell someone else I am LGBTQ+.

- (1) Strongly Disagree
 - (2) Disagree
 - (3) Mildly Disagree
 - (4) Neutral
 - (5) Mildly Agree
 - (6) Agree
 - (7) Strongly Agree
-

People have told me to dress and/or act differently at work or school in order to hide my gender and/or sexual orientation.

- (1) Strongly Disagree
 - (2) Disagree
 - (3) Mildly Disagree
 - (4) Neutral
 - (5) Mildly Agree
 - (6) Agree
 - (7) Strongly Agree
-

I am glad to be LGBTQ+.

- (1) Strongly Disagree
 - (2) Disagree
 - (3) Mildly Disagree
 - (4) Neutral
 - (5) Mildly Agree
 - (6) Agree
 - (7) Strongly Agree
-

I think a lot about how my gender and/or sexual orientation affects the way people see me.

- (1) Strongly Disagree
 - (2) Disagree
 - (3) Mildly Disagree
 - (4) Neutral
 - (5) Mildly Agree
 - (6) Agree
 - (7) Strongly Agree
-

I have experienced physical violence (e.g., punched, kicked, or beaten) because someone thought or knew I was LGBTQ+.

- (1) Strongly Disagree
 - (2) Disagree
 - (3) Mildly Disagree
 - (4) Neutral
 - (5) Mildly Agree
 - (6) Agree
 - (7) Strongly Agree
-

I have been treated unfairly by teachers or professors because of my gender and/or sexual orientation.

- (1) Strongly Disagree
 - (2) Disagree
 - (3) Mildly Disagree
 - (4) Neutral
 - (5) Mildly Agree
 - (6) Agree
 - (7) Strongly Agree
-

Whenever I think about being LGBTQ+, I feel critical about myself.

- (1) Strongly Disagree
- (2) Disagree
- (3) Mildly Disagree
- (4) Neutral
- (5) Mildly Agree
- (6) Agree
- (7) Strongly Agree

Appendix H

19-item Emerging Adult Inventory of Minority Stress

Instructions. Think back over the past 3 months (90 days) of your life. Indicate how much you agree or disagree with the following statements for the past three months of your life. You can think about your gender, your sexual orientation, or the intersections between them while answering the questions. The questions may ask you to think about events or experiences that may be painful or uncomfortable to recall, such as violence and discrimination. You can leave the survey at any time and you can choose not to answer any questions you are not comfortable answering.

- | | | |
|-------|---|--|
| 1 | I have been treated unfairly by people in helping jobs (by doctors, nurses, psychiatrists, caseworkers, dentists, school counselors, therapists, pediatricians, school principals, gynecologists, and others) because of my gender and/or sexual orientation. | <input type="radio"/> (1) Strongly Disagree
<input type="radio"/> (2) Disagree
<input type="radio"/> (3) Mildly Disagree
<input type="radio"/> (4) Neutral
<input type="radio"/> (5) Mildly Agree
<input type="radio"/> (6) Agree
<input type="radio"/> (7) Strongly Agree |
| <hr/> | | |
| 2 | I feel like the current time in my life is a time of many worries because of my gender and/or sexual orientation. | <input type="radio"/> (1) Strongly Disagree
<input type="radio"/> (2) Disagree
<input type="radio"/> (3) Mildly Disagree
<input type="radio"/> (4) Neutral
<input type="radio"/> (5) Mildly Agree
<input type="radio"/> (6) Agree
<input type="radio"/> (7) Strongly Agree |
| <hr/> | | |
| 3 | I feel like the current time in my life is a time of feeling stressed out about my gender and/or sexual orientation. | <input type="radio"/> (1) Strongly Disagree
<input type="radio"/> (2) Disagree
<input type="radio"/> (3) Mildly Disagree
<input type="radio"/> (4) Neutral
<input type="radio"/> (5) Mildly Agree
<input type="radio"/> (6) Agree
<input type="radio"/> (7) Strongly Agree |
| <hr/> | | |
| 4 | I have been treated unfairly by strangers because of my gender and/or sexual orientation. | <input type="radio"/> (1) Strongly Disagree
<input type="radio"/> (2) Disagree
<input type="radio"/> (3) Mildly Disagree
<input type="radio"/> (4) Neutral
<input type="radio"/> (5) Mildly Agree
<input type="radio"/> (6) Agree
<input type="radio"/> (7) Strongly Agree |
| <hr/> | | |
| 5 | I am quick to notice changes in how someone is treating me if they have reason to suspect me of being LGBTQ+. | <input type="radio"/> (1) Strongly Disagree
<input type="radio"/> (2) Disagree
<input type="radio"/> (3) Mildly Disagree
<input type="radio"/> (4) Neutral
<input type="radio"/> (5) Mildly Agree
<input type="radio"/> (6) Agree
<input type="radio"/> (7) Strongly Agree |
| <hr/> | | |
| 6 | I have been treated unfairly by my employer, boss, or supervisors because of my gender and/or sexual orientation. | <input type="radio"/> (1) Strongly Disagree
<input type="radio"/> (2) Disagree
<input type="radio"/> (3) Mildly Disagree
<input type="radio"/> (4) Neutral
<input type="radio"/> (5) Mildly Agree
<input type="radio"/> (6) Agree
<input type="radio"/> (7) Strongly Agree |
| <hr/> | | |
| 7 | There are disagreements between members of my family because of my gender and/or sexual orientation. | <input type="radio"/> (1) Strongly Disagree
<input type="radio"/> (2) Disagree
<input type="radio"/> (3) Mildly Disagree
<input type="radio"/> (4) Neutral
<input type="radio"/> (5) Mildly Agree
<input type="radio"/> (6) Agree
<input type="radio"/> (7) Strongly Agree |
| <hr/> | | |
| 8 | I have experienced physical violence (e.g., punched, kicked, or beaten) because someone thought or knew I was LGBTQ+. | <input type="radio"/> (1) Strongly Disagree
<input type="radio"/> (2) Disagree
<input type="radio"/> (3) Mildly Disagree
<input type="radio"/> (4) Neutral
<input type="radio"/> (5) Mildly Agree
<input type="radio"/> (6) Agree
<input type="radio"/> (7) Strongly Agree |

- 9 I feel that my gender and/or sexual orientation is a personal shortcoming for me. (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree
-
- 10 I have been rejected and/or not accepted by family members because of my gender and/or sexual orientation. (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree
-
- 11 I have been threatened with physical violence because people knew or thought I was LGBTQ+. (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree
-
- 12 I feel like the current time in my life is a time of unpredictability for my gender and/or sexual orientation. (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree
-
- 13 I feel like the current time in my life is a time of instability for my gender and/or sexual orientation. (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree
-
- 14 I have been sexually assaulted because people knew or thought I was LGBTQ+. (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree
-
- 15 If I were both heterosexual and cisgender, I would probably be happier. (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree
-
- 16 Whenever I think about being LGBTQ+, I feel critical about myself. (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree
-
- 17 If I come out, it will cause problems with my family and/or friends. (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

- 18 Whenever I think about being LGBTQ+, I feel depressed.
- (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree
-
- 19 I have been verbally insulted (yelled at, criticized) because people knew or thought I was LGBTQ+.
- (1) Strongly Disagree
 (2) Disagree
 (3) Mildly Disagree
 (4) Neutral
 (5) Mildly Agree
 (6) Agree
 (7) Strongly Agree

Subscale Items:

Distal Stress: 1, 6, 8, 11, 14, 19

Internalized SGM Negativity: 9, 15, 16, 18

Relational Vigilance: 5, 7, 10, 17

Identity Instability: 12, 13

SGM Related Apprehension: 2, 3, 4

References

- Adamson, S. J., Kay-Lambkin, F. J., Baker, A. L., Lewin, T. J., Thornton, L., Kelly, B. J., & Sellman, J. D. (2010). An improved brief measure of cannabis misuse: The Cannabis Use Disorders Identification Test-Revised (CUDIT-R). *Drug and Alcohol Dependence, 110*(1–2), 137–143. <https://doi.org/10.1016/j.drugalcdep.2010.02.017>
- Alessi, E. J., Sapiro, B., Kahn, S., & Craig, S. L. (2017). The first-year university experience for sexual minority students: A grounded theory exploration. *Journal of LGBT Youth, 14*(1), 71–92. <https://doi.org/10.1080/19361653.2016.1256013>
- Amanda, J., & Roswiyani, R. (2021, December 1). *The Relationships of Self-Compassion and Stress Among Emerging Adults Experiencing Early Adult Crisis*. <https://doi.org/10.2991/ahsr.k.211130.029>
- Anders, K. M., & Olmstead, S. B. (2019). “Stepping Out of My Sexual Comfort Zone”: Comparing the Sexual Possible Selves and Strategies of College-Attending and Non-College Emerging Adults. *Archives of Sexual Behavior, 48*(6), 1877–1891. <https://doi.org/10.1007/s10508-019-01477-0>
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*(5), 469–480. <https://doi.org/10.1037/0003-066X.55.5.469>
- Arnett, J. J. (2004). *Emerging adulthood: The winding road from the late teens through the twenties*. Oxford University Press.
- Arnett, J. J. (2007). Emerging Adulthood: What Is It, and What Is It Good For? *Child Development Perspectives, 1*(2), 68–73. <https://doi.org/10.1111/j.1750-8606.2007.00016.x><https://doi.org/10.1177/0163278714521812>

- Arnett, J. J., & Mitra, D. (2020). Are the Features of Emerging Adulthood Developmentally Distinctive? A Comparison of Ages 18–60 in the United States. *Emerging Adulthood*, 8(5), 412–419. <https://doi.org/10.1177/2167696818810073>
- Babor, T. F., Higgins-Biddle, J. C., Saunders, J. B., & Monteiro, M. G. (2001). *The Alcohol Use Disorders Identification Test- Guidelines for Use in Primary Care*. World Health Organization.
http://apps.who.int/iris/bitstream/handle/10665/67205/WHO_MSD_MSB_01.6a.pdf;jsessionid=D275D7AF1E11EB0C3E391FEFCFF58885?sequence=1
- Baggio, S., Studer, J., Iglesias, K., Daeppen, J.-B., & Gmel, G. (2017). Emerging Adulthood: A Time of Changes in Psychosocial Well-Being. *Evaluation & the Health Professions*, 40(4), 383–400. <https://doi.org/10.1177/0163278716663602>
- Baker, K. E. (2019). Findings From the Behavioral Risk Factor Surveillance System on Health-Related Quality of Life Among US Transgender Adults, 2014-2017. *JAMA Internal Medicine*, 179(8), 1141. <https://doi.org/10.1001/jamainternmed.2018.7931>
- Balsam, K. F., Beadnell, B., & Molina, Y. (2013). The Daily Heterosexist Experiences Questionnaire: Measuring Minority Stress Among Lesbian, Gay, Bisexual, and Transgender Adults. *Measurement and Evaluation in Counseling and Development: The Official Publication of the Association for Measurement and Evaluation in Counseling and Development*, 46(1), 3–25. <https://doi.org/10.1177/0748175612449743>
- Barker, C., Pistrang, N., & Elliot, R. (1994). *Research methods in clinical and counselling psychology* (pp. xiv, 282). John Wiley & Sons.
- Bates, A., Hobman, T., & Bell, B. T. (2020). “Let Me Do What I Please with It . . . Don’t Decide My Identity for Me”: LGBTQ+ Youth Experiences of Social Media in Narrative Identity

- Development. *Journal of Adolescent Research*, 35(1), 51–83.
<https://doi.org/10.1177/0743558419884700>
- Blair, J., & Conrad, F. (2011). Sample Size for Cognitive Interview Pretesting. *The Public Opinion Quarterly*, 75, 636–658. <https://doi.org/10.2307/41288411>
- Blanco, C., Okuda, M., Wright, C., Hasin, D. S., Grant, B. F., Liu, S.-M., & Olfson, M. (2008). Mental Health of College Students and Their Non-College-Attending Peers: Results from the National Epidemiologic Study on Alcohol and Related Conditions. *Archives of General Psychiatry*, 65(12), 1429–1437. <https://doi.org/10.1001/archpsyc.65.12.1429>
- Blevins, C. E., Caviness, C. M., Anderson, B. J., Herman, D. S., & Stein, M. D. (2021). What Impacts Feelings of Adulthood Among College-Attending and Non-College-Attending Emerging Adults Who Use Alcohol and Cannabis? *Emerging Adulthood*, 9(2), 170–176.
<https://doi.org/10.1177/2167696819844059>
- Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quiñonez, H. R., & Young, S. L. (2018). Best Practices for Developing and Validating Scales for Health, Social, and Behavioral Research: A Primer. *Frontiers in Public Health*, 6.
<https://doi.org/10.3389/fpubh.2018.00149>
- Borghi, A. M., & Fini, C. (2019). Theories and Explanations in Psychology. *Frontiers in Psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.00958>
- Bosse, J. D. (2019). Sexual and Gender Identity Development in Young Adults and Implications for Healthcare. *Current Sexual Health Reports*, 11(4), 274–286.
<https://doi.org/10.1007/s11930-019-00215-w>
- Bostwick, W. B., Boyd, C. J., Hughes, T. L., & McCabe, S. E. (2010). Dimensions of Sexual Orientation and the Prevalence of Mood and Anxiety Disorders in the United States.

- American Journal of Public Health*, 100(3), 468–475.
<https://doi.org/10.2105/AJPH.2008.152942>
- Bostwick, W. B., Boyd, C. J., Hughes, T. L., West, B. T., & McCabe, S. E. (2014). Discrimination and mental health among lesbian, gay, and bisexual adults in the United States. *American Journal of Orthopsychiatry*, 84(1), 35–45.
<https://doi.org/10.1037/h0098851>
- Brooks, V. R. (1981). *Minority stress and lesbian women*.
- Busby, D. R., Horwitz, A. G., Zheng, K., Eisenberg, D., Harper, G. W., Albucher, R. C., Roberts, L. W., Coryell, W., Pistorello, J., & King, C. A. (2020). Suicide risk among gender and sexual minority college students: The roles of victimization, discrimination, connectedness, and identity affirmation. *Journal of Psychiatric Research*, 121, 182–188.
<https://doi.org/10.1016/j.jpsychires.2019.11.013>
- Cantrill, J. A., Sibbald, B., & Buetow, S. (1996). The Delphi and Nominal Group Techniques in Health Services Research. *International Journal of Pharmacy Practice*, 4(2), 67–74.
<https://doi.org/10.1111/j.2042-7174.1996.tb00844.x>
- Carter, R. T., Lau, M. Y., Johnson, V., & Kirkinis, K. (2017). Racial Discrimination and Health Outcomes Among Racial/Ethnic Minorities: A Meta-Analytic Review. *Journal of Multicultural Counseling and Development*, 45(4), 232–259.
<https://doi.org/10.1002/jmcd.12076>
- Chaffin, W. W., & Talley, W. K. (1980). Individual Stability in Delphi Studies. *Technological Forecasting and Social Change*, 16(1), 67–73. [https://doi.org/10.1016/0040-1625\(80\)90074-8](https://doi.org/10.1016/0040-1625(80)90074-8)

- Clare, K. J. S. (2018). Linguistic Disarmament: On How Hate Speech Functions, The Way Hate Words Can Be Reclaimed, And Why We Must Pursue Their Reclamation. *Linguistic and Philosophical Investigations*, *17*, 79–109.
- Clary, K. L., Goffnett, J., Bennett, K., & Smith, D. (2022). A Comparison of Developmental Reasons for Substance Use Between Sexual Minority and Heterosexual Emerging Adults. *Journal of Gay & Lesbian Social Services*, *34*(3), 360–380.
<https://doi.org/10.1080/10538720.2021.1984358>
- Cochran, S. D., Mays, V. M., & Sullivan, J. G. (2003). Prevalence of Mental Disorders, Psychological Distress, and Mental Health Services Use among Lesbian, Gay, and Bisexual Adults in the United States. *Journal of Consulting and Clinical Psychology*, *71*(1), 53–61. <https://doi.org/10.1037//0022-006x.71.1.53>
- Cohen, J. (1960). A Coefficient of Agreement for Nominal Scales. *Educational and Psychological Measurement*, *20*(1), 37–46. <https://doi.org/10.1177/001316446002000104>
- Cox, N., Berghe, W. V., Dewaele, A., & Vinke, J. (2008). General and Minority Stress in an LGB Population in Flanders. *Journal of LGBT Health Research*, *4*(4), 181–194.
<https://doi.org/10.1080/15574090802657168>
- Craig, S. L., & McInroy, L. (2014). You Can Form a Part of Yourself Online: The Influence of New Media on Identity Development and Coming Out for LGBTQ Youth. *Journal of Gay & Lesbian Mental Health*, *18*(1), 95–109.
<https://doi.org/10.1080/19359705.2013.777007>
- Crittenden, C. A., Policastro, C., & Eigenberg, H. M. (2017). Attitudes Toward Dating Violence: How Does Sexual Identity Influence Perceptions Among College Students? *Journal of*

- Aggression, Maltreatment & Trauma*, 26(7), 804–824.
<https://doi.org/10.1080/10926771.2017.1328473>
- Cui, M., Darling, C. A., Coccia, C., Fincham, F. D., & May, R. W. (2019). Indulgent Parenting, Helicopter Parenting, and Well-being of Parents and Emerging Adults. *Journal of Child and Family Studies*, 28(3), 860–871. <https://doi.org/10.1007/s10826-018-01314-3>
- Currie, M. R., Cunningham, E. G., & Findlay, B. M. (2004). The Short Internalized Homonegativity Scale: Examination of the Factorial Structure of a New Measure of Internalized Homophobia. *Educational and Psychological Measurement*, 64(6), 1053–1067. <https://doi.org/10.1177/0013164404264845>
- Davis, J. P., Dumas, T. M., Briley, D. A., & Sussman, S. (2018). A Meta-Analysis of the Association Between Substance Use and Emerging Adult Development Using the IDEA Scale. *The American Journal on Addictions*, 27(3), 166–176.
<https://doi.org/10.1111/ajad.12707>
- de Villiers, M. R., de Villiers, P. J. T., & Kent, A. P. (2005). The Delphi Technique in Health Sciences Education Research. *Medical Teacher*, 27(7), 639–643.
<https://doi.org/10.1080/13611260500069947>
- Dillman, D. A. (2007). *Mail and Internet Surveys: The Tailored Design Method*. Wiley.
- Douglass, R. P., & Conlin, S. E. (2022). Minority Stress Among LGB People: Investigating Relations Among Distal and Proximal Stressors. *Current Psychology*, 41(6), 3730–3740.
<https://doi.org/10.1007/s12144-020-00885-z>
- Dunlap, A. (2016). Changes in coming out milestones across five age cohorts. *Journal of Gay & Lesbian Social Services*, 28(1), 20–38. <https://doi.org/10.1080/10538720.2016.1124351>

- Dyar, C., Newcomb, M. E., & Mustanski, B. (2019). Longitudinal associations between minority stressors and substance use among sexual and gender minority individuals. *Drug and Alcohol Dependence, 201*, 205–211. <https://doi.org/10.1016/j.drugalcdep.2019.03.032>
- Dyer, T. P., Regan, R., Pacek, L. R., Acheampong, A., & Khan, M. R. (2015). Psychosocial vulnerability and HIV-related sexual risk among men who have sex with men and women in the United States. *Archives of Sexual Behavior, 44*(2), 429–441. <https://doi.org/10.1007/s10508-014-0346-7>
- Edmondson, D. (2021). Word norms and measures of linguistic reclamation for LGBTQ+ slurs. *Pragmatics & Cognition, 28*(1), 193–221. <https://doi.org/10.1075/pc.00023.edm>
- Embretson, S. E., & Hershberger, S. L. (1999). *The New Rules of Measurement: What Every Psychologist and Educator Should Know*. Psychology Press.
- Emmer, C., Bosnjak, M., & Mata, J. (2020). The association between weight stigma and mental health: A meta-analysis. *Obesity Reviews, 21*(1), e12935. <https://doi.org/10.1111/obr.12935>
- Evans-Polce, R. J., Veliz, P. T., Boyd, C. J., Hughes, T. L., & McCabe, S. E. (2020). Associations between sexual orientation discrimination and substance use disorders: Differences by age in US adults. *Social Psychiatry and Psychiatric Epidemiology, 55*(1), 101–110. <https://doi.org/10.1007/s00127-019-01694-x>
- Feingold, A., Capaldi, D. M., & Owen, L. D. (2015). Proximal vs. Distal predictors of alcohol use disorders and treatment utilization in at-risk men in early middle age. *Comprehensive Psychiatry, 61*, 64–71. <https://doi.org/10.1016/j.comppsy.2015.05.010>
- Feinstein, B. A., & Newcomb, M. E. (2016). The role of substance use motives in the associations between minority stressors and substance use problems among young men

- who have sex with men. *Psychology of Sexual Orientation and Gender Diversity*, 3(3), 357–366. <https://doi.org/10.1037/sgd0000185>
- Felner, J. K., Wisdom, J. P., Williams, T., Katuska, L., Haley, S. J., Jun, H.-J., & Corliss, H. L. (2019). Stress, Coping, and Context: Examining Substance Use Among LGBTQ Young Adults with Probable Substance Use Disorders. *Psychiatric Services*, 71(2), 112–120. <https://doi.org/10.1176/appi.ps.201900029>
- Fernández-Llamazares, C. M., Hernández-Gago, Y., Pozas, M., Cabañas, M. J., Feal, B., Villaronga, M., Alvarez-Del-Vayo, C., & Valverde, E. (2013). Two-round Delphi technique for the consensual design of a paediatric pharmaceutical care model. *Pharmacological Research*, 68(1), 31–37. <https://doi.org/10.1016/j.phrs.2012.11.001>
- Field, A. (2018). *Discovering Statistics Using SPSS* (5th ed.). SAGE Publications.
- Fisher, T. D., Davis, C. M., & Yarber, W. L. (2013). *Handbook of Sexuality-Related Measures*. Routledge.
- Fitch, K., Bernstein, S. J., Aguilar, M. D., Burnand, B., & LaCalle, J. R. (2001). *The RAND/UCLA Appropriateness Method User's Manual*. RAND CORP SANTA MONICA CA. <https://apps.dtic.mil/sti/citations/ADA393235>
- Flood, J., McLaughlin, C., & Prentice, G. (2013). Minority Stress, Homonegativity, Alcohol Use and Mental Health Among College Gay Males. *Journal of Gay & Lesbian Mental Health*, 17(4), 367–386. <https://doi.org/10.1080/19359705.2013.800006>
- Fraser, G. (2018). Evaluating inclusive gender identity measures for use in quantitative psychological research. *Psychology & Sexuality*, 9(4), 343–357. <https://doi.org/10.1080/19419899.2018.1497693>

- Frost, D. M., Hammack, P. L., Wilson, B. D. M., Russell, S. T., Lightfoot, M., & Meyer, I. H. (2020). The qualitative interview in psychology and the study of social change: Sexual identity development, minority stress, and health in the generations study. *Qualitative Psychology*, 7(3), 245–266. <https://doi.org/10.1037/qup0000148>
- Frost, D. M., Lehavot, K., & Meyer, I. H. (2015). Minority stress and physical health among sexual minority individuals. *Journal of Behavioral Medicine*, 38(1), 1–8. <https://doi.org/10.1007/s10865-013-9523-8>
- Glorfeld, L. W. (1995). An Improvement on Horn’s Parallel Analysis Methodology for Selecting the Correct Number of Factors to Retain. *Educational and Psychological Measurement*, 55(3), 377–393. <https://doi.org/10.1177/0013164495055003002>
- Goldbach, J. T., & Gibbs, J. J. (2017). A developmentally informed adaptation of minority stress for sexual minority adolescents. *Journal of Adolescence*, 55, 36–50. <https://doi.org/10.1016/j.adolescence.2016.12.007>
- Goldbach, J. T., Schragger, S. M., & Mamey, M. R. (2017). Criterion and Divergent Validity of the Sexual Minority Adolescent Stress Inventory. *Frontiers in Psychology*, 8. <https://doi.org/10.3389/fpsyg.2017.02057>
- Goldbach, J. T., Tanner-Smith, E. E., Bagwell, M., & Dunlap, S. (2014). Minority stress and substance use in sexual minority adolescents: A meta-analysis. *Prevention Science: The Official Journal of the Society for Prevention Research*, 15(3), 350–363. <https://doi.org/10.1007/s11121-013-0393-7>
- Goldberg, A. E., & Kuvalanka, K. A. (2018). Navigating identity development and community belonging when “there are only two boxes to check”: An exploratory study of nonbinary

- trans college students. *Journal of LGBT Youth*, 15(2), 106–131.
<https://doi.org/10.1080/19361653.2018.1429979>
- Gonzalez, C. A., Gallego, J. D., & Bockting, W. O. (2017). An examination of demographic characteristics, components of sexuality and gender, and minority stress as predictors of excessive alcohol, cannabis, and illicit (noncannabis) drug use among a large sample of transgender people in the United States. *The Journal of Primary Prevention*, 38(4), 419–445. <https://doi.org/10.1007/s10935-017-0469-4>
- Gonzales, G., & Green, J. (2020). Medication Use Among Sexual-Minority Populations for Self-Reported Feelings of Depression and Anxiety. *Psychiatric Services*, 71(4), 343–354.
<https://doi.org/10.1176/appi.ps.201900219>
- Goodman, I., Henderson, J., Peterson-Badali, M., & Goldstein, A. L. (2015). The relationship between psychosocial features of emerging adulthood and substance use change motivation in youth. *Journal of Substance Abuse Treatment*, 52, 58–66.
<https://doi.org/10.1016/j.jsat.2014.12.004>
- Goulet, M., & Villatte, A. (2020). Understanding Risk and Resilience for Sexual Minority Emerging Adults: A Longitudinal Outlook on Minority Stress, Mental Health, and Academic Perseverance. *Sexuality Research and Social Policy*, 17(3), 511–523.
<https://doi.org/10.1007/s13178-019-00412-1>
- Graugaard, C., Giraldi, A., Frisch, M., Falgaard Eplov, L., & Davidsen, M. (2015). Self-reported sexual and psychosocial health among non-heterosexual Danes. *Scandinavian Journal of Public Health*, 43(3), 309–314. <https://doi.org/10.1177/1403494814563371>
- Guillory, J., Wiant, K. F., Farrelly, M., Fiacco, L., Alam, I., Hoffman, L., Crankshaw, E., Delahanty, J., & Alexander, T. N. (2018). Recruiting Hard-to-Reach Populations for

- Survey Research: Using Facebook and Instagram Advertisements and In-Person Intercept in LGBT Bars and Nightclubs to Recruit LGBT Young Adults. *Journal of Medical Internet Research*, 20(6). <https://doi.org/10.2196/jmir.9461>
- Halliburton, A. E., Hill, M. B., Dawson, B. L., Hightower, J. M., & Rueden, H. (2021). Increased Stress, Declining Mental Health: Emerging Adults' Experiences in College During COVID-19. *Emerging Adulthood*, 9(5), 433–448. <https://doi.org/10.1177/21676968211025348>
- Hammack, P. L., Hughes, S. D., Atwood, J. M., Cohen, E. M., & Clark, R. C. (2022). Gender and Sexual Identity in Adolescence: A Mixed-Methods Study of Labeling in Diverse Community Settings. *Journal of Adolescent Research*, 37(2), 167–220. <https://doi.org/10.1177/07435584211000315>
- Hancock, D. W., Talley, A. E., Bohanek, J., Iserman, M. D., & Ireland, M. (2018). Sexual Orientation Self-Concept Ambiguity and Alcohol Use Disorder Symptomology: The Roles of Motivated Psychological Distancing and Drinking to Cope. *Journal of Studies on Alcohol and Drugs*, 79(1), 96–101. <https://doi.org/10.15288/jsad.2018.79.96>
- Harvey, R. J., & Hammer, A. L. (1999). Item Response Theory. *The Counseling Psychologist*, 27(3), 353–383. <https://doi.org/10.1177/0011000099273004>
- Hatzenbuehler, M. L., Nolen-Hoeksema, S., & Erickson, S. J. (2008). Minority stress predictors of HIV risk behavior, substance use, and depressive symptoms: Results from a prospective study of bereaved gay men. *Health Psychology*, 27(4), 455–462. <https://doi.org/10.1037/0278-6133.27.4.455>
- Hatzenbuehler, M. L., & Pachankis, J. E. (2016). Stigma and Minority Stress as Social Determinants of Health Among Lesbian, Gay, Bisexual, and Transgender Youth:

- Research Evidence and Clinical Implications. *Pediatric Clinics*, 63(6), 985–997.
<https://doi.org/10.1016/j.pcl.2016.07.003>
- Hayes, J. A., Chun-Kennedy, C., Edens, A., & Locke, B. D. (2011). Do Double Minority Students Face Double Jeopardy? Testing Minority Stress Theory. *Journal of College Counseling*, 14(2), 117–126. <https://doi.org/10.1002/j.2161-1882.2011.tb00267.x>
- Hayton, J. C., Allen, D. G., & Scarpello, V. (2004). Factor Retention Decisions in Exploratory Factor Analysis: A Tutorial on Parallel Analysis. *Organizational Research Methods*, 7(2), 191–205. <https://doi.org/10.1177/1094428104263675>
- Hendricks, M. L., & Testa, R. J. (2012). A conceptual framework for clinical work with transgender and gender nonconforming clients: An adaptation of the Minority Stress Model. *Professional Psychology: Research and Practice*, 43(5), 460–467.
<https://doi.org/10.1037/a0029597>
- Hepworth, L. R., & Rowe, F. J. (2018). Using Delphi methodology in the development of a new patient-reported outcome measure for stroke survivors with visual impairment. *Brain and Behavior*, 8(2). <https://doi.org/10.1002/brb3.898>
- Hingson, R. W., Zha, W., & Weitzman, E. R. (2009). Magnitude of and Trends in Alcohol-Related Mortality and Morbidity Among U.S. College Students Ages 18-24, 1998-2005. *Journal of Studies on Alcohol and Drugs. Supplement*, 16, 12–20.
- Holey, E. A., Feeley, J. L., Dixon, J., & Whittaker, V. J. (2007). An exploration of the use of simple statistics to measure consensus and stability in Delphi studies. *BMC Medical Research Methodology*, 7(1), 52. <https://doi.org/10.1186/1471-2288-7-52>

- Hoy-Ellis, C. P., & Fredriksen-Goldsen, K. I. (2017). Depression Among Transgender Older Adults: General and Minority Stress. *American Journal of Community Psychology, 59*(3–4), 295–305. <https://doi.org/10.1002/ajcp.12138>
- Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods, 3*(4), 424–453. <https://doi.org/10.1037/1082-989X.3.4.424>
- Irvine, S. H. (2002). The Foundations of Item Generation for Mass Testing. In *Item Generation for Test Development*. Routledge.
- Israeli, A. L., & Santor, D. A. (2000). Reviewing effective components of feminist therapy. *Counselling Psychology Quarterly, 13*(3), 233–247. <https://doi.org/10.1080/095150700300091820>
- Jeshion, R. (2020). Pride and Prejudiced: On the Reclamation of Slurs. *Grazer Philosophische Studien, 97*(1), 106–137. <https://doi.org/10.1163/18756735-09701007>
- Jones, J., & Hunter, D. (1995). Consensus methods for medical and health services research. *BMJ (Clinical Research Ed.), 311*(7001), 376–380. <https://doi.org/10.1136/bmj.311.7001.376>
- Jones, S. R., & Abes, E. S. (2013). *Identity Development of College Students: Advancing Frameworks for Multiple Dimensions of Identity*. John Wiley & Sons.
- Kalb, N., Gillis, J. R., & Goldstein, A. L. (2018). Drinking to Cope with Sexual Minority Stressors: Understanding Alcohol Use and Consequences among LGBTQ Emerging Adults. *Journal of Gay & Lesbian Mental Health, 0*(ja), 1–28. <https://doi.org/10.1080/19359705.2018.1476277>

- Kan, I. P., & Drumme, A. B. (2018). Do imposters threaten data quality? An examination of worker misrepresentation and downstream consequences in Amazon's Mechanical Turk workforce. *Computers in Human Behavior, 83*, 243–253.
<https://doi.org/10.1016/j.chb.2018.02.005>
- Kelley, T. M., & Robertson, R. A. (2008). Relational aggression and victimization in gay male relationships: The role of internalized homophobia. *Aggressive Behavior, 34*(5), 475–485. <https://doi.org/10.1002/ab.20264>
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry, 62*(6), 593–602.
<https://doi.org/10.1001/archpsyc.62.6.593>
- Khantzian, E. J., & Albanese, M. J. (2008). *Understanding addiction as self medication: Finding hope behind the pain*. Rowman & Littlefield.
- Kiger, M. E., & Varpio, L. (2020). Thematic analysis of qualitative data: AMEE Guide No. 131. *Medical Teacher, 42*(8), 846–854. <https://doi.org/10.1080/0142159X.2020.1755030>
- Koob, G. F., Powell, P., & White, A. (2020). Addiction as a Coping Response: Hyperkatifeia, Deaths of Despair, and COVID-19. *The American Journal of Psychiatry, 177*(11), 1031–1037. <https://doi.org/10.1176/appi.ajp.2020.20091375>
- Kovess-Masfety, V., Leray, E., Denis, L., Husky, M., Pitrou, I., & Bodeau-Livinec, F. (2016). Mental health of college students and their non-college-attending peers: Results from a large French cross-sectional survey. *BMC Psychology, 4*, 20.
<https://doi.org/10.1186/s40359-016-0124-5>

- Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9. *Journal of General Internal Medicine*, *16*(9), 606–613. <https://doi.org/10.1046/j.1525-1497.2001.016009606.x>
- Kroenke, K., Strine, T. W., Spitzer, R. L., Williams, J. B. W., Berry, J. T., & Mokdad, A. H. (2009). The PHQ-8 as a measure of current depression in the general population. *Journal of Affective Disorders*, *114*(1–3), 163–173. <https://doi.org/10.1016/j.jad.2008.06.026>
- Kyriazos, T. A. (2018). Applied Psychometrics: Sample Size and Sample Power Considerations in Factor Analysis (EFA, CFA) and SEM in General. *Psychology*, *09*(08), 08. <https://doi.org/10.4236/psych.2018.98126>
- Lea, T., de Wit, J., & Reynolds, R. (2014). Minority Stress in Lesbian, Gay, and Bisexual Young Adults in Australia: Associations with Psychological Distress, Suicidality, and Substance Use. *Archives of Sexual Behavior*, *43*(8), 1571–1578. <https://doi.org/10.1007/s10508-014-0266-6>
- Lee, C. M., Cadigan, J. M., Fairlie, A. M., & Lewis, M. A. (2018). Transitions into young adulthood: Extent to which alcohol use, perceived drinking norms, and consequences vary by education and work statuses among 18-20year olds. *Addictive Behaviors*, *79*, 107–112. <https://doi.org/10.1016/j.addbeh.2017.12.004>
- Lewis, R. J., Derlega, V. J., Berndt, A., Morris, L. M., & Rose, S. (2001). An empirical analysis of stressors for gay men and lesbians. *Journal of Homosexuality*, *42*(1), 63–88. https://doi.org/10.1300/J082v42n01_04
- Lipari, R. N. (2018). *Key Substance Use and Mental Health Indicators in the United States: Results from the 2018 National Survey on Drug Use and Health*. 82.

- Lisha, N. E., Grana, R., Sun, P., Rohrbach, L., Spruijt-Metz, D., Reifman, A., & Sussman, S. (2014). Evaluation of the Psychometric Properties of the Revised Inventory of the Dimensions of Emerging Adulthood (IDEA-R) in a Sample of Continuation High School Students. *Evaluation & the Health Professions, 37*(2), 156–177.
<https://doi.org/10.1177/0163278712452664>
- Liu, Y., Millsap, R. E., West, S. G., Tein, J., Tanaka, R., & Grimm, K. J. (2017). Testing Measurement Invariance in Longitudinal Data with Ordered-Categorical Measures. *Psychological Methods, 22*(3), 486–506. <https://doi.org/10.1037/met0000075>
- Livingston, N. A., Christianson, N., & Cochran, B. N. (2016). Minority stress, psychological distress, and alcohol misuse among sexual minority young adults: A resiliency-based conditional process analysis. *Addictive Behaviors, 63*, 125–131.
<https://doi.org/10.1016/j.addbeh.2016.07.011>
- Livingston, N. A., Flentje, A., Heck, N. C., Szalda-Petree, A., & Cochran, B. N. (2017). Ecological momentary assessment of daily discrimination experiences and nicotine, alcohol, and drug use among sexual and gender minority individuals. *Journal of consulting and clinical psychology, 85*(12), 1131–1143. <https://doi-org.libezproxy2.syr.edu/10.1037/ccp0000252>
- Lucassen, M. F. G., Fleming, T. M., & Merry, S. N. (2017). Tips for research recruitment: The views of sexual minority youth. *Journal of LGBT Youth, 14*(1), 16–30.
<https://doi.org/10.1080/19361653.2016.1256246>
- MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods, 4*(1), 84–99. <https://doi.org/10.1037/1082-989X.4.1.84>

- McCabe, S. E., Boyd, C., Hughes, T. L., & d'Arcy, H. (2003). Sexual Identity and Substance Use Among Undergraduate Students. *Substance Abuse, 24*(2), 77–91.
<https://doi.org/10.1023/A:1023768215020>
- McCabe, S. E., Hughes, T. L., Bostwick, W. B., West, B. T., & Boyd, C. J. (2009). Sexual orientation, substance use behaviors and substance dependence in the United States. *Addiction (Abingdon, England), 104*(8), 1333–1345. <https://doi.org/10.1111/j.1360-0443.2009.02596.x>
- McDonald, K. (2018). Social Support and Mental Health in LGBTQ Adolescents: A review of the literature. *Issues in Mental Health Nursing, 39*(1), 16–29.
<https://doi.org/10.1080/01612840.2017.1398283>
- McDonald, S. E., Murphy, J. L., Tomlinson, C. A., Matijczak, A., Applebaum, J. W., Wike, T. L., & Kattari, S. K. (2021). Relations Between Sexual and Gender Minority Stress, Personal Hardiness, and Psychological Stress in Emerging Adulthood: Examining Indirect Effects via Human-animal Interaction. *Youth & Society, 0044118X21990044*.
<https://doi.org/10.1177/0044118X21990044>
- McInroy, L. B. (2016). Pitfalls, Potentials, and Ethics of Online Survey Research: LGBTQ and Other Marginalized and Hard-to-Access Youths. *Social Work Research, 40*(2), 83–94.
<https://doi.org/10.1093/swr/svw005>
- Medley, G., Lipari, R.N., Bose, J., Cribb, D.S., Kroutil, L.A., & McHenry, G. (2016). *Sexual Orientation and Estimates of Adult Substance Use and Mental Health: Results from the 2015 National Survey on Drug Use and Health* ((National Survey on Drug Use and Health)). SAMHSA.

- Mereish, E. H. (2019). Substance Use and Misuse Among Sexual and Gender Minority Youth. *Current Opinion in Psychology, 30*, 123–127.
<https://doi.org/10.1016/j.copsyc.2019.05.002>
- Meyer, I. H. (2003). Prejudice, Social Stress, and Mental Health in Lesbian, Gay, and Bisexual Populations: Conceptual Issues and Research Evidence. *Psychological Bulletin, 129*(5), 674–697. <https://doi.org/10.1037/0033-2909.129.5.674>
- Meyer, I. H., & Frost, D. M. (2013). Minority stress and the health of sexual minorities. In *Handbook of psychology and sexual orientation* (pp. 252–266). Oxford University Press.
- Michaels, M. S., Chu, C., Silva, C., Schulman, B. E., & Joiner, T. (2015). Considerations Regarding Online Methods for Suicide-Related Research and Suicide Risk Assessment. *Suicide and Life-Threatening Behavior, 45*(1), 10–17. <https://doi.org/10.1111/sltb.12105>
- Michell, J. (1997). Quantitative science and the definition of measurement in psychology. *British Journal of Psychology, 88*(3), 355–383. <https://doi.org/10.1111/j.2044-8295.1997.tb02641.x>
- Millsap, R. E., & Yun-Tein, J. (2004). Assessing Factorial Invariance in Ordered-Categorical Measures. *Multivariate Behavioral Research, 39*(3), 479–515.
https://doi.org/10.1207/S15327906MBR3903_4
- Mitchell, K. J., Ybarra, M. L., Banyard, V., Goodman, K. L., & Jones, L. M. (2022). Impact of the COVID-19 Pandemic on Perceptions of Health and Well-Being Among Sexual and Gender Minority Adolescents and Emerging Adults. *LGBT Health, 9*(1), 34–42.
<https://doi.org/10.1089/lgbt.2021.0238>

- Mohr, J. J., & Kendra, M. S. (2011). Revision and extension of a multidimensional measure of sexual minority identity: The Lesbian, Gay, and Bisexual Identity Scale. *Journal of Counseling Psychology, 58*(2), 234–245. <https://doi.org/10.1037/a0022858>
- Molina, Y., Marquez, J. H., Logan, D. E., Leeson, C. J., Balsam, K. F., & Kaysen, D. L. (2015). Current Intimate Relationship Status, Depression, and Alcohol Use Among Bisexual Women: The Mediating Roles of Bisexual-Specific Minority Stressors. *Sex Roles, 73*(1), 43–57. <https://doi.org/10.1007/s11199-015-0483-z>
- Moradi, B., Mohr, J. J., Worthington, R. L., & Fassinger, R. E. (2009). Counseling psychology research on sexual (orientation) minority issues: Conceptual and methodological challenges and opportunities. *Journal of Counseling Psychology, 56*(1), 5–22. <https://doi.org/10.1037/a0014572>
- Morrison, T. G., Bishop, C. J., Morrison, M. A., & Parker-Taneo, K. (2016). A Psychometric Review of Measures Assessing Discrimination Against Sexual Minorities. *Journal of Homosexuality, 63*(8), 1086–1126. <https://doi.org/10.1080/00918369.2015.1117903>
- Murray, K., Crisp, D. A., Burns, R. A., & Byrne, D. (2020). Psychometric validation of the Emerging Adult Stress Inventory (EASI). *Psychological Assessment, 32*(12), 1133–1144. <https://doi.org/10.1037/pas0000952>
- Nelson, L. J., Willoughby, B. J., Rogers, A. A., & Padilla-Walker, L. M. (2015). “What a View!”: Associations Between Young People’s Views of the Late Teens and Twenties and Indices of Adjustment and Maladjustment. *Journal of Adult Development, 22*(3), 125–137. <https://doi.org/10.1007/s10804-015-9206-5>

- Newcomb, M. E., & Mustanski, B. (2010). Internalized homophobia and internalizing mental health problems: A meta-analytic review. *Clinical Psychology Review, 30*(8), 1019–1029. <https://doi.org/10.1016/j.cpr.2010.07.003>
- Niederberger, M., & Spranger, J. (2020). Delphi Technique in Health Sciences: A Map. *Frontiers in Public Health, 8*. <https://doi.org/10.3389/fpubh.2020.00457>
- Odani, S., Soura, B. D., Tynan, M. A., Lavinghouze, R., King, B. A., & Agaku, I. (2019). Tobacco and Marijuana Use Among US College and Noncollege Young Adults, 2002–2016. *Pediatrics, 144*(6). <https://doi.org/10.1542/peds.2019-1372>
- Osborne, J. W., Costello, A. B., & Kellow, J. T. (2008). Best Practices in Exploratory Factor Analysis. In J. Osborne, *Best Practices in Quantitative Methods* (pp. 86–99). SAGE Publications, Inc. <https://doi.org/10.4135/9781412995627.d8>
- Oswalt, S. B., & Wyatt, T. J. (2011). Sexual Orientation and Differences in Mental Health, Stress, and Academic Performance in a National Sample of U.S. College Students. *Journal of Homosexuality, 58*(9), 1255–1280. <https://doi.org/10.1080/00918369.2011.605738>
- Pachankis, J. E., Hatzenbuehler, M. L., & Starks, T. J. (2014). The influence of structural stigma and rejection sensitivity on young sexual minority men's daily tobacco and alcohol use. *Social Science & Medicine (1982), 103*, 67–75. <https://doi.org/10.1016/j.socscimed.2013.10.005>
- Pachankis, J. E., Mahon, C. P., Jackson, S. D., Fetzner, B. K., & Bränström, R. (2020). Sexual orientation concealment and mental health: A conceptual and meta-analytic review. *Psychological Bulletin, 146*(10), 831–871. <https://doi.org/10.1037/bul0000271>

- Parent, M. C., Arriaga, A. S., Gobble, T., & Wille, L. (2019). Stress and substance use among sexual and gender minority individuals across the lifespan. *Neurobiology of Stress, 10*, 100146. <https://doi.org/10.1016/j.ynstr.2018.100146>
- Parmenter, J. G., Galliher, R. V., Yaughner, A. C., & Maughan, A. D. A. (2020). Intersectionality and Identity Configurations: A Qualitative Study Exploring Sexual Identity Development Among Emerging Adults Within the United States. *Emerging Adulthood, 21*67696820946597. <https://doi.org/10.1177/2167696820946597>
- Parra, L. A., Bell, T. S., Benibgui, M., Helm, J. L., & Hastings, P. D. (2018). The buffering effect of peer support on the links between family rejection and psychosocial adjustment in LGB emerging adults. *Journal of Social and Personal Relationships, 35*(6), 854–871. <https://doi.org/10.1177/0265407517699713>
- Patrick, M. E., Terry-McElrath, Y. M., Evans-Polce, R. J., & Schulenberg, J. E. (2020). Negative alcohol-related consequences experienced by young adults in the past 12 months: Differences by college attendance, living situation, binge drinking, and sex. *Addictive Behaviors, 105*, 106320. <https://doi.org/10.1016/j.addbeh.2020.106320>
- Peterson, C. H., Dalley, L. M., Dombrowski, S. C., & Maier, C. (2017). A review of instruments that measure LGBTQ affirmation and discrimination constructs in adults. *Journal of LGBT Issues in Counseling, 11*(4), 230–246. <https://doi.org/10.1080/15538605.2017.1380555>
- Philbin, M. M., Mauro, P. M., Greene, E. R., & Martins, S. S. (2019). State-level marijuana policies and marijuana use and marijuana use disorder among a nationally representative sample of adults in the United States, 2015–2017: Sexual identity and Gender matter.

Drug and Alcohol Dependence, 204, 107506.

<https://doi.org/10.1016/j.drugalcdep.2019.06.009>

Pieterse, A., & Powell, S. (2016). A theoretical overview of the impact of racism on people of color. In *The cost of racism for people of color: Contextualizing experiences of discrimination* (pp. 11–30). American Psychological Association.

<https://doi.org/10.1037/14852-002>

Pilkington, N. W., & D'Augelli, A. R. (1995). Victimization of lesbian, gay, and bisexual youth in community settings. *Journal of Community Psychology*, 23(1), 34–56.

[https://doi.org/10.1002/1520-6629\(199501\)23:1<34::AID-JCOP2290230105>3.0.CO;2-N](https://doi.org/10.1002/1520-6629(199501)23:1<34::AID-JCOP2290230105>3.0.CO;2-N)

Przedworski, J. M., VanKim, N. A., Eisenberg, M. E., McAlpine, D. D., Lust, K. A., & Laska, M. N. (2015). Self-Reported Mental Disorders and Distress by Sexual Orientation. *American Journal of Preventive Medicine*, 49(1), 29–40.

<https://doi.org/10.1016/j.amepre.2015.01.024>

Puckett, J. A., Newcomb, M. E., Ryan, D. T., Swann, G., Garofalo, R., & Mustanski, B. (2017). Internalized Homophobia and Perceived Stigma: A Validation Study of Stigma Measures in a Sample of Young Men who Have Sex with Men. *Sexuality Research & Social Policy: Journal of NSRC: SR & SP*, 14(1), 1–16. <https://doi.org/10.1007/s13178-016-0258-5>

Ramos, J. M., Sheinfil, A. Z., Firkey, M. K., Simmons, E. M., & Woolf-King, S. E. (2020). Coping Motives as a Moderator of the Association Between Minority Stress and Alcohol Use Among College Students of Marginalized Sexualities and Genders. *Alcoholism-Clinical and Experimental Research*, 44, 174–174.

- Reed, E., Prado, G., Matsumoto, A., & Amaro, H. (2010). Alcohol and drug use and related consequences among gay, lesbian and bisexual college students: Role of experiencing violence, feeling safe on campus, and perceived stress. *Addictive Behaviors, 35*(2), 168–171. <https://doi.org/10.1016/j.addbeh.2009.09.005>
- Reifman, A., Arnett, J., & Colwell, M. (2016). *The IDEA: Inventory of the Dimensions of Emerging Adulthood (Extended analyses to accompany Reifman, Arnett, & Colwell, 2007, Journal of Youth Development)*. <https://doi.org/10.13140/RG.2.1.3547.6886>
- Reifman, A., Arnett, J. J., & Colwell, M. J. (2007). Emerging Adulthood: Theory, Assessment and Application. *Journal of Youth Development, 2*(1), 37–48. <https://doi.org/10.5195/jyd.2007.359>
- Revilla, M., & Ochoa, C. (2017). Ideal and Maximum Length for a Web Survey. *International Journal of Market Research, 59*(5), 557–565. <https://doi.org/10.2501/IJMR-2017-039>
- Rood, B. A., Reisner, S. L., Surace, F. I., Puckett, J. A., Maroney, M. R., & Pantalone, D. W. (2016). Expecting Rejection: Understanding the Minority Stress Experiences of Transgender and Gender-Nonconforming Individuals. *Transgender Health, 1*(1), 151–164. <https://doi.org/10.1089/trgh.2016.0012>
- Rowe, F. J., Hepworth, L. R., & Kirkham, J. J. (2019). Development of core outcome sets for vision screening and assessment in stroke: A Delphi and consensus study. *BMJ Open, 9*(9), e029578. <https://doi.org/10.1136/bmjopen-2019-029578>
- Salvatore, C., & Daftary-Kapur, T. (2020). The Influence of Emerging Adulthood on the Risky and Dangerous Behaviors of LGBT Populations. *Social Sciences, 9*(12), 12. <https://doi.org/10.3390/socsci9120228>

- Samuolis, J., Barcellos, M., LaFlam, J., Belson, D., & Berard, J. (2015). Mental Health Issues and Their Relation to Identity Distress in College Students. *Identity, 15*(1), 66–73.
<https://doi.org/10.1080/15283488.2014.989443>
- Santaguida, P., Dolovich, L., Oliver, D., Lamarche, L., Gilsing, A., Griffith, L. E., Richardson, J., Mangin, D., Kastner, M., & Raina, P. (2018). Protocol for a Delphi consensus exercise to identify a core set of criteria for selecting health related outcome measures (HROM) to be used in primary health care. *BMC Family Practice, 19*(1), 152.
<https://doi.org/10.1186/s12875-018-0831-5>
- Saunders, J. B., Aasland, O. G., Babor, T. F., de la Fuente, J. R., & Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption-II. *Addiction (Abingdon, England), 88*(6), 791–804.
- Schmitz, R. M., & Tyler, K. A. (2019). ‘Life has actually become more clear’: An examination of resilience among LGBTQ young adults. *Sexualities, 22*(4), 710–733.
<https://doi.org/10.1177/1363460718770451>
- Schrager, S. M., & Goldbach, J. T. (2017). Minority stress measure development: Theoretical concerns and suggested resolutions. In *Stress and Anxiety—Coping and Resilience* (pp. 211–222). <https://content-select.com/en/portal/media/view/5a8e86ff-d084-41dd-b176-66c5b0dd2d03>
- Schrager, S. M., Goldbach, J. T., & Mamey, M. R. (2018). Development of the Sexual Minority Adolescent Stress Inventory. *Frontiers in Psychology, 9*.
<https://doi.org/10.3389/fpsyg.2018.00319>

- Schulenberg, J. E., Lloyd D. J., O'Malley, P. M., Bachman, J. G., Miech, R. A., & Patrick, M. E. (2019). *Monitoring the Future - National Survey Results on Drug Use 1975-2019* (Volume 2). The National Institute on Drug Abuse.
http://www.monitoringthefuture.org/pubs/monographs/mtf-vol2_2019.pdf
- Schuler, M. S., Stein, B. D., & Collins, R. L. (2019). Differences in Substance Use Disparities Across Age Groups in a National Cross-Sectional Survey of Lesbian, Gay, and Bisexual Adults. *LGBT Health, 6*(2), 68–76. <https://doi.org/10.1089/lgbt.2018.0125>
- Scroggs, B., Love, H. A., & Torgerson, C. (2021). COVID-19 and LGBTQ Emerging Adults: Risk in the Face of Social Distancing. *Emerging Adulthood, 9*(5), 639–644.
<https://doi.org/10.1177/2167696820968699>
- Scroggs, B., & Vennun, A. (2021). Gender and sexual minority group identification as a process of identity development during emerging adulthood. *Journal of LGBT Youth, 18*(3), 287–304. <https://doi.org/10.1080/19361653.2020.1722780>
- Shields, G. S., Doty, D., Shields, R. H., Gower, G., Slavich, G. M., & Yonelinas, A. P. (2017). Recent life stress exposure is associated with poorer long-term memory, working memory, and self-reported memory. *Stress (Amsterdam, Netherlands), 20*(6), 598–607.
<https://doi.org/10.1080/10253890.2017.1380620>
- Sica, L. S., Aleni Sestito, L., & Ragozini, G. (2014). Identity Coping in the First Years of University: Identity Diffusion, Adjustment and Identity Distress. *Journal of Adult Development, 21*(3), 159–172. <https://doi.org/10.1007/s10804-014-9188-8>
- Slavich, G. M., & Shields, G. S. (2018). Assessing Lifetime Stress Exposure Using the Stress and Adversity Inventory for Adults (Adult STRAIN): An Overview and Initial

Validation. *Psychosomatic Medicine*, 80(1), 17–27.

<https://doi.org/10.1097/PSY.0000000000000534>

Slutske, W. S. (2005). Alcohol Use Disorders Among US College Students and Their Non-College-Attending Peers. *Archives of General Psychiatry*, 62(3), 321.

<https://doi.org/10.1001/archpsyc.62.3.321>

Slutske, W. S., Hunt-Carter, E. E., Nabors-Oberg, R. E., Sher, K. J., Bucholz, K. K., Madden, P. A. F., Anokhin, A., & Heath, A. C. (2004). Do college students drink more than their non-college-attending peers? Evidence from a population-based longitudinal female twin study. *Journal of Abnormal Psychology*, 113(4), 530–540. <https://doi.org/10.1037/0021-843X.113.4.530>

Smith, E. R., Perrin, P. B., & Sutter, M. E. (2020). Factor analysis of the heterosexual harassment, rejection, and discrimination scale in lesbian, gay, bisexual, transgender, and queer people of colour. *International Journal of Psychology: Journal International De Psychologie*, 55(3), 405–412. <https://doi.org/10.1002/ijop.12585>

Spencer, S. D., Pokhrel, P., Helm, S., Wilczek, K., Galimov, A., & Sussman, S. (2021). Emerging adulthood attributes, discrimination, mental health, and substance use in a sample of Asian, Native Hawaiian/Pacific Islander, and White college students. *Asian American Journal of Psychology*, No Pagination Specified-No Pagination Specified. <https://doi.org/10.1037/aap0000254>

Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A Brief Measure for Assessing Generalized Anxiety Disorder: The GAD-7. *Archives of Internal Medicine*, 166(10), 1092. <https://doi.org/10.1001/archinte.166.10.1092>

- Sussman, S., & Arnett, J. J. (2014). Emerging Adulthood: Developmental Period Facilitative of the Addictions. *Evaluation & the Health Professions*, 37(2), 147–155.
<https://doi.org/10.1177/0163278714521812>
- Sutter, M., & Perrin, P. B. (2016). Discrimination, mental health, and suicidal ideation among LGBTQ people of color. *Journal of Counseling Psychology*, 63(1), 98–105.
<https://doi.org/10.1037/cou0000126>
- Swann, G., Forscher, E., Bettin, E., Newcomb, M. E., & Mustanski, B. (2019). Effects of victimization on mental health and substance use trajectories in young sexual minority men. *Development and Psychopathology*, 31(4), 1423–1437.
<https://doi.org/10.1017/S0954579418001013>
- Syed, M., & Mitchell, L. L. (2016). How race and ethnicity shape emerging adulthood. In *The Oxford handbook of emerging adulthood* (pp. 87–101). Oxford University Press.
- Szymanski, D. M. (2006). Does Internalized Heterosexism Moderate the Link Between Heterosexist Events and Lesbians' Psychological Distress? *Sex Roles*, 54(3), 227–234.
<https://doi.org/10.1007/s11199-006-9340-4>
- Szymanski, D. M., & Bissonette, D. (2020). Perceptions of the LGBTQ College Campus Climate Scale: Development and Psychometric Evaluation. *Journal of Homosexuality*, 67(10), 1412–1428. <https://doi.org/10.1080/00918369.2019.1591788>
- Szymanski, D. M., Chung, Y. B., & Balsam, K. F. (2001). Psychosocial correlates of internalized homophobia in lesbians. *Measurement and Evaluation in Counseling and Development*, 34(1), 27–38.

- Talley, A. E., Sher, K. J., & Littlefield, A. K. (2010). Sexual Orientation and Substance Use Trajectories in Emerging Adulthood. *Addiction (Abingdon, England)*, *105*(7), 1235–1245. <https://doi.org/10.1111/j.1360-0443.2010.02953.x>
- The Association of American Universities (AAU). (2020). *AAU Campus Climate Survey (2019) / Association of American Universities (AAU)*. <https://www.aau.edu/key-issues/campus-climate-and-safety/aau-campus-climate-survey-2019>
- Timmins, L., Rimes, K., & Rahman, Q. (2017). Minority Stressors and Psychological Distress in Transgender Individuals. *Psychology of Sexual Orientation and Gender Diversity*, *4*(3), 328–340. <https://doi.org/10.1037/sgd0000237>
- Vale, M. T., & Bisconti, T. L. (2021). Age Differences in Sexual Minority Stress and the Importance of Friendship in Later Life. *Clinical Gerontologist*, *44*(3), 235–248. <https://doi.org/10.1080/07317115.2020.1836107>
- Villarreal, L., Charak, R., Schmitz, R. M., Hsieh, C., & Ford, J. D. (2020). The relationship between sexual orientation outness, heterosexism, emotion dysregulation, and alcohol use among lesbian, gay, and bisexual emerging adults. *Journal of Gay & Lesbian Mental Health*, *0*(0), 1–22. <https://doi.org/10.1080/19359705.2020.1809588>
- Wagner, G., Brondolo, E., & Rabkin, J. (1996). Internalized homophobia in a sample of HIV+ gay men, and its relationship to psychological distress, coping, and illness progression. *Journal of Homosexuality*, *32*(2), 91–106. https://doi.org/10.1300/j082v32n02_06
- Wagner, G., Serafini, J., Rabkin, J., Remien, R., & Williams, J. (1994). Integration of one's religion and homosexuality: A weapon against internalized homophobia? *Journal of Homosexuality*, *26*(4), 91–110. https://doi.org/10.1300/J082v26n04_06
- Watson, K. (2016). *Queer Theory: Group Analysis*. <https://doi.org/10.1177/0533316405049369>

- Wegner, R. T. (2014). *Homonegative Microaggressions and Their Impact on Specific Dimensions of Identity Development and Self-Esteem in LGB Individuals* [Teachers College]. <https://doi.org/10.7916/D8CF9NQM>
- Williams, S. L., Job, S. A., Todd, E., & Braun, K. (2020). A critical deconstructed quantitative analysis: Sexual and gender minority stress through an intersectional lens. *Journal of Social Issues, 76*(4), 859–879. <https://doi.org/10.1111/josi.12410>
- Wilson, S. M., Gilmore, A. K., Rhew, I. C., Hodge, K. A., & Kaysen, D. L. (2016). Minority stress is longitudinally associated with alcohol-related problems among sexual minority women. *Addictive Behaviors, 61*, 80–83. <https://doi.org/10.1016/j.addbeh.2016.05.017>
- Wolff, M., Wells, B., Ventura-DiPersia, C., Renson, A., & Grov, C. (2017). Measuring Sexual Orientation: A Review and Critique of U.S. Data Collection Efforts and Implications for Health Policy. *The Journal of Sex Research, 54*(4–5), 507–531. <https://doi.org/10.1080/00224499.2016.1255872>
- Worthington, R. L., & Whittaker, T. A. (2006). Scale Development Research: A Content Analysis and Recommendations for Best Practices. *The Counseling Psychologist, 34*(6), 806–838. <https://doi.org/10.1177/0011000006288127>
- Woznicki, N., Arriaga, A. S., Caporale-Berkowitz, N. A., & Parent, M. C. (2021). Parasocial relationships and depression among LGBTQ emerging adults living with their parents during COVID-19: The potential for online support. *Psychology of Sexual Orientation and Gender Diversity, 8*, 228–237. <https://doi.org/10.1037/sgd0000458>
- Wright, A. J., & Wegner, R. T. (2012). Homonegative Microaggressions and Their Impact on LGB Individuals: A Measure Validity Study. *Journal of LGBT Issues in Counseling, 6*(1), 34–54. <https://doi.org/10.1080/15538605.2012.648578>

- Wynd, C. A., Schmidt, B., & Schaefer, M. A. (2003). Two quantitative approaches for estimating content validity. *Western Journal of Nursing Research, 25*(5), 508–518.
<https://doi.org/10.1177/0193945903252998>
- Yang, Y., Li, M., & Lin, H.-C. (2019). Parental Rejection, Resilience, and Health-risk Behavior in Emerging Adults. *American Journal of Health Behavior, 43*(5), 898–911.
<https://doi.org/10.5993/AJHB.43.5.3>
- Zanon, C., Hutz, C. S., Yoo, H. (Henry), & Hambleton, R. K. (2016). An application of item response theory to psychological test development. *Psicologia: Reflexão e Crítica, 29*(1), 18. <https://doi.org/10.1186/s41155-016-0040-x>
- Ziegenfuss, J. Y., Niederhauser, B. D., Kallmes, D., & Beebe, T. J. (2013). An Assessment of Incentive Versus Survey Length Trade-offs in a Web Survey of Radiologists. *Journal of Medical Internet Research, 15*(3), e49. <https://doi.org/10.2196/jmir.2322>
- Zorotovich, J., & Johnson, E. I. (2019). Five Dimensions of Emerging Adulthood: A Comparison Between College Students, Nonstudents, and Graduates. *College Student Journal, 53*(3), 376–384.

CURRICULUM VITAE

Jeremy M. Ramos, M.S.

Doctoral Candidate

Department of Psychology Syracuse University
430 Huntington Hall Syracuse, New York 13244
jmramos@syr.edu

EDUCATION

Doctorate in Clinical Psychology, anticipated August 2023

Syracuse University, Syracuse, New York
Clinical Psychology Doctoral Program (APA Accredited), August 2017 – present
Advisor: Sarah E. Woolf-King Ph.D., M.P.H.
Dissertation: *Development of the Emerging Adult Inventory of Sexuality and Gender Minority Stress*
GPA: 3.9

APPIC Internship, end date July 31, 2023

University of Rochester, Rochester, New York
University Counseling Center (APA Accredited)

Master of Science in Psychology, May 2020

Syracuse University, Syracuse, New York
Advisor: Sarah E. Woolf-King Ph.D., M.P.H.
Thesis: *Coping Motives as a Moderator of the Association between Minority Stress and Alcohol Use Among Emerging Adults of Marginalized Sexualities and Genders*

Bachelor of Arts in Psychology, May 2015

Smith College, Northampton, Massachusetts
GPA: 3.7

Associate of Arts in General Studies, June 2012

Bristol Community College, Fall River, Massachusetts
GPA: 3.9, graduated Suma Cum Laude

SCHOLARSHIPS, HONORS AND AWARDS

2022 – National Register Credentialing Scholarship
\$150 towards credential expenses
2022 – Syracuse University – Graduate Student Organization Travel Grant
\$421 towards conference expenses
2015 – Liberal Arts Commendation, Smith College
2014 – Praxis Internship Funding, Smith College
\$1,400 toward internship expenses
2012 – Commonwealth Honors Program graduation, Bristol Community College
\$1,725 towards academic expenses
2012 – Curriculum Award, Bristol Community College

CLINICAL INTERESTS

- Integrated behavioral health utilizing ACT, CBT, and DBT interventions
- Coordination of assessment, case conceptualization, and treatment planning as part of a multidisciplinary team that includes medical providers and social workers
- Diverse client populations, including disability, race/ethnicity, age, religion, socioeconomic, LGBTQIA+ identities

CLINICAL EXPERIENCE

Psychology Intern, University of Rochester, University Counseling Center, Rochester, NY

August 2021 – Present

Supervisor: Dr. Kathryn Dorsheimer, Ph.D. Dr. Brigid Cahill, Ph.D.

Provide individual in person and telehealth brief short term (<10 sessions) and long-term interventions in a university health service (UHS) counseling center to undergraduate, graduate, and medical students with diverse psychological concerns and experiences. Utilize ACT, CBT, DBT, and psychodynamic interventions. Assess risk and severity of patient symptoms in order to provide referrals to on and off campus resources. Complete in-person same-day and on-call telephone crisis assessment, stabilization, and safety planning. Conduct substance use assessments and norms feedback interventions. Co-facilitate weekly DBT and LGBTQ+ therapy groups. Consult and liaison with the Student Health Advisory Committee, LGBTQ Life, and College Diversity Roundtable. Offer integrated care interventions and consultation to providers as part of UHS Primary Care. Provide weekly (1 hour) supervision to one practicum student.

Behavioral Health Intern, Syracuse University, University Health Services, Syracuse, NY

August 2021 – May 2022

Supervisor: Dr. Julie M. Woulfe, Ph.D. Dr. Jennifer S. Funderburk, Ph.D.

Provided individual in person and telehealth brief short term (<6 sessions; weekly, biweekly, monthly) interventions in a university-based integrated primary care setting to undergraduate and graduate students. Consulted with and educated primary care providers, nurse practitioners, and other staff on behavioral health and patient care. Conducted brief assessments of substance use, anxiety, insomnia, sexual functioning, and other concerns as well as crisis assessments for suicidal ideation and homicidal ideation.

Behavioral Health Intern, Upstate Medical University, Inclusive Health Services, Syracuse, NY

July 2021 – June 2022

Supervisor: Brian Amidon, LCSW-R

Provided individual and group in person and telehealth therapy in a hospital-based outpatient behavioral health clinic to adults with chronic health conditions like HIV and/or marginalized sexualities and/or genders. Completed intake assessments to evaluate appropriateness of treatment, and present case conceptualizations during weekly staff meetings. Led seven-member Interpersonal Therapy group on aging with HIV among men who have sex with men.

Interventionist, Syracuse University, Psychology and HEALth Lab, Syracuse, NY

August 2020 – December 2021

Supervisor: Dr. Sarah E. Woolf-King, Ph.D., M.P.H.

Provided individual manualized weekly telephone-based therapy as part of a randomized clinical trial Acceptance and Commitment Therapy (ACT) for hazardous drinkers living with HIV (*NIAAA R34AA026246*). Participants receive either a 6-session ACT Intervention or a 4-session Brief Alcohol Intervention.

Student Clinician, Syracuse University, Psychological Services Center, Syracuse, NY
June 2019 – May 2022

Supervisor: Dr. Afton N. Kapuscinski, Ph.D.

Provided individual weekly in person and telehealth therapy in a university-based outpatient training facility to adults with diverse psychological concerns and experiences. Conducted clinical/neuropsychological assessments (e.g., ADHD assessment) with adults, adolescents, and children and wrote integrative reports summarizing and describing test data. Completed intake assessments to evaluate appropriateness of treatment and presented case conceptualizations during weekly staff meetings.

Student Intern, SSTARBIRTH, Cranston, RI
May 2014 - August 2014

Supervisor: Judith Gorman, LCSW, LCDCS.

Ran client groups on neuroscience and the psychology of addiction for recently postpartum or pregnant individuals receiving inpatient substance use rehabilitation and treatment under supervision. Assisted in clerical, administrative, and treatment related planning and aided clients in accessing Section 8 housing and other assistance programs.

Recovery Support Worker, Fellowship Health Resources, Fall River, MA
June 2012 - August 2015

Provided support with daily living tasks, scheduling and coordination, and medication assistance for residential and community clients with diverse psychiatric conditions. Dispensed medication for psychiatric and medical symptoms. Monitored and recorded client behavior and medication responses.

ASSESSMENTS ADMINISTERED

Behavior Assessment System for Children, Third Edition (BASC-3)

Behavior Rating Inventory of Executive Function-Adult Version (BRIEF-A)

Child and Adolescent Symptom Inventory – 5 (CASI-5)

Conners Continuous Performance Test—Third Edition (CPT-3)

Continuous Performance Task-Gordon Diagnostic System (GDS)

Minnesota Multiphasic Personality Inventory – Second Edition (MMPI-2)

Personality Assessment Inventory (PAI)

Rey-Osterrieth Complex Figure Test (ROCF)

Stroop Color and Word Test (SCWT)

Test of Memory Malingering (TOMM)

Trail-Making Task (TMT)

Wechsler Adult Intelligence Scale – Fourth Edition (WAIS-IV)

Wechsler Individual Achievement Test—Third Edition (WIAT-III)

Wechsler Intelligence Scale for Children – Fifth Edition (WISC-V)

Wisconsin Card Sorting Task (WCST)

RESEARCH INTERESTS

- Incorporation of emerging adult developmental factors and LGBTQIA+ minority stress among college students for measure development
- Role of LGBTQIA+ minority stress in health behaviors like substance use, anxiety, and depression
- Development of tailored interventions for marginalized populations including LGBTQIA+, trans and gender non-conforming, and people with HIV

RESEARCH EXPERIENCE

Graduate Principal Investigator, Syracuse University, Psychology and HEALth Laboratory, Syracuse, NY

Doctoral Dissertation Project, September 20221 – Present

Supervisor: Dr. Sarah E. Woolf-King, Ph.D., M.P.H.

Project Title: *The Emerging Adult Inventory of Sexuality and Gender Minority Stress*

Developed a measure of emerging adult specific LGBTQ minority stress. Coded and implemented feedback from content experts and LGBTQ college students. Validated the measure through an online national survey of LGBTQ college student. Acted as project coordinator, managing Institutional Review Board approval and recruitment agreements with college LGBTQ resource centers. Data collection completed November 2022.

Graduate Principal Investigator, Syracuse University, Psychology and HEALth Laboratory, Syracuse, NY

Master's Thesis Project, May 2019 – March 2020

Supervisor: Dr. Sarah E. Woolf-King, Ph.D., M.P.H.

Developed and implemented an online national survey of LGBTQ college student alcohol use and minority stress experiences. Acted as project coordinator, managing Institutional Review Board approval and recruitment agreements with college LGBTQ resource centers.

Graduate Research Assistant, Syracuse University, Psychology and HEALth Laboratory, Syracuse, NY

May 2018 – August 2019

Supervisor: Dr. Sarah E. Woolf-King, Ph.D., M.P.H.

Assisted with project coordination and completed qualitative interview data collection for a pilot comparative effectiveness randomized clinical trial of Acceptance and Commitment Therapy for HIV-infected hazardous drinkers entitled *Brief Acceptance and Commitment Therapy for HIV-Infected At-Risk Drinkers (NIAAA 1R34AA026246-01A1)*. Collected in person participant data and managed data collection through REDCap for an event-level study examining the relationship between alcohol consumption and high-risk behavior among HIV+ men who have sex with men entitled *Alcohol Use and High Risk Behavior Among HIV-Positive Men (NIAAA 5K01AA021671-06)*.

Research Assistant, The Miriam Hospital and Brown University, Weight Control and Diabetes Research Center, Providence, RI

June 2015 - July 2017

Supervisors: Dr. Rena R. Wing, Ph.D.; Angelica McHugh M.Ed.

Recruited participants and collected data for an NIH funded research consortium consisting of seven clinical trials, all examining the efficacy of interventions to reduce gestational weight gain in women with overweight or obesity through randomized control trials. Managed REDCap and other medical record database systems. Assisted with recruitment for a randomized controlled trial examining the efficacy of a pre-pregnancy lifestyle intervention for people who had previously experienced gestational diabetes entitled *Prevention of Gestational Diabetes Through Lifestyle Modification Before Pregnancy (5R01HD084282-03)*.

Research Assistant, Smith College, Northampton, MA

February 2015 – May 2015

Supervisor: Dr. Byron L. Zamboanga, Ph.D.

Conducted online research on drinking game behaviors. Managed online recruitment of emerging adults (age 18-25) through Amazon Mechanical Turk. Developed a codebook of qualitative responses to questions of drinking motives. Assisted in manuscript preparation for publication.

Research Assistant, Smith College, Language Laboratory, Northampton, MA

September 2014 - May 2015

Supervisor: Dr. Jill de Villiers, Ph.D.

Conducted research on the role of language in perceptual feature category formation using eye tracker technology. Designed stimuli and ran participant sessions. Managed data and presented findings in poster presentation format.

Data Management Intern, Bradley Hospital and Brown Medical School, Bradley Sleep Lab, Providence, RI

June 2014 – August 2014

Supervisor: Dr. Mary Carskadon, Ph.D.

Managed and integrated data for grant-funded projects related to pediatric sleep research. Completed supportive administrative tasks for on-going and historical sleep study and alcohol use health behavior research.

PEER-REVIEWED MANUSCRIPTS

Listed in reverse chronological order

Note. I have published research under another name (G. Ramos).

Under Review

Ramos, J.M., Sheinfil, A, Firkey, M, Foley, J.D., Marabella, G & Woolf-King, S.E. Coping with Emerging Adult, Sexual, and Gender Minority Stress through Alcohol use among US College Students. *Gay and Lesbian Social Services*

Published

Woolf-King, S. E., Firkey, M., Foley, J. D., Bricker, J., Hahn, J. A., Asiago-Reddy, E., Wikier, J., Moskal, D., Sheinfil, A. Z., **Ramos, J.**, & Maisto, S. A. (2022). Development of a Telephone-Delivered Acceptance and Commitment Therapy Intervention for People

Living with HIV who are Hazardous Drinkers. *AIDS and behavior*, 1–16.
<https://doi.org/10.1007/s10461-022-03649-x>

Woolf-King S.E., Sheinfil A.Z., **Ramos J.**, Foley J.D., Moskal D., Firkey M., Kellen D., & Maisto S.A. (2022). A conceptual model of alcohol use and adherence to antiretroviral therapy: systematic review and theoretical implications for mechanisms of action. *Health Psychology Review*, 16(1), 104–133. <https://doi.org/10.1080/17437199.2020.1806722>

Sheinfil, A.Z., Foley, J.D., Moskal, D. Dalton, M.R., Firkey, M., **Ramos, J.M.**, Maisto, S.A. · Woolf-King, S.E. (2022). Daily Associations Between Alcohol Consumption and Antiretroviral Therapy (ART) Adherence Among HIV-Positive Men Who Have Sex with Men. *AIDS and Behavior*. <https://doi.org/10.1007/s10461-022-03657-x>

Simmons, E., Firkey, M., Sheinfil, A., **Ramos, J.**, & Woolf-King, S.E. (2021). The Association Between Financial Resources Strain and Self-Reported Antiretroviral Therapy (ART) Adherence Among HIV-Positive Men who Have Sex with Men. *Journal of Health Care for the Poor and Underserved*.

Firkey, M., Sheinfil, A., **Ramos, J.**, & Woolf-King, S.E. (2021). Cannabis and Alcohol Co-Use and Condomless Anal Sex Among Men Who have Sex with Men Living with HIV: An Event-Level Analysis. *AIDS Behav.* <https://doi.org/10.1007/s10461-021-03228-6>

Foley, J.D., Firkey, M., Sheinfil, A.Z., **Ramos, J.**, Woolf-King, S.E., & Venable, P.A. (2020). Framed messages to reduce sexual risk compensation associated with pre-exposure prophylaxis. *Archives of Sexual Behavior*.

Sheinfil, A. Z., Foley, J. D., **Ramos, J.**, Antshel, K. M., & Woolf-King, S. E. (2019). Psychotherapeutic depression interventions adapted for sexual and gender minority youth: A systematic review of an emerging literature. *Journal of Gay & Lesbian Mental Health*, 23(4), 380–411.

Audley, S., Grenier, K., Martin, J., & **Ramos, J.** (2017). Why Me? An Exploratory Qualitative Study of Drinking Gamers' Reasons for Selecting Other Players to Drink. *Emerging Adulthood*, 6, 216769681770325.

Zamboanga, B. L., Audley, S., Iwamoto, D. K., Tomaso, C. C., **Ramos, G.**, & Schwartz, S. J. (2016). “What’s in a game?” Acculturation and drinking game behaviors among Asian American young adults. *Asian American Journal of Psychology*, 7(3), 195–204.

PRESENTATIONS

Listed in reverse chronological order

Presented

Ramos, J.M., Firkey, M., Sheinfil, A., Dalton, M.R., & K.S.J. Andrews. (2022, April 6-9). *Transgender Minority Stress and Alcohol Use Among College Students: The Role of*

Coping Motives [Poster Presentation]. Society of Behavioral Medicine 43rd Annual Meeting and Scientific Sessions, Baltimore, MD.

Dalton, M.R., **Ramos, J.**, Firkey, M., Sheinfil, A., & Gjoka, M. (2021, May 20-21). *Distal Gender Minority Stress and Depression: The Indirect Effect of Relational Support* [Poster Presentation]. The National LGBTQ Health Conference, Evanston, IL, United States.

Marabella, G., Firkey, M., **Ramos, J.**, & Woolf-King, S.E. (2021, April 12–16). *The Impact of Social Desirability Bias on Alcohol Use among Black and White Men Who Have Sex with Men Living with HIV* [Poster Presentation]. Society of Behavioral Medicine 42nd Annual Meeting and Scientific Sessions, Virtual Conference.

Ramos J.M., Sheinfil A.Z., Firkey M.K., Simmons E.M., Woolf-King S.E. (2020, June). Coping Motives as a Moderator of the Association Between Minority Stress and Alcohol Use Among College Students of Marginalized Sexualities and Genders. [Poster Presentation]. Research Society on Alcoholism 2020 meeting. Virtual Conference

Firkey M., Sheinfil A., **Ramos J.**, Woolf-King S.E. (2020, June). Unprotected Anal Intercourse and Combined Alcohol and Cannabis Use Among Men Who Have Sex with Men Living With HIV: an Event-Level Analysis. [Poster Presentation]. Alcoholism-Clinical and Experimental Research. Research Society on Alcoholism 2020 meeting, New Orleans, LA.

Sheinfil, A. Z., Babowitch, J. D., **Ramos, J.**, Woolf-King, S. E., (2019, March). Development of an Experimental Affect Induction Procedure to Test the Effect of Affect on Intentions to Engage in Condomless Sex. [Poster Presentation]. Society of Behavioral Medicine 40th Annual Meeting and Scientific Sessions, Washington, DC.

Babowitch, J. D., Sheinfil, A. Z., **Ramos, J.**, Firkey, M., Woolf-King, S. E., (2019, March). Changes in Depressive Symptoms and Antiretroviral Medication Adherence among Men Who Have Sex with Men Living with HIV. [Poster Presentation]. Society of Behavioral Medicine 40th Annual Meeting and Scientific Sessions, Washington, DC.

Babowitch, J.D., **Sheinfil, A.Z.**, Ramos, J., Vanable, P.A., & Sweeney, S.M. (2018, April). Pre-Exposure Prophylaxis to Prevent HIV Transmission for Serodiscordant Couples: Perspectives of People Living with HIV. [Poster Presentation]. Society of Behavioral Medicine 39th Annual meeting, New Orleans, LA.

Ramos, G., Clark, A., de Villiers, J. (2015, April) Investigations of Implicit Concept Formation in Adults. Poster presented at Celebrating Collaborations, Northampton, MA

Ramos, G., Martin, S. (2012, April) Alien: Historical Events, Jungian Archetypes, and the Abduction Encounter Poster presented at Massachusetts Statewide Undergraduate Research Conference, Amherst, MA

TEACHING INTERESTS

Introductory psychology, abnormal psychology, health psychology, LGBTQIA+ health, research methods, etiology of substance use disorders

TEACHING EXPERIENCE

Guest Lecturer, PSY 382: Models of Medical Family Therapy, Topic: Integrated Behavioral Health for Clients living with Chronic Illness, Fall 2022 (Saint Louis University)

Guest Lecturer, PSY 382: Health Psychology, Topic: Behavioral Health Disparities and Barriers to Care among LGBTQ+ Individuals, Fall 2022 (University of Maine)

Instructor of record, PSY: 382 Health Psychology, Summer 2022 (Syracuse University)

Instructor of record, PSY: 395 Abnormal Psychology, Summer 2020 (Syracuse University)

Guest Lecturer, PSY 382: Health Psychology, Topic: Behavioral Health Disparities among LGBTQ Adolescents & Emerging Adults, Fall 2018 (Syracuse University)

Graduate Teaching Assistant, PSY 205: Foundations of Human Behavior, Fall 2017-Spring 2018 (Syracuse University)

ADVANCED PEDAGOGICAL TRAINING

Fundamentals of Instructional Design, 2021

Presenter: Jerry Edmonds PhD

Sponsored by: Future Professoriate Program, Syracuse University, Syracuse NY

Navigating Challenges of Diversity in the Classroom, 2021

Presenters: Martha Diede, PhD, Jeanine Irons PhD

Sponsored by: Future Professoriate Program, Syracuse University, Syracuse NY

Active Learning: Making the Most of 'Lecture' Time, 2020

Presenter: Jason Wiles, PhD

Sponsored by: Future Professoriate Program, Syracuse University, Syracuse NY

Online Teaching and Learning: Challenges and Opportunities, 2020

Presenter: Michael Morrison, PhD

Sponsored by: Future Professoriate Program, Syracuse University, Syracuse NY

Inclusive Teaching, 2020

Presenter: Jeffery Mangram, PhD

Sponsored by: Future Professoriate Program, Syracuse University, Syracuse NY

Leading an Effective Classroom Discussion? Questions Are the Answer, 2017

Presenter: John Tillotson, PhD

Sponsored by: Future Professoriate Program, Syracuse University, Syracuse NY

Research Mentorship of Undergraduates

2021-present	Brianna Estrada*
2020- 2021	Keira S.J. Andrews
2020- 2021	Gianni J. Marabella*
2018- 2020	Ervin M. Simmons *
2018- 2019	Isabelle H. Rittenberry

Note: *underrepresented race/ethnicity students in science

PROFESSIONAL MEMBERSHIP**Syracuse University**

2019 Future Professoriate Program

Professional Society Membership

2022	American Psychological Association, Graduate Student Member Division 44: Society for the Psychology of Sexual Orientation and Gender Diversity
2022	American College Personnel Association, Graduate Student Member
2022	Society of Behavioral Medicine, Graduate Student Member
2020	National Register of Health Service Psychologists, Associate Member
2015	Psi Chi Honor Society Member
2012	Phi Theta Kappa Honor Society Member

WORKSHOPS, CERTIFICATIONS, AND TRAININGS

Adolescent Medicine Symposium: Sexual and Reproductive Health, 2022

Sponsored by: New York State Clinical Education Initiative Sexual Health Center of Excellence and the University of Rochester Division of Adolescent Medicine

SafeSide Prevention: Suicide and Risk Assessment, 2022 (4 Direct Contact Hours)

Presenter: Michael Siembor, PhD

Sponsored by: University of Rochester Medical Center, Rochester NY

Biopsychosocial Care for Trans Youth, 2022

Presenters: Katherine Greenberg, MD & Jamie Mehringer, MD

Sponsored by: University of Rochester Medical Center, Rochester NY

National Register's Associate Certificate Program on Integrated Care (4.5 Direct Contact Hours), 2022

Presenters: Eboni Winford, PhD, MPH; Deepu George, PhD, LMFT; Andrew Valeras, Do, MPH, FAAFP; David Bauman, PsyD; Bridget Beachy, PsyD

Sponsored by: National Register of Health Service Psychologists

Risk Assessment Training, 2021

Presenter: Heather Cosgrove, PhD

Sponsored by: Barnes Center at the Arch: Counseling, Syracuse University, Syracuse NY

Hidden Lessons from Black Suicide Science, 2021

Presenter: Dave Jobes, PhD

Sponsored by: National Register of Health Service Psychologists

National Register's Associate Certificate Program on Clinical Suicidology (4.5 Direct Contact Hours), 2021

Presenters: Samantha A. Chalker, PhD; Blaire Ehret, PhD; Josephine Au, PhD

Sponsored by: National Register of Health Service Psychologists

Providing Culturally Sensitive Mental Health Care to Afro-Latinx Immigrants, 2020

Presenter: Monica Lopez-Lara, MS

Sponsored by: Counselors for Social Justice, Syracuse University, Syracuse NY

Crisis Intervention Training, 2019

Presenter: Susan Pasco, PhD

Sponsored by: Barnes Center at the Arch: Counseling, Syracuse University, Syracuse NY

Safer People, Safer Spaces Interactive Allyship Development Training, 2017

Sponsored by: LGBTQ Resource Center, Syracuse University, Syracuse NY

SERVICE

Liaison 2022– present

Community Diversity Roundtable, LGBTQ+ Student Life, University Student Health Advisory Committee; University of Rochester, NY

University community liaison for University Counseling Center and other cross university committees and departments. Provide consultation and assist in program development related to behavioral health and LGBTQ+ experiences.

President (peer-elected) 2019-2021, Member 2018 – present

Committee for Increasing Diversity and Inclusion, Syracuse University, NY

Founding member of committee designed to help increase diversity and support for marginalized groups within the field of clinical psychology. Assisted in department evaluation and coordination with outside speakers to offer panels and workshops.

Representative for Psychological Action Committee (peer-elected), 2020-2021

Clinical Psychology Department, Syracuse University, NY

Communicated student comments and recorded minutes during faculty meetings. Coordinated department events and communication between students and faculty.

Event Committee (peer-elected), 2017-2018

Psychology Action Committee, Syracuse University, NY

Coordinated department events and solicited feedback from students about committee initiatives.

Graduate Student Co-Chair (peer-elected), 2017-2018

Diversity Committee, Graduate Student Organization, Syracuse University, NY

Coordinated events and solicited feedback from students about committee initiatives. Communicated on issues relating to childcare, graduate student stipends, and experiences of international students.

PROFESSIONAL MENTORING

2020 Ad hoc Personal Statement and CV Reviewer Psychology Research Initiative in Diversity Enhancement (PRIDE) Program Department of Psychology, Syracuse University, Syracuse NY

2019 Mentor for Incoming Clinical Psychology Doctoral Student Mentees: Kyle White, Department of Psychology, Syracuse University, Syracuse NY

SKILLS

Software: SPSS, Tobii Eye Studio, JavaScript, Python, R, Qualtrics, Survey Monkey, REDCap