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THE MODERATING ROLE OF PSYCHOLOGICAL INFLEXIBILITY IN THE
RELATIONSHIP BETWEEN MINORITY STRESS, SUBSTANCE
MISUSE, AND SUICIDALITY IN LGB+ ADOLESCENTS

by

Sean N. Weeks

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

of

MASTERS OF SCIENCE

in

Psychology

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2020

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ABSTRACT

The Moderating Role of Psychological Inflexibility in the Relationship Between Minority
Stress, Substance Misuse, and Suicidality in LGB+ Adolescents

by

Sean Weeks, Master of Science

Utah State University, 2020

Major Professor: Tyler Renshaw, Ph.D.
Department: Psychology

Adolescence is a difficult time, especially for those who identify as LGB+. Increased rates of substance abuse and suicidality tend to be worse in the LGB+ adolescent community than in mainstream groups. Minority stress has been accepted within the research community as a mechanism to explain the health disparities seen in this group. This study proposed a possible further explanation, in addition to minority stress, that accounts for a portion of the disparity seen, and that is changeable through ACT. Psychological inflexibility was posited as a moderator in the relationship between minority stress and substance misuse or suicidality.

Interactions with both global psychological inflexibility and its sub-processes were examined in quadratic and linear regression models in order to clarify associations between minority stress and both suicidality and substance misuse in the LGB+ adolescent community. A sample of 152 adolescent LGB+ participants responded to

measures assessing the constructs of psychological inflexibility. Quadratic regression analysis of Model 1, examining global psychological inflexibility and minority stress' interaction on substance misuse showed a positive significant curvilinear interaction with a small effect. Model 2, examining the moderating effect of global psychological inflexibility on minority stress and suicidality, did not identify significant interactions, but brought to light a positive medium sized direct effect of global psychological inflexibility on suicidality. Exploratory Models looking at the moderating effects of psychological inflexibility's sub-processes found that cognitive fusion and obstruction of valued living both significantly interacted with minority stress in relation to substance misuse in a positive direction. Within sub-process suicidality models, positive direct effects between cognitive fusion and suicidality, and obstruction of valued living and suicidality were observed. Additionally, a negative direct effect between experiential avoidance and suicidality emerged.

Implications based on results suggest that psychological inflexibility as mechanism of change in LGB+ adolescents is worth further study. Preliminary analyses imply psychological inflexibility explains a small significant portion of minority stress' effect on the harmful outcome of substance misuse. Further study into the effectiveness of ACT in LGB+ populations struggling with minority stress' effects and/or substance misuse should be conducted to further understand the implication of these results.

(120 pages)

PUBLIC ABSTRACT

The Moderating Role of Psychological Inflexibility in the Relationship Between Minority
Stress, Substance Misuse, and Suicidality in LGB+ Adolescents

Sean Weeks

Adolescence is a difficult time, especially for those who do not identify as heterosexual (e.g., gay, lesbian, bisexual, asexual, pansexual; LGB+). Increased rates of substance abuse and suicidality are well documented outcomes that tend to be worse in the LGB+ adolescent community than in mainstream groups. Minority stress, the effect of unique stressors experienced by those in the LGB+ community explained by external and societal influences, has been accepted within the research community as a theory used to explain the health disparities seen in this group. This study proposed a possible further explanation, in addition to minority stress, that helps clarify the relationship between minority stress and negative outcomes, and that is changeable through Acceptance and Commitment Therapy (ACT). Psychological inflexibility, a rigid reaction to life events that is inconsistent with values and often promotes avoidant behavior, and five of its six key sub-processes (experiential avoidance, cognitive fusion, lack of values, preoccupation with the past or future, and inaction) was posited as influencing the strength of the relationship between minority stress and substance misuse or suicidality.

Interactions with both global psychological inflexibility and its sub-processes were examined using statistical models to explore relationships between minority stress and both suicidality and substance misuse in the LGB+ adolescent community. A sample of 152 LGB+ adolescents participated. Significant interactions were found in models of substance misuse but not suicidality, with global psychological inflexibility, cognitive fusion, and obstruction of valued living as moderators that strengthened the relationship between minority stress and substance misuse.

Implications based on results suggest that psychological inflexibility as a mechanism of change in LGB+ adolescents is worth further study. Additional examination into the effectiveness of ACT in LGB+ populations struggling with minority stress' effects and/or substance misuse should be conducted to advance the understanding of these results.

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Sean Weeks

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CHAPTER I

INTRODUCTION

Minority stress is a constant elevated level of stress experienced by members of stigmatized groups (Meyer, 2003) and can be associated with many factors that affect overall functioning and distress both in the short and long term. Lesbian, gay, and bisexual (LGB+) individuals deal with minority stress in unique ways due to a number of features, such as social marginalization and family rejection (Meyer, 2003; Toomey et al., 2018). Minority stress puts LGB+ individuals at higher risk for several physical and psychological problems (Gonzales & Henning-Smith, 2017). Among these problems, substance misuse and suicidality are two well-studied variables shown to be associated with an LGB+ status (Caputi et al., 2018; King et al., 2008).

Though the association between minority stress and increased risk of suicidality and substance misuse has been recognized in LGB+ populations many times in the literature, little research has focused on variables that potentially moderate this finding. The current study proposes one such variable; psychological inflexibility. Psychological inflexibility is the inability to flexibly and fluidly interact with the present in a manner that allows for change or persistence that is consistent with valued living (Hayes et al., 2006). Psychological inflexibility is a key construct of Acceptance and Commitment Therapy (ACT; Hayes et al., 2006). Researchers have reported associations among minority stress, substance misuse, suicidality, and sexual orientation. Though bidirectional relationships among the variables of this study have been considered, no literature exists looking at all variables in the same model, with psychological

inflexibility as a moderator. By identifying whether psychological inflexibility's interaction with minority stress are associated with harmful outcomes, this study could contribute to the literature regarding how to identify at-risk individuals and inform intervention through ACT. This research is particularly valuable because of the known consequences of substance misuse, suicidality, and how the two influence each other in LGB+ populations. In this study, the following research questions will be addressed:

1. Will the strength of global psychological inflexibility moderate the relationship between minority stress and substance use/suicidality in LGB+ adolescents?
2. How do the sub-processes of psychological inflexibility differentially moderate the relationship between substance use/suicidality in LGB+ adolescents?

CHAPTER II

REVIEW OF THE LITERATURE

Sexual minority adolescents and young adults face increased risk factors and health disparities in various aspects of their physical and mental health. In this study, sexual minorities are defined as asexual, bisexual, fluid, gay, lesbian, pansexual, queer, questioning, or other personally meaningful sexual orientation label (LGB+). Within the LGB+ communities, increased rates of psychological distress, substance misuse, suicidality, poor physical health, activity limitations, chronic conditions, obesity, and smoking are all examples of the problems for which LGB+ individuals are at higher risk (Caputi et al., 2018; Gonzales & Henning-Smith, 2017; King et al., 2008; Livingston et al., 2016; McCabe et al., 2003; Silenzio et al., 2007; Smith et al., 2016) . While sexual minorities are faced with a myriad of challenges, substance misuse and suicidality are two of the most frequently studied risk variables within this population. Although these outcomes have been identified as higher risk in LGB+ populations, there is a gap in the current literature when it comes to the relationship between the minority stress experienced by adolescents and young adults who comprise these groups and the mechanisms that moderate harmful outcomes. The current study will focus on global psychological inflexibility and its sub-processes in adolescents as potential moderators in the relationship between LGB+ minority stress and the risk variables of substance misuse and suicidality.

Minority Stress

As stated, LGB+ individuals face higher rates of negative health outcomes when compared to heterosexual individuals. Meyer (2003) offered a theory and framework for why these discrepancies exist between majority and minority groups. Minority stress theory posits that stressors associated with marginalization impact harmful outcomes in LGB+ communities, including, but not limited to; experiences of prejudice events, expectation of rejection or discrimination, concealment of one's sexual orientation, and internalized homonegativity (Meyer, 2003; Toomey et al., 2018). The stressors LGB+ individuals frequently confront are often unique to the community and less likely to occur in heterosexual groups. Meyer (2003) labeled this experience *minority stress* and the theory has since been accepted by scholars and researchers alike. Currently, a strong focus within the literature has turned toward minority stress as a leading cause of health disparities among diverse sexual identity groups.

Minority stress has been linked to many outcome variables within the LGB+ community. As it relates to substance use, minority stress has been found to positively correlate with rates of misuse (Boyle et al., 2017), with researchers theorizing the association is best explained as a coping mechanism. Increased minority stress, specifically internalized homophobia and fear of rejection, has been linked to negative affect and lower life satisfaction in groups of LGB adults (Conlin et al., 2019; Michaels, 2018). Life satisfaction and affect mediate risk for suicide (Haas et al., 2011), with trends showing increased risk for LGB+ individuals (King et al., 2008). Cochran et al. (2003)

reported similar results, stating experiences of minority stressors negatively influence wellbeing, and went on to state that these stressors were positively correlated with depression and suicidal ideation. From an etiological standpoint, minority stress is understood; however, the literature is sparse when looking at the mechanisms that connect minority stress to harmful outcomes. Although the mechanisms of change have not been duly researched in the current literature, research indicates some processes, like burdensomeness during the coming-out process, as mediating the relationship between minority stress and suicidal ideation (Baams et al., 2015). This gap illustrates a clear need for additional research focusing on the processes that influence the connection between minority stress and harmful outcomes in LGB+ adolescents.

Transdiagnostic approaches, through the use of cognitive behavioral therapy, have been used to successfully address minority stress in gay and bisexual men, though the literature is sparse when it comes to other transdiagnostic methods (Pachankis et al., 2015). ACT and the process of psychological inflexibility are yet to be tested as treatment approaches for coping with LGB+ minority stress. Based on the utility of other transdiagnostic methods, and the overlap of the identity component of minority stress and ACT core processes, psychological inflexibility is a meaningful construct for further study.

Substance Use

Identifying as LGB+ is known to correlate with higher substance (drugs and alcohol) misuse and harm when compared to heterosexual cohorts (Caputi et al., 2018). These results have been observed in varying degrees across the lifespan (Marshall et al.,

2009), gender identity (Ward et al., 2014), and sexual identity (Green & Feinstein, 2012; Marshal et al., 2008; Marshal et al., 2009). LGB+ adolescents have been identified by researchers as being at greater risk for drinking alcohol, smoking cigarettes, using cocaine, ecstasy, inhalants, heroin, methamphetamine, prescription drugs, steroids, and synthetic marijuana (Caputi et al., 2018; Dai, 2017; Marshal et al., 2009; Talley et al., 2014). Though similar studies should be conducted across substances, this study will focus strictly on alcohol use, as it is arguably the most common substance that is misused among adolescents (Mericle et al., 2015).

In LGB+ samples, adults reported higher percentages of binge drinking (five or more drinks in one day) within the last year (35.1%) than those who identified as heterosexual (26.0%) in a survey by the U.S. Census Bureau (Ward et al., 2014). Among youth LGB+ populations, a meta-analysis of 18 studies by Marshal et al. (2008) showed that LGB+ adolescents are two to four times more likely to use alcohol and drugs compared to heterosexual adolescents. In a review of the consequences of alcohol misuse in college students, Perkins (2002) identified three main categories of harm: damage to self, damage to other people, and institutional costs. Damage to self included consequences such as

academic impairment, personal injuries or death, short- and longer-term physical illnesses, unintended and unprotected sexual activity, suicide, rape victimization, impaired driving, legal repercussions (Perkins, 2002, p. 92).

Damage to other people included "property damage and vandalism, fights and interpersonal violence, sexual violence, hate-related incidents, and noise disturbances" (Perkins, 2002, p. 92). Lastly, Perkins (2002) identified institutional costs as "Property

damage, student attrition, . . . added time demands and emotional strain on staff, and legal costs" (p. 92). The increased risk, use, and abuse of alcohol in the LGB+ population, along with known consequences, make this issue one of great importance. The costs associated with greater rates of substance misuse not only provides an argument for studying markers in LGB+ youth, but also presents a societal motive for focusing on these issues. Identifying transdiagnostic factors that might moderate this relationship is imperative for improving practices to help this at-risk population of youth.

Many studies have identified the increased rate and harm of substance use in LGB+ populations. The results of these studies have led some researchers to begin looking at the etiology and moderators of this risk. In the literature, external factors, such as minority stress, are often cited as the source of higher prevalence rates. Stressors, including stigma, bullying, social rejection, and homophobic culture, have all been identified as risk factors that influence the increased rate of alcohol misuse in LGB+ populations (McCabe et al., 2010; Meyer, 2003; Pachankis et al., 2014). Less research has considered the internal or psychological factors caused by minority stress and possibly moderate LGB+ substance misuse. Internal traits that have been studied thus far include resiliency and psychological distress (Livingston et al., 2016). Due to the lack of research reviewing internal or psychological risk factors affected by minority stress, this study proposes to investigate variables that have not yet been explored as moderators: global psychological inflexibility and its underlying processes of experiential avoidance, cognitive fusion, present moment awareness, and valued living.

Suicidality

Along with increased rates of substance misuse, stress associated with identifying as LGB+ increases the risk for suicidality. Suicidality, for the purpose of this study, is defined as suicidal ideation (thoughts of death or suicide), suicidal behavior (preparation for an attempt), and suicide attempt (non-fatal self-injury with the intent to die). Suicide is not only a serious risk for LGB+ minorities, but youth as a whole. Wyman et al. (2010) determined those between the ages of 10 to 24 years are more likely to die by suicide than all natural causes combined. Suicide has also been identified as the second leading cause of death in youth aged 15 to 24 (Centers for Disease Control and Prevention; CDC, 2016b). The CDC (2016a) found that suicide rates are increasing at a national average of 25%, with increases in 49 states. As previously stated, LGB+ status increases one's risk for suicide (King et al., 2008; Silenzio et al., 2007; Smith, et al., 2016). LGB+ youth are almost three times as likely to engage in suicidal thinking and five times as likely to attempt suicide, compared to their heterosexual peers (CDC, 2016a). However, the exact number of suicide deaths in the LGB+ population is unknown (Haas et al., 2011). It is assumed that rates of suicide are higher in LGB+ populations due to findings that show more frequent attempts and for those attempts to be more life-threatening (causing serious injury or requiring medical attention; CDC, 2016a). Though exact rates of suicidality have not been identified, higher rates of suicidal ideation and suicide attempts, along with suicidality statistics from the general population, give cause for alarm.

Many studies have looked at variables that moderate the rates of suicide in LGB+ youth and found that certain demographic groups within the LGB+ community have been

identified as being at higher risk. LGB+ youth who identify as a racial or ethnic minority are at increased risk (Cochran et al., 2007; Meyer et al., 2008; Remafedi, 2002), along with those in a lower socioeconomic class (Paul et al., 2002), and those who identify as gay males (King et al., 2008). Stressors such as interpersonal problems with peers and family, weaker interpersonal supports, and bullying all led to increased risk for suicidality (Russell & Joyner, 2001; Ryan et al., 2009). Mental distress, which was found to be elevated in LGB+ populations (King et al., 2008), was identified as the leading risk factor for suicidality (Haas et al., 2011). Mental distress also mediated substance misuse (Livingston et al., 2016), which, in turn, mediated suicidality in LGB+ populations (Silenzio et al., 2007; Smith et al., 2016). The effects of the above risk factors have been well-studied on suicidality in LGB+ youth and throughout the lifespan. Many environmental factors that affect stress levels have been addressed, but stress-based internal or psychological transdiagnostic variables that could potentially influence mental distress have not. This supports the need for further research on the potential moderating variables of global psychological inflexibility and its sub-processes.

Psychological Inflexibility

Psychological inflexibility is defined as rigidly interacting with one's experiences (thoughts and feelings) in the present moment in a way that does not allow for change or persistence that is consistent with valued living (Hayes et al., 2006). Valued living is conceptualized as the engagement in actions consistent with one's personal values. Though psychological inflexibility is a newer concept in the literature, it is garnering attention through its functional role in Acceptance and Commitment Therapy (ACT).

Global psychological inflexibility can be targeted using six psychological sub-processes of change addressed through the use of ACT (Hayes et al, 2006). In this study, five of the sub-processes will be measured to look for differential effects; experiential avoidance, cognitive fusion, present moment awareness, and obstruction of valued living and committed action. There is a lack of existing empirically sound measurement tools for self-as-context, therefore it was omitted from this study due to its complexity and abstract nature.

A number of studies have been conducted looking at the influence of psychological inflexibility in LGB+ populations. Two studies investigated psychological inflexibility within the context of stages of “coming out” (Masuda et al., 2011; Leleux-Labarge et al., 2015). Both studies found that psychological inflexibility positively correlated with self-concealment. In a study involving bisexual individuals, no significant difference in ratings of psychological flexibility, the desirable opposite of psychological inflexibility, compared to heterosexual cohorts was found; though, similar to the findings of Rosario et al. (2004), Masuda et al. (2011), and Leleux-Labarge et al. (2015), “outness” was positively correlated with psychological flexibility (Hrehorciuc-Caragea & White, 2017).

Psychological inflexibility was also found to predict suicidality in college students (Chou et al., 2018; Krafft et al., 2018) and serve as a transdiagnostic process across psychological disorders (Levin et al., 2014). Though Levin et al. (2014) found mixed results for psychological inflexibility’s role in substance use disorders, nonclinical substance use and dependence was found to be affected by psychological inflexibility in

college populations (Levin et al., 2012). Despite these relevant connections, studies have yet to consider the process of psychological inflexibility and its influence on suicidality and substance use in LGB+ populations.

The Current Study

As stated above, global psychological inflexibility is comprised of six underlying processes—experiential avoidance, cognitive fusion, self-as-content, lack of values, preoccupation with the past or future, and inaction.

The six elements that comprise psychological inflexibility are targeted components of ACT (Hayes et al., 2006). ACT interventions have been found to reduce psychological inflexibility in LGB+ populations and reduce self-stigma (Yadavaia & Hayes, 2012). By identifying whether global psychological inflexibility and its sub-processes moderate the relationship between LGB+ minority stress and harmful outcomes, this study could contribute to the literature regarding how to identify at-risk individuals and inform intervention through ACT. This research is especially valuable because of the known consequences of substance misuse, suicidality, and how these variables influence each other in LGB+ populations. This study will address the following research questions:

1. Will the strength of global psychological inflexibility moderate the relationship between minority stress and substance use/suicidality in LGB+ adolescents?
2. How do the sub-processes of psychological inflexibility differentially moderate the relationship between substance use/suicidality in LGB+ adolescents?

CHAPTER III

METHODS

Study Variables

Predictor variable

The predictor variable of interest in this study was participant levels of LGB+ minority stress. Minority stress was defined by a composite of the following subscales: identity management, negative expectancies, negative disclosure experiences, family rejections, internalized homonegativity, homonegative communication, homonegative climate, social marginalization, and intersectionality. Minority stress will be measured through self-report.

Criterion variables

The criterion variables were alcohol misuse, defined by frequency and intensity of alcohol use and alcohol related problems, and suicidality. Harmful alcohol use was marked by the number of drinks one consumes and the maladaptive behaviors preceding or following the behavior. Suicidality was defined as a composite of suicidal ideation, suicidal behavior, and suicide attempt. Participant self-reports were used to measure both variables.

Moderating variables

This study examined the moderating role of global psychological flexibility and five of its core underlying processes (experiential avoidance, cognitive fusion, preoccupation with the past or future, lack of values, and obstruction of committed action) in the relationship between minority stress and the criterion variables of

suicidality and alcohol misuse. All moderating variables were measured via participant self-reports.

Procedures

Participants for this study were recruited using purposive sampling procedures through Qualtrics online survey panels. Sample size was estimated using G*Power's F tests' Linear multiple regression: Fixed model, R² increase, A priori. Power = .95, alpha = .05, and a medium effect size yielded a sample size of 119 for three predictors (Figure 1 and 2), and 166 for nine predictors (Figure 3 and 4). Sample size was chosen based on predicted effects among the experimental model pathways and best practice in linear regression modeling (Darlington & Hayes, 2017). Inclusion criteria included age between 13 and 18 and self-identification as LGB+. Before completing the surveys, participants' parents received and endorsed informed consent. Participants also endorsed their personal assent prior to taking the survey. Information in the consent and assent forms included the purpose and procedures of the study, the length of the study, any risks of harm or discomfort, potential benefits, confidentiality requirements, and PI contact information. In the consent, parents were requested to allow their child to complete the questionnaires in private, so the participant felt comfortable answering honestly. Parents were provided a brief summary of the questions their children were answering, suggestions on how to start difficult dialogues, and national suicide prevention resources. This allowed the option for parents to start a conversation with their children after the survey was completed. The consent and assent forms also confirmed that participation was voluntary, that the participant could withdraw from the study at any point, and had the option to "skip a

question” if they were uncomfortable answering (e.g., if parents are standing over their shoulder). All participants were required to identify their sexual orientation as a prerequisite for study participation, and therefore must be open and out to their parents. Participants completed a demographic questionnaire (see below) and the following measures: *The Sexual Minority Adolescent Stress Inventory*, *Avoidance and Fusion Questionnaire for Youth*, *Brief Experiential Avoidance Questionnaire*, *Cognitive Fusion Questionnaire*, *Valuing Questionnaire*, *Mindful Attentive Awareness Scale – Adolescent*, *The Suicidal Behaviors Questionnaire – Revised*, *The Suicidal Ideation Questionnaire*, and *The Alcohol Use Disorders Identification Test*.

Participants

A total sample of 152 LGB+ adolescents participated in the study. Sample demographic information regarding age, gender, race/ethnicity, and sexual orientation is provided in Table 1.

Table 1*Demographic Frequencies and Percentages (n = 152)*

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

Ages ranged from 13 to 18, with a mean age of 15.88 and standard deviation of 1.59. Male and female gendered participants were sampled to represent the United States population proportions, according to the most recent national census. Thus, caps were placed on male and female participant sample sizes so groups did not exceed census norms. No caps were placed on genderqueer participants, with 9.9% of the total sample representing gender identities other than man or woman. Additionally, no limits were placed for number of participants within racial/ethnic nor sexual orientation groups. The majority of participants identified as European or White ($n = 88$, 57.9%), followed by Multiracial ($n = 23$, 15.1%), Black or African American ($n = 16$, 10.5%), and Hispanic or Latinx ($n = 12$, 7.9%). Much smaller proportions of participants ($< 3\%$) identified as Asian, Middle Eastern, and American Indian or Alaskan Native (see Table 1). The modal category for participant sexual identity label was bisexual ($n = 59$, 38.8%), followed by gay ($n = 31$, 20.3%), lesbian ($n = 21$, 13.8%), and questioning (13.8%), with smaller proportions of participants ($< 7\%$) self-identifying as asexual, fluid, queer, pansexual, or other (see Table 1).

Suicidal Ideation

Participants were asked to answer highly sensitive questions regarding their past and current suicidal ideation and behaviors. National suicide prevention resources were provided to parents on the consent form, to all participants at the end of the study, and as an immediate pop-up with clickable links through Qualtrics if a participant endorsed a certain answer or reached a predetermined threshold. The statement read:

“The National Suicide Prevention Lifeline is 800-273-8255. Other international suicide helplines can be found at befrienders.org. You can also text TALK to 741741 for free, anonymous 24/7 crisis support in the US from the Crisis Text Line”

Measures

Demographic Questionnaire

Participants completed a demographic questionnaire to indicate their sexual orientation. Participants had the option to choose between “heterosexual or straight (in which they were exited out of the survey), gay or lesbian, bisexual, fluid, pansexual, queer, questioning, asexual, I identify differently, or I prefer not to answer.” Participants also identified their age (by birth year), gender identity (“man, male, or masculine,” “transgender man, male, or masculine,” “woman, female, or feminine,” “transgender woman, female, or feminine,” “gender nonconforming, genderqueer, or gender questioning,” “intersex, disorders of sex development, two-spirit, or other related terms,” “other,” or “prefer not to answer”), and their ethnicity/race (“American Indian or Alaska Native,” “Asian or Asian American,” “Black or African American,” “Hispanic, Latinx, or Spanish Origin,” “Middle Eastern or North African,” “Native Hawaiian or Other Pacific Islander,” “European or White American,” “some other race, ethnicity, or origin,” and/or “I prefer not to answer”). These questions were designed based on best practice when asking questions to identify minority respondents on population-based surveys (The GenIUSS Group, 2014).

The Sexual Minority Adolescent Stress Inventory (SMASI)

Schrager et al. (2018) designed the SMASI to assess minority stress across several subscales in LGB+ adolescents. The SMASI is a 64-item measure that looks at minority stress both across the lifespan and within the past thirty days and consists of the following subscales: Identity management, Negative expectancies, Negative disclosure experiences, Family rejection, Internalized homonegativity, Homonegative communication, Homonegative climate, Social marginalization, Intersectionality, Religion, and Work. The present study removed Religion and Work subscales in the case that participants were not working or were not religious, as the wording was not appropriate for those who do not have these experiences. This study also focused on global minority stress across the lifespan and remove items from the past thirty days. Adaptations to the measure reduced the total items to 49. Responses on the SMASI were given in a binary fashion through a response of either “Yes”, coded as 1, or “No”, coded as 0. Higher scores were associated with higher levels of overall global minority stress. The SMASI was found to have good divergent and criterion validity (Goldbach et al., 2017) and high reliability when looking measuring the overall composite score ($\alpha = .98$; Schrager et al., 2018). In the present study, internal consistency was high at $\alpha = .95$.

Avoidance and Fusion Questionnaire for Youth (AFQ-Y8)

The AFQ-Y8 (Greco et al., 2008) measures global psychological inflexibility, with a high score on the measure indicating greater levels of global psychological inflexibility. The questionnaire consists of eight items, with response sets ranging from “1 = Not true at all” to “5 = Very true” on a five-point response scale. Item samples

include: “My life won’t be good until I feel happy,” “The bad things I think about myself must be true,” and “I am afraid of my feelings.” Reliability for the AFQ-Y8 was high in a sample of youth participants, with an alpha value of 0.90 (Livheim, et al., 2016) and 0.90 in the present study. Additionally, in a sample of college students, the AFQ-Y8 was found to have strong reliability, with an alpha value of 0.82 (Renshaw, 2018).

Brief Experiential Avoidance Questionnaire (BEAQ)

The BEAQ (Gámez et al., 2014) is a 15-item self-report measure assessing participant’s levels of experiential avoidance (the avoidance of unpleasant thoughts or feelings). Responses are recorded on a six-point Likert scale, with “1 = Strongly Disagree” to “6 = Strongly Agree”. Item samples include, “The key to a good life is never feeling any pain,” “I would give up a lot not to feel bad,” and “I work hard to keep out upsetting feelings.” Higher scale scores represent higher levels of experiential avoidance. No large-scale normative data exists for this measure; however, during initial validation, the BEAQ was found to have good internal consistency ($\alpha = 0.86$) and strong convergence with related measures ($r = 0.39 - 0.80$; Gámez et al., 2014). Additionally, reliability was found to be strong in the current study at $\alpha = 0.89$. Past research has used the BEAQ with adults, but with items written at a third-grade reading level, it is argued that this measure is appropriate for use with adolescents.

Cognitive Fusions Questionnaire (CFQ)

The CFQ (Gillanders et al., 2014) measured levels of cognitive fusion, or the level of attachment one has to their thoughts and cognitions. The CFQ consists of seven items and is measured on a scale from one to seven, “1 = Never True” to “7 = Always True.”

Item examples include, “I struggle with my thoughts,” and “I tend to get very entangled in my thoughts.” Overall, higher scores on the CFQ represent higher levels of cognitive fusion. The CFQ has been translated and normed with various populations, with findings supporting the validation study of good preliminary evidence of readability (second grade level) and internal reliability ($\alpha = 0.88$ to 0.93) in seven samples (Gillanders et al., 2014) and $\alpha = 0.95$ in the current sample.

Valuing Questionnaire (VQ)

The VQ (Smout et al., 2014) is a measure used for assessing valued living. In this study, the VQ assessed the two ACT processes of Values and Committed Action. This is defined as how much a person can identify what is most important to them and how to live a life consistent with those values. The VQ is a short measure comprised of ten items, with a response scale ranging from zero (“Not at all true”) to six (“Completely true”). The VQ is broken into two subscales, Progress and Obstruction. Higher scores on Progress (items, 3, 4, 5, 7, 9) relates to higher levels of actions consistent with one’s values. Scores on Obstruction (items, 1, 2, 6, 8, 10) are correlated with hindrance of one’s valued living. Smout et al. (2014) found internal consistency for both the Progress and Obstruction scales to be high ($\alpha = 0.87$ and $\alpha = 0.87$). Other studies have found reliability levels around a similar degree (Christie et al, 2017; Fischer et al., 2016; Mosher et al., 2016) and the current study found coefficients of progress and obstruction to be 0.84 and 0.90, respectively. The Obstruction subscale was used for primary analyses because higher scores represent undesirable effects, similar to other measures, and due to higher reliability coefficients.

Mindful Attentive Awareness Scale – Adolescent (MAAS-A)

The MAAS-A (Brown, et al., 2011) is a measure adapted from the widely used MAAS (Brown & Ryan, 2003) for use with adolescent samples. The MAAS-A is employed to evaluate dispositional awareness with the present moment, with an emphasis on attention. The MAAS-A is a 15-item measure using a Likert scale from one (“Almost Always”) to six (“Almost Never”) for participant response. Examples of items on the MAAS-A include, “I find it difficult to stay focused on what’s happening in the present,” and “I find myself preoccupied with the future or the past”. Though questions address mindlessness, score is such that higher scores on the MAAS-A are associated with higher levels of awareness and attention in the present moment. Brown et al. (2011) found the MAAS-A to be psychometrically sound, with internal reliability ranging from $\alpha = 0.85$ to $\alpha = 0.88$. The present study found corresponding reliability at $\alpha = 0.93$.

Suicidal Behaviors Questionnaire – Revised (SBQ-R)

The SBQ-R (Osman, 2002) is a four-item self-report measure determining past suicidal ideation or attempts, frequency of suicidal ideation over the past 12 months, threat of suicide attempt, and likelihood of future suicidal behavior. Response types and scoring on the SBQ-R vary by question. Total scores are summative and can range from 3-18, with a score of seven or higher falling in the “at risk” category. In a high school sample, the SBQ-R was determined to have high reliability ($\alpha = 0.87$) and validity (Area Under the ROC Curve = 1.00) as a screener of suicidality (Osman et al., 2001). It should be noted that item one, “Have you ever thought about or attempted to commit suicide?” was changed to “Have you ever thoughts about or attempted to kill yourself?” The SBQ-

R was later removed from any statistical analyses due to redundancy with the SIQ, absence of questions regarding suicidal thoughts, and lower reliability.

Suicidal Ideation Questionnaire (SIQ)

The SIQ measures the frequency and severity of suicidal ideation in high school students through a 15-item questionnaire (Reynolds, 1987). Responses are given on a seven-point-scale ranging from zero = “I never had this thought” to six = “Almost every day.” A summative score greater than 41 suggests risk and higher overall scores are associated with greater levels of suicidal ideation. Reliability of the scale ranges from $\alpha = 0.74$ (school sample) to $\alpha = 0.97$ (clinical sample; Pinto et al., 1997; Winters, Myers, & Proud, 2002), and $\alpha = 0.96$ in the current sample. Any participants who received scores above the cutoff for either suicide related measure were provided with suicide prevention resources while taking the survey. Furthermore, the SIQ was used as the construct measure for suicidality in statistical analyses.

Alcohol Use Disorders Identification Test (AUDIT)

The final scale used in this study is the AUDIT (Saunders et al., 1993). This scale measures alcohol consumption, drinking behaviors, and alcohol related problems. The AUDIT is a 10-item measure using a five-point response scale (0–4). Responses vary based on question type and include questions such as “How often do you have a drink containing alcohol,” “Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?” and “How often during the last year have you failed to do what was normally expected of you because of drinking?” An overall score of eight or more indicates hazardous or harmful alcohol use. This scale

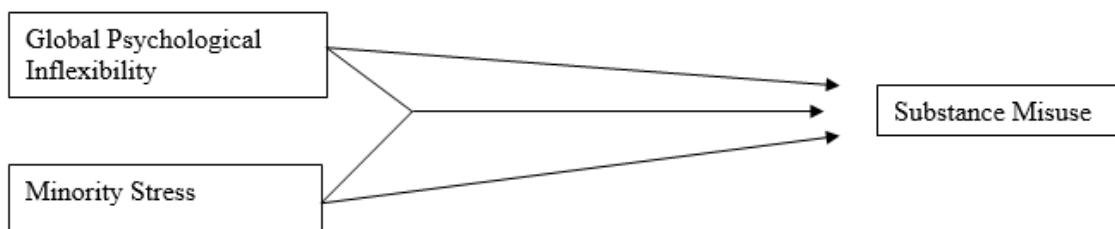
has high reliability ($\alpha = 0.86$) and strong diagnostic accuracy (sensitivity = 0.90 and specificity = 0.80) for various indices of problematic drinking in adult samples (Barbor et al., 2001). Similarly, high sensitivities (sensitivity = 0.88) were reported in a sample of adolescents ages 14-18 (Knight et al., 2006) and good reliability was found in the current study, $\alpha = 0.95$.

Statistical Analysis

Preliminary univariate analyses assessed central tendency, internal consistency, and distribution of all scales that contain multiple items. Prior to putting observed variables into the regression analyses models, bivariate correlations between total scores of all measures were conducted and organized into a correlation matrix. Four linear regression models tested main effects and interactions of the predictor variables. Model 1 (Figure 1) tested the main effects of minority stress and psychological inflexibility and the interaction of the two on the outcome of substance misuse.

Figure 1.

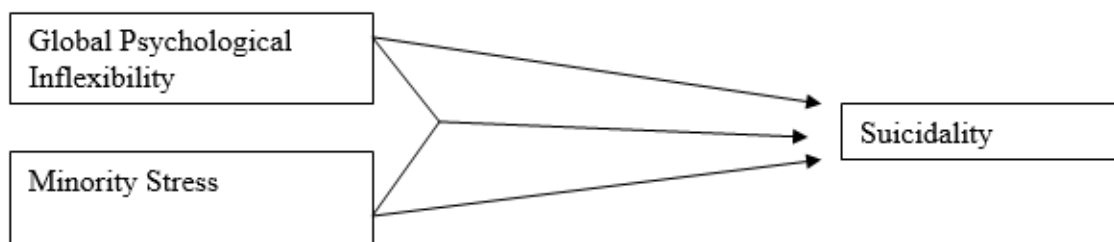
Linear regression model for Minority Stress, Global Psychological Inflexibility, and Substance Misuse.



Model 2 (Figure 2) tested the main effects of minority stress and psychological inflexibility and the interaction of the two on the outcome of suicidality.

Figure 2.

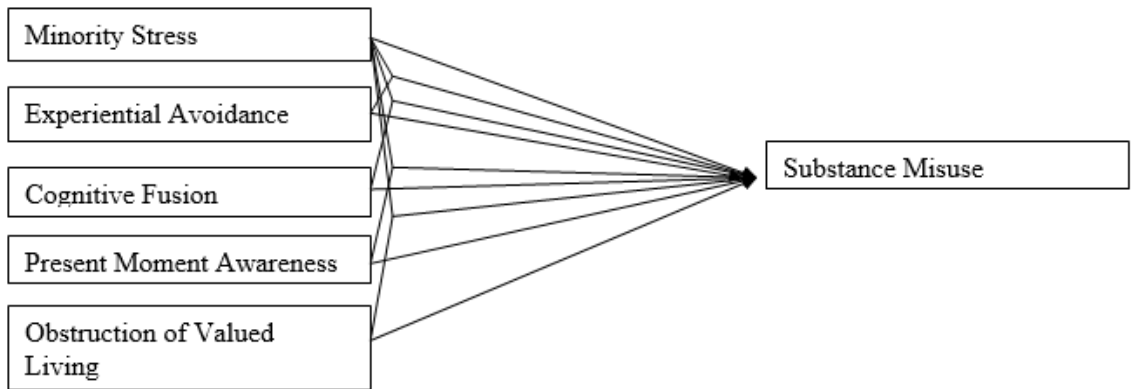
Linear regression model for Minority Stress, Global Psychological Inflexibility, and Suicidality.



Model 3 (Figure 3) tested the main effects and interactions of minority stress, cognitive fusion, experiential avoidance, valued living, and present moment awareness on the outcome of substance misuse.

Figure 3.

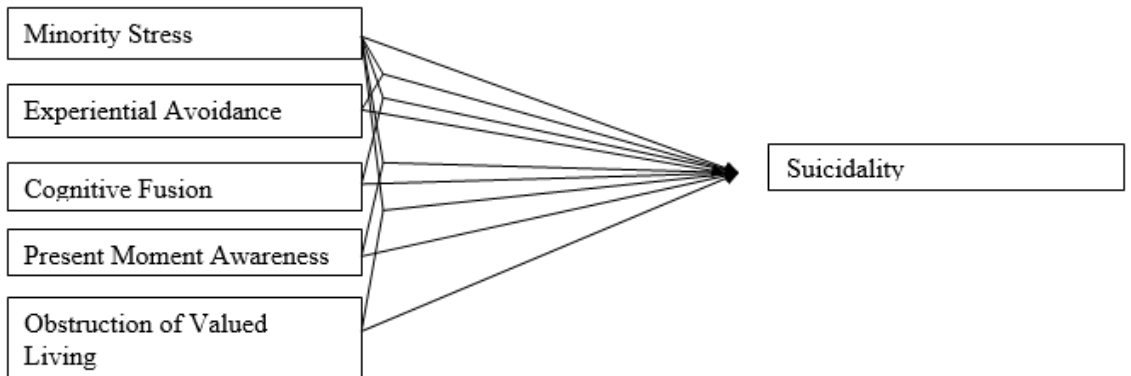
Linear regression model for Minority Stress, Global Psychological Inflexibility Sub-Processes, and Substance Misuse.



Model 4 (Figure 4) tested the main effects and interactions of minority stress, cognitive fusion, experiential avoidance, valued living, and present moment awareness on the outcome of suicidality.

Figure 4.

Linear regression model for Minority Stress, Global Psychological Inflexibility Sub-Processes, and Suicidality.



Residual diagnostics were calculated using variance inflation factors to show if multicollinearity was a concern. Summary statistics, bivariate correlations, linear regression models, and the variance inflation factor were calculated through the R statistical environment.

Statistical Limitations

Limitations to the statistical analysis originate in the exploratory nature of the proposed pathways in this study. While effects between minority stress/global psychological inflexibility/psychological inflexibility sub-processes and the outcome variables is predictable, no literature exists connecting minority stress with global psychological inflexibility/psychological inflexibility sub-processes. Though best practice was used while selecting sample size (Darlington & Hayes, 2017), guessing at effect sizes among pathways made sample size selection no more than semi-informed (Hayes, 2017). Additionally, regression models work under the assumption of independence among predictors. Though there is no current literature on the correlation among the proposed measures, conceptually, there is a likelihood that some of the predictors will be correlated.

CHAPTER IV

RESULTS

Preliminary Analyses

Descriptive Statistics

Descriptive statistics for all study variables are presented in Table 2. Each variable was examined to look at participants' pattern of response through central tendencies and distribution, including mean, range, standard deviation, skewness, and kurtosis. Additionally, normality was tested for each variable using Q-Q plots, histograms, and Shapiro Wilk's tests. Finally, reliability analyses were conducted to assess internal consistencies using Cronbach's alpha.

Histograms showed distribution of item responses to have greater clusters toward the mean and fewer responses at the tails for most variables, excluding the measures of suicidality and substance misuse. All variables measuring suicidality and substance use showed floor effects, demonstrating a pattern in which the majority of participants presented neither suicidal tendencies nor excessive alcohol use, as seen in previous studies (Esser et al., 2017; Nock et al., 2013). Furthermore, Q-Q plots demonstrated slight deviations at the tails, except in the instances of the criterion variables (i.e., suicidality and substance use), which showed considerable deviations. Shapiro Wilk's tests were violated ($p < .05$) in all measures except for the measurement of mindful attention (MAAS-A, $p = .057$), indicating rejection of the null hypothesis that sample responses were normally distributed. In this study, violating the assumption of normal distribution indicated limitations of measurement scales due to floor effects; though in

large samples, Shapiro Wilk's is known to be overly sensitive (Ghasemi & Zahediasl, 2012) and less often relied upon. Reliability analyses showed strong internal consistencies for all variables, with Cronbach's alphas ranging from 0.84 to 0.96 (see Table 2). Strong reliabilities indicated that all measures were precise and consistent in measuring the construct. These data provide encouraging information in regard to the use of the current measures in primary analyses by reducing measurement error.

Table 2

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

Measure	<i>M</i>	<i>SD</i>	<i>min</i>	<i>max</i>	<i>skewness</i>	<i>kurtosis</i>	<i>Cronbach's α</i>
SMASI	20.43	12.93	0	49	0.17	-0.97	.95
AFQ-Y8	23.12	8.60	8	40	-0.01	-0.91	.90
BEAQ	59.03	14.55	15	86	-0.50	0.04	.89
CFQ	30.89	10.99	7	49	-0.38	-0.64	.95
VQ-O	15.38	8.29	0	30	-0.21	-0.80	.90
MAAS-A	3.70	1.11	1	6	0.05	-0.36	.93
SIQ	20.06	22.18	0	83	1.16	0.18	.96
AUDIT	5.20	8.54	0	37	1.88	2.77	.95

Note: SMASI = The Sexual Minority Adolescent Stress Inventory; AFQ-Y8 = Avoidance and Fusion

Questionnaire for Youth; BEAQ = Brief Experiential Avoidance Questionnaire; CFQ = Cognitive Fusions

Questionnaire; VQ-O = Valuing Questionnaire – Obstruction; MAAS-A = Mindful Attentive Awareness

Scale – Adolescent; SIQ = Suicidal Ideation Questionnaire; AUDIT = Alcohol Use Disorders Identification

Test.

Correlations

Bivariate correlations among all study variables are presented in Table 3.

Correlation coefficients were examined in order to confirm or deny assumptions of

independence and direction and strength of relationships between variables. Results showed moderate associations between minority stress and psychological inflexibility ($r = .54, p < .001$), along with its sub-processes of experiential avoidance ($r = .40, p < .001$), cognitive fusion ($r = .43, p < .001$), obstruction of valued living ($r = .43, p < .001$), and mindful attention ($r = -.38, p < .001$).

Associations between predictor variables and suicidality showed correlations ranging from weak (experiential avoidance, $r = .21$) to moderate (psychological inflexibility, $r = .44$; see Table 3). Associations between the predictor variables and substance misuse also ranged from weak (cognitive fusion, $r = .25, p = .002$) to moderate (minority stress, $r = .44, p < .001$; see Table 3). There were strong associations between psychological inflexibility and its sub-processes of experiential avoidance ($r = .67, p < .001$), cognitive fusion ($r = .78, p < .001$), and obstruction of valued living ($r = .62, p < .001$). Additionally, psychological inflexibility and the sub-process of mindful attention showed a moderate negative relationship ($r = -.46, p < .001$). Overall, associations amongst variables indicated weak to moderate relationships between predictors, moderators, and criterion variables. For the moderator variables, coefficients were moderate to high with relationships showing expected directionality. These results suggested measures were appropriate for use in primary analyses as they meet theoretical expectations regarding the strength and directionality of relationships among variables.

Table 3*Pearson's Bivariate Correlation Matrix for All Study Measures*

Measures	SMASI	AFQ-Y8	BEAQ	CFQ	VQ-O	MAAS-A	SIQ	AUDIT
SMASI								
AFQ-Y8	.54**							
BEAQ	.40**	.67**						
CFQ	.43**	.78**	.73**					
VQ-O	.43**	.62**	.70**	.69**				
MAAS-A	-.38**	-.46**	-.42**	-.47**	-.51**			
SIQ	.27**	.44**	.21*	.38**	.34**	-.31**		
AUDIT	.44**	.34**	.31**	.25*	.35**	-.26**	.32**	

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

Note: SMASI = The Sexual Minority Adolescent Stress Inventory; AFQ-Y8 = Avoidance and Fusion Questionnaire for Youth; BEAQ = Brief Experiential Avoidance Questionnaire; CFQ = Cognitive Fusions Questionnaire; VQ-O = Valuing Questionnaire – Obstruction; MAAS-A = Mindful Attentive Awareness Scale – Adolescent; SIQ = Suicidal Ideation Questionnaire; AUDIT = Alcohol Use Disorders Identification Test.

Multiple Linear Regression

Demographic covariates

Demographic variables of age, gender, sexual orientation, and race/ethnicity were included in Model 1 and Model 2 analyses as covariates to control for potential confounding effects. This allowed for more precise interpretation of effects and interactions among predictor, moderator, and criterion variables. Additionally, by controlling for demographic variables, residual errors were reduced in both models. Due to the exploratory nature and complexity of Model 3 and Model 4, demographic variables were not included in the analyses as covariates.

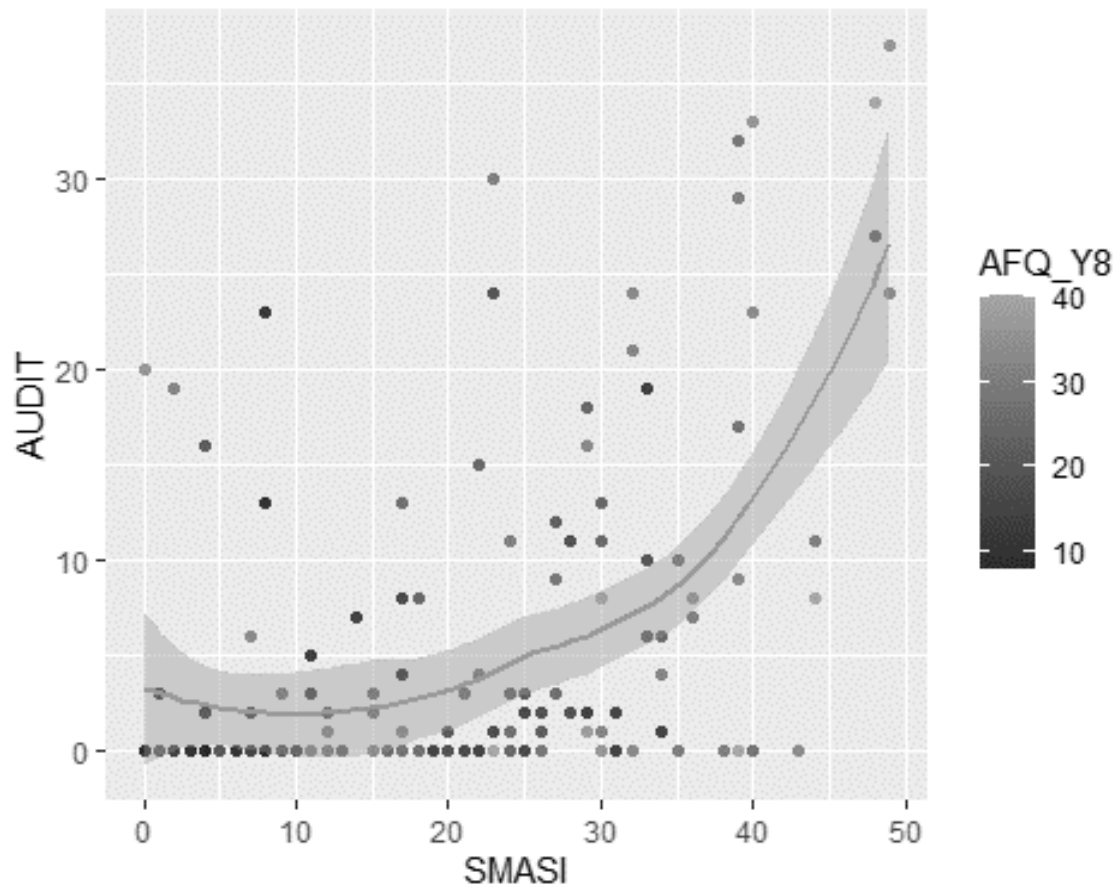
Demographic sub-groups with samples less than 30 were combined into larger categorical aggregations. Due to the large quantity of demographic sub-groups, small demographic samples included as controls in the regression analyses would have produced meaningless results. Gender was coded to include three groups, female (reference group; included female and transgender female participants), male (included male and transgender male participants), and gender nonbinary (included gender nonbinary and participants who selected “other”). Gender groupings of transgender participants was based on current best practice, indicating gender identity is more meaningful than biological sex when norming samples (De Vries et al., 2011). Racial and ethnic consolidation of groups was conducted in a binary fashion. Due to the high percentage of White participants, race and ethnicity was divided into White (reference group) and Person of Color. Lastly, sexual orientation was parsed into four sub-groups due to a more even distribution of participants among identifiers: Bisexual (reference group), Gay, Lesbian, and Queer (consisting of asexual, pansexual, queer, questioning, fluid, and “I identify differently”).

Model 1

Based on observed curvilinear patterns in scatterplots (see Figure 5) of the raw data and improvements in residual variance, a quadratic regression analysis was conducted to assess global psychological inflexibility as moderating the relationship between minority stress and substance misuse, while controlling for age, gender, sexual orientation, and race/ethnicity. Results from Model 1 are presented in Table 4.

Figure 5

Scatterplot of Minority Stress (SMASI) and Substance Misuse (AUDIT), Shaded by Psychological Inflexibility (AFQ-Y8)



Note: SMASI = The Sexual Minority Adolescent Stress Inventory, AFQ-Y8 = Avoidance and Fusion

Questionnaire for Youth, AUDIT = Alcohol Use Disorders Identification Test

Table 4

Multiple Linear Regression Parameter Estimates for Quadratic Effect of Minority Stress (SMASI) Moderated by Psychological Inflexibility (AFQ-Y8) Regressed on Substance Misuse (AUDIT) – “Model 1”

Term	Unstandardized, <i>b</i>		Standardized, β		Sig.	Effect Size
	<i>Est</i>	<i>(SE)</i>	<i>Est</i>	<i>(SE)</i>	<i>p</i> value	R_p^2
Intercept	-5.19	6.90	4.89	1.28	.453	.36
Covariates						
Person of Color	0.80	1.29	0.80	1.29	.534	<.01
Gender (Female)						
Male	1.00	1.53	1.00	1.53	.513	<.01
Non-conforming	-1.53	2.52	-1.53	2.52	.544	<.01
Age, years	0.09	0.38	0.14	0.61	.821	.00
Sexual Orientation (bisexual)						
Gay	0.12	1.92	0.12	1.92	.952	.00
Lesbian	-2.76	1.85	-2.76	1.86	.139	.02
Queer	-0.49	1.51	-0.49	1.51	.746	<.01
Main Effects						
SMASI (<i>linear</i>)	0.67	0.48	-4.27	2.55	.168	.01
SMASI ² (<i>quadratic</i>)	-0.01	0.01	6.65	2.78	.311	.01
AFQ-Y8	0.38	0.17	0.98	0.71	.023*	.04
Interactions						
SMASI x AFQ-Y8	-0.04	0.02	-4.79	2.02	.019*	.04
SMASI ² x AFQ-Y8	0.00	0.00	5.27	2.16	.016*	.04

* $p < .05$; $R^2 (N = 152)$ *Unadjusted* = .36, *Adjusted* = .30; Residual Standard Error =

7.15; Model $F(12, 139) = 6.41$, $p < .001$.

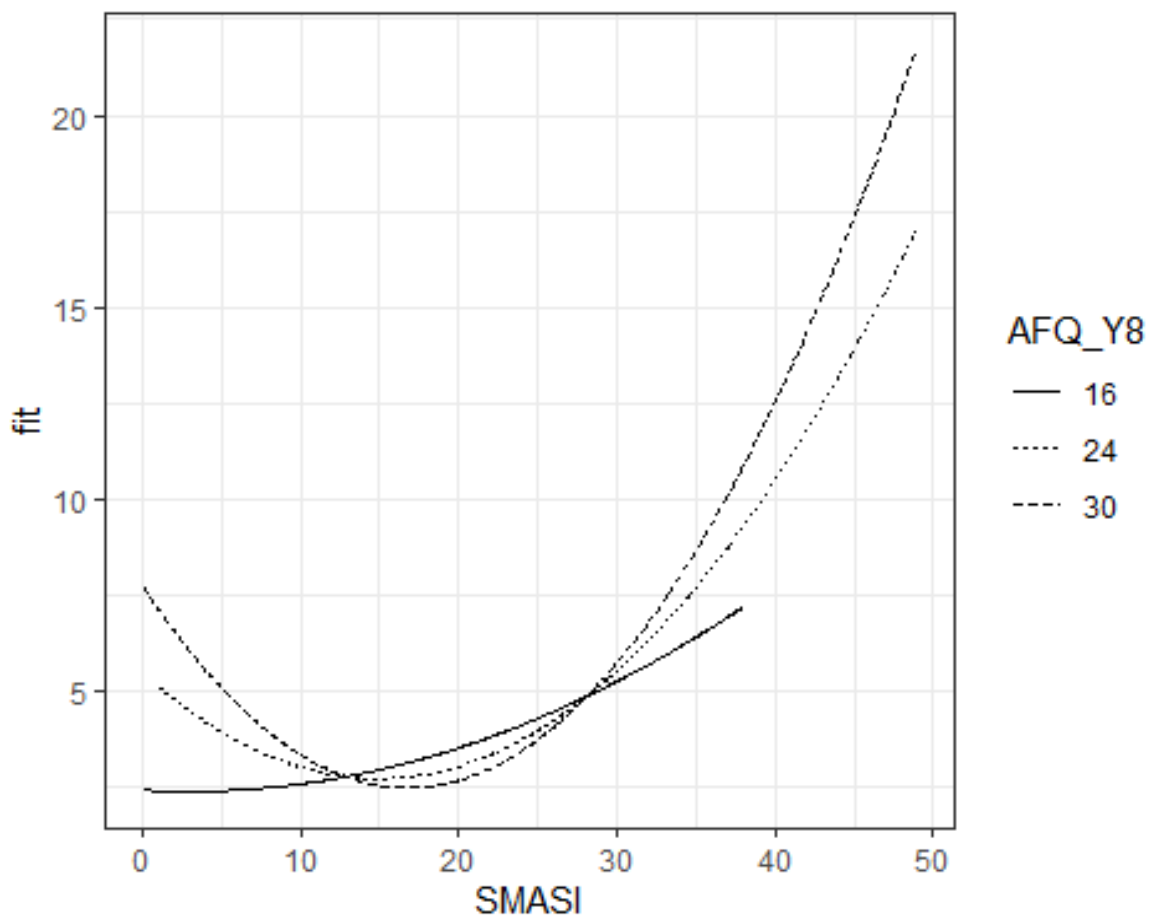
Note: SMASI = The Sexual Minority Adolescent Stress Inventory, AFQ-Y8 = Avoidance and Fusion Questionnaire for Youth, AUDIT = Alcohol Use Disorders Identification Test

Psychological inflexibility was found to have a significant main effect on substance misuse, $p = .023$, in Model 1. Additionally, there was evidence that

psychological inflexibility moderated the relationship between minority stress and substance misuse, $p = .016$, thus rejecting the null hypothesis that there were no significant interactions (see Figure 6). When taken together, the combined effects of Model 1 account for 30% of the variance in substance misuse in this sample of LGB+ adolescents, which is a very large effect size. Specifically, the quadratic interaction between minority stress and psychological inflexibility accounted for 4% of the variance within this model, which is a small effect size. This interaction indicates that the relationship between minority stress and substance misuse is stronger when under conditions of high psychological inflexibility. Residual tests indicated greater instances of residual deviations as participants neared higher ends of measures, implying more variability in extreme participant reports.

Figure 6

Interaction Plot Illustrating the Moderating Effect of Psychological Inflexibility (AFQ-Y8) on Minority Stress (SMASI) when Predicting the Estimated Marginal Mean of Substance Misuse (AUDIT; "fit") - "Model 1"



Note: SMASI = The Sexual Minority Adolescent Stress Inventory, AFQ-Y8 = Avoidance and Fusion Questionnaire for Youth, AUDIT = Alcohol Use Disorders Identification Test

Model 2

Global psychological inflexibility was tested as moderating the relationship between minority stress and suicidality while controlling for age, gender, sexual orientation, and race/ethnicity. Results from Model 2 are presented in Table 5.

Table 5

Multiple Linear Regression Parameter Estimates for Linear Effect of Minority Stress (SMASI) Moderated by Psychological Inflexibility (AFQ-Y8) Regressed on Suicidality (SIQ) – “Model 2”

Term	Unstandardized, <i>b</i>		Standardized, β		Sig. <i>p</i> value	Effect Size
	<i>Est</i>	<i>(SE)</i>	<i>Est</i>	<i>(SE)</i>		
Intercept	7.10	19.00	22.66	3.50	.709	.23
Covariates						
Person of Color	-5.27	3.56	-5.27	3.56	.142	.02
Gender (Female)						
Male	-3.09	4.30	-3.09	4.30	.474	<.01
Non-conforming	-3.14	6.97	-3.14	6.97	.653	<.01
Age, years	-1.10	1.07	-1.75	1.70	.305	.01
Sexual Orientation (bisexual)						
Gay	4.83	5.40	4.84	5.40	.372	.01
Lesbian	2.22	5.24	2.22	5.24	.673	<.01
Queer	2.45	4.26	2.45	4.26	.566	<.01
Main Effects						
SMASI	0.43	0.38	1.35	2.03	.266	.01
AFQ-Y8	1.34	0.35	9.05	2.00	<.001***	.10
Interactions						
SMASI x AFQ-Y8	-0.01	0.01	-1.55	1.58	.327	.01

****p* < .001. R^2 ($N = 152$) *Unadjusted* = .23, *Adjusted* = .17; Residual Standard Error =

20.19, Model $F(10, 141) = 4.12$, $p < .001$.

Note: SMASI = The Sexual Minority Adolescent Stress Inventory, AFQ-Y8 = Avoidance and Fusion Questionnaire for Youth, SIQ = Suicidal Ideation Questionnaire.

While higher scores on minority stress did not directly affect suicidality, $b = 0.43$, $\beta = 1.35$, $p = .266$, psychological inflexibility did have a direct effect on suicidality, $b = 1.34$, $\beta = 9.05$, $p < .001$, explaining 10% of the variance within the model. For every additional point of psychological inflexibility indicated by a participant on the AFQ-Y8, their suicidality ratings increased by 1.34 points on the SIQ. There was no evidence of a significant interaction between minority stress and psychological inflexibility in their relationship with suicidality, $p = .327$, thus the null hypothesis of no significant interactions cannot be rejected. Residual tests indicated appropriate variation and deviation, showing an expected distribution of residuals.

Model 3

A series of exploratory multiple linear regression analyses were run for each individual psychological inflexibility sub-process—cognitive fusion, experiential avoidance, mindful attention, and valued living—so all sub-processes could be controlled for in the relationship between minority stress and substance misuse. Multiple regression models were run looking at one construct at a time due to multicollinearity concerns of running an analysis with all sub-processes as potential moderators. Additionally, five main effect regression models were conducted to pinpoint direct effects without interactions. Key results from this series of exploratory models are presented in Table 6.

Table 6

Multiple Linear Regression Parameter Estimates (b) investigating potential moderation of Minority Stress (SMASI) by Each of Four Psychological Inflexibility Sub-processes Regressed on Substance Misuse (AUDIT) with sub-process covariates – “Model’s 3A – 3E”

	<i>Psychological Inflexibility Sub-processes Moderating Minority Stress</i>				
	Model 3-A	Model 3-B	Model 3-C	Model 3-D	Model 3-E
	None	CFQ	MAAS-A	VQ-O	BEAQ
Intercept	-2.27	2.92	-7.19	1.15	3.24
SMASI	0.24***	-0.06	0.46**	< 0.01	-0.11
Sub-process					
BEAQ	0.07	0.06	0.06	0.08	-0.03
CFQ	-0.11	-0.24*	-0.08	-0.09	-0.10
MAAS-A	-0.30	-0.44	0.92	-0.40	-0.32
VQ-O	0.19	0.19	0.20	-0.06	0.20
SMASI x Sub-process		0.01*	-0.06	0.01*	0.01
<i>Model Fit</i>					
<i>R</i> ²	.23	0.26	0.25	0.26	0.25
Adj <i>R</i> ²	.21	0.23	0.22	0.23	0.22
Residual Std. Error	7.60	7.52	7.56	7.49	7.55

* $p < .05$.

Note: SMASI = The Sexual Minority Adolescent Stress Inventory; BEAQ = Brief Experiential Avoidance Questionnaire; CFQ = Cognitive Fusions Questionnaire; VQ-O = Valuing Questionnaire – Obstruction; MAAS-A = Mindful Attentive Awareness Scale – Adolescent; AUDIT = Alcohol Use Disorders Identification Test.

Additionally, a series of exploratory models assessed direct effects of each sub-process on substance misuse without accounting for other sub-processes, due to their highly correlated nature and the assumption of independence. Key results from this series of analyses are presented in Table 7.

Table 7

Multiple Linear Regression Parameter Estimates (b) Investigating Potential Moderation of Minority Stress (SMASI) by Each of Four Psychological Inflexibility Sub-Processes Regressed on Substance Misuse (AUDIT) without Sub-Process Covariates – “Model’s 3F – 3I”

	<i>Psychological Inflexibility Sub-processes Moderating Minority Stress</i>			
	Model 3-F CFQ	Model 3-G MAAS-A	Model 3-H VQ-O	Model 3-I BEAQ
Intercept	2.13	-1.95	0.71	-0.22
SMASI	-0.03	0.50***	0.01	-0.08
Sub-process Direct Effects	-0.08	0.39	-0.02	0.01
SMASI x Sub-process	0.01*	-0.06	0.01*	0.01
<i>Model Fit</i>				
<i>R</i> ²	0.22	0.22	0.25	0.23
<i>Adj R</i> ²	0.21	0.20	0.24	0.21
Residual Std. Error	7.62	7.63	7.46	7.58

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

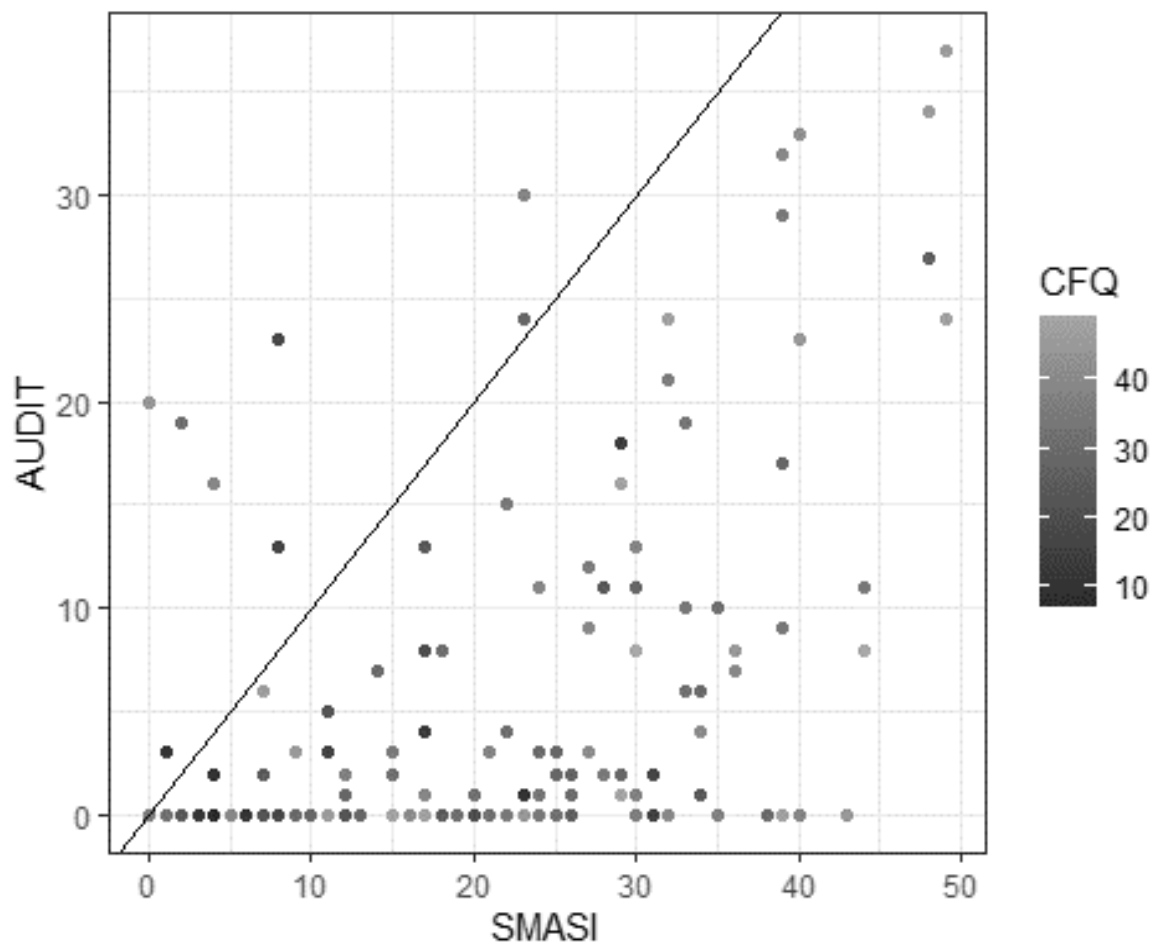
Note: SMASI = The Sexual Minority Adolescent Stress Inventory; AFQ-Y8 = Avoidance and Fusion Questionnaire for Youth; AUDIT = Alcohol Use Disorders Identification Test.

Direct effects were identified in a few models, though no specific sub-process was found to significantly affect substance misuse across all analyses when covariate sub-processes were controlled for. Significant interactions with cognitive fusion and obstruction of valued living emerged. Cognitive fusion moderated the relationship between minority stress and substance misuse, $p = .040$, thus rejecting the null hypothesis of no significant interactions (see Figure 7 & 8). This finding suggests that the relationship between minority stress and substance misuse is significantly stronger when individuals are cognitively fused with their thoughts or are not living in line with their

values. The combined effects of the terms in this model accounted for 23% of the variance in substance misuse, representing a large effect, but the specific moderating effect was relatively small.

Figure 7

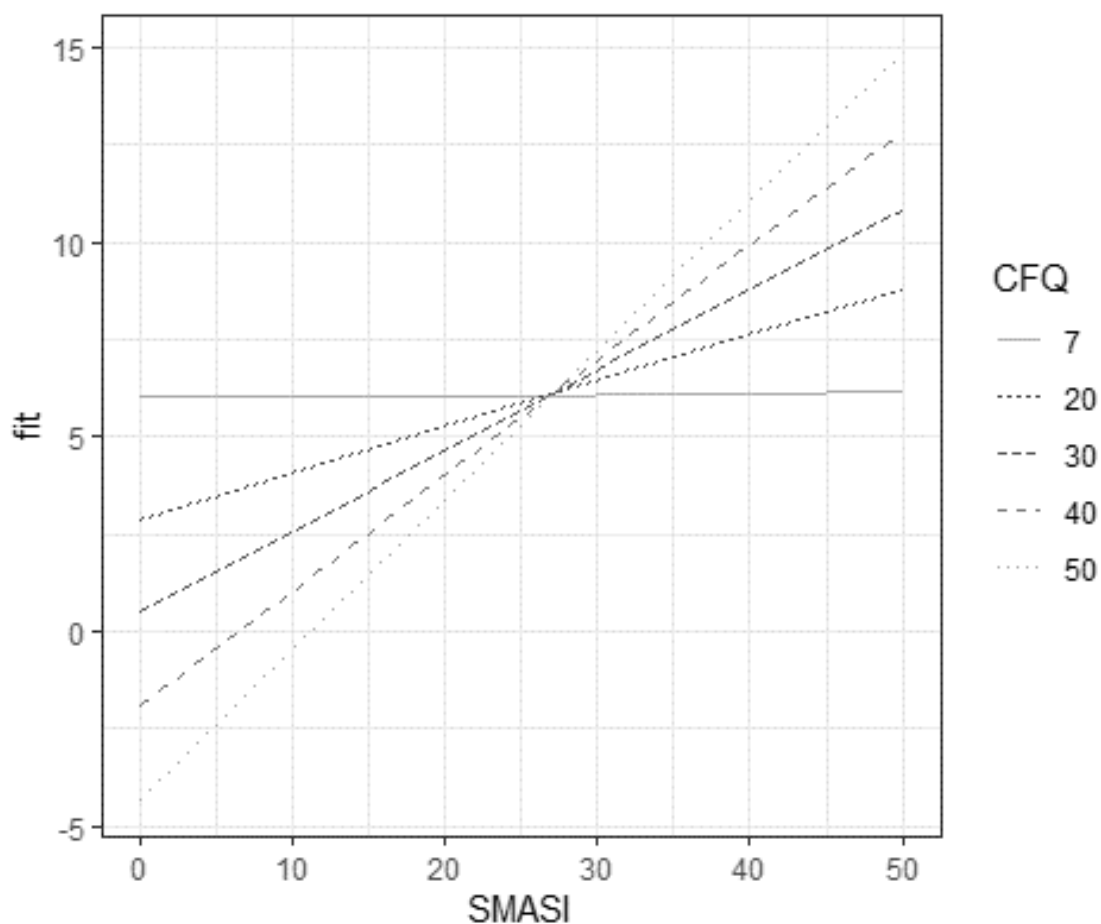
Scatterplot of Minority Stress (SMASI) and Substance Misuse (AUDIT), Shaded by Cognitive Fusion (CFQ)



Note: SMASI = The Sexual Minority Adolescent Stress Inventory; CFQ = Cognitive Fusion Questionnaire;
AUDIT = Alcohol Use Disorders Identification Test.

Figure 8

Interaction Plot Illustrating the Moderating Effect of Cognitive Fusion (CFQ) on Minority Stress (SMASI) when Predicting the Estimated Marginal Mean of Substance Misuse (AUDIT; “fit”) - “Model’s 3B”



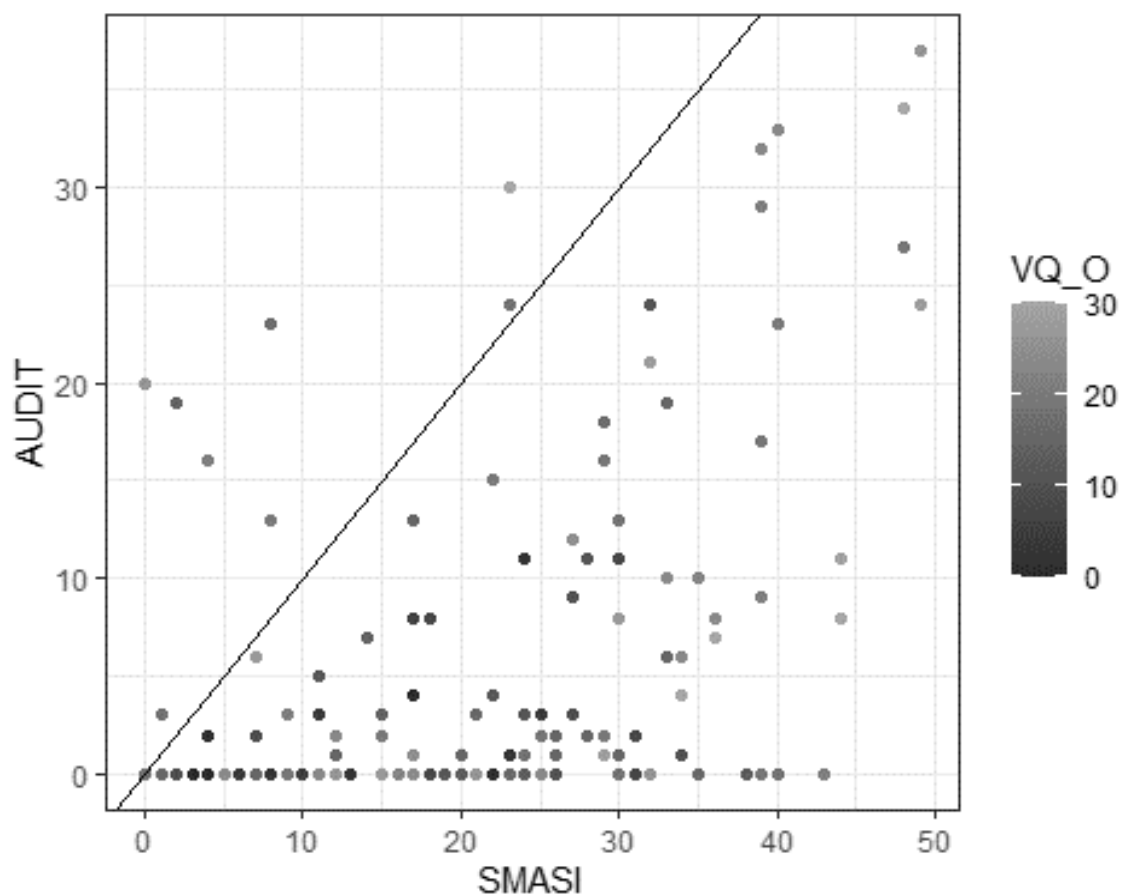
Note: SMASI = The Sexual Minority Adolescent Stress Inventory, CFQ = Cognitive Fusion Questionnaire, AUDIT = Alcohol Use Disorders Identification Test

Obstruction of valued living was also found to significantly moderate the relationship between minority stress and substance misuse, $p = .022$, thus rejecting the null (see Figure 9 & 10). This model accounted for 23% of the variance in substance misuse, which is a large effect, but the interaction effect was again relatively small.

Residual tests for both interactions showed fanning and deviations of residuals that stress the assumptions of normality. Though this signifies potentially problematic variance in participant responses, the exploratory nature of these analyses are still thought to be informative.

Figure 9

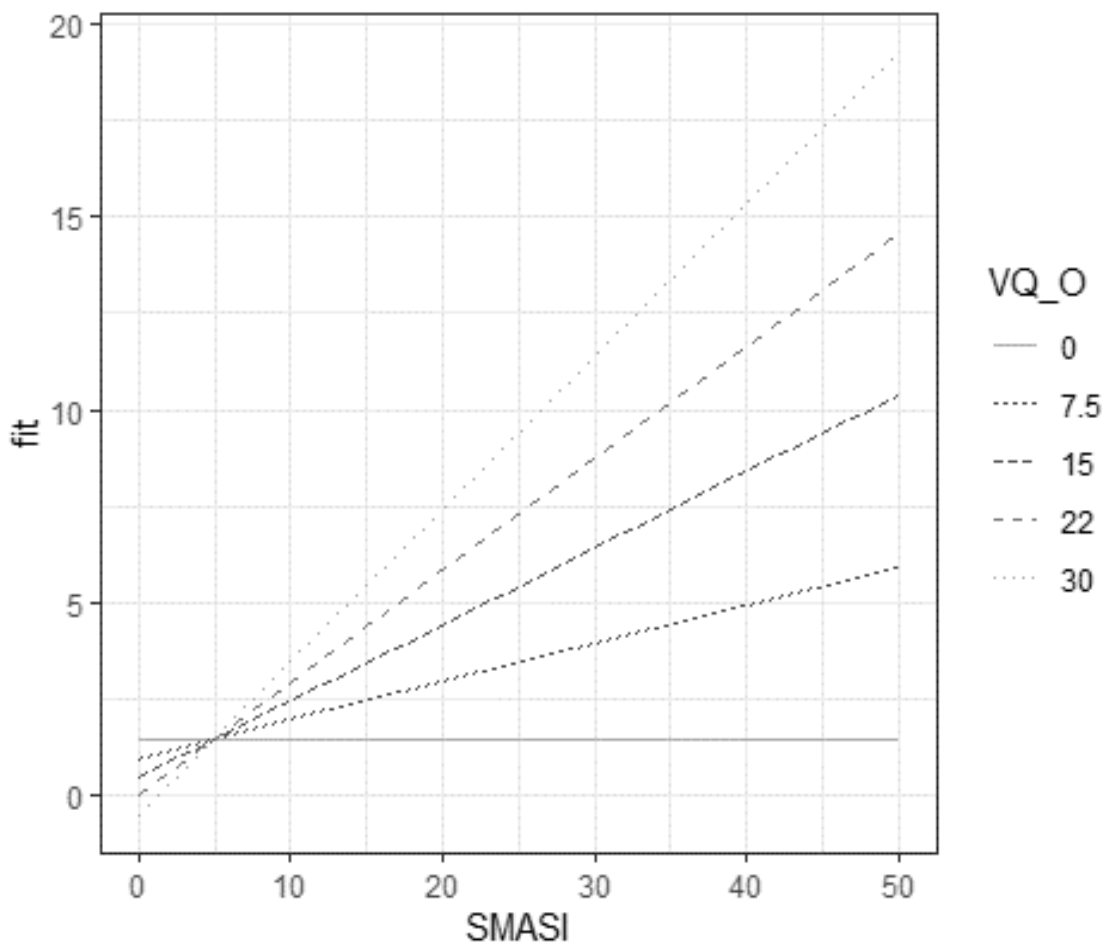
Scatterplot of Minority Stress (SMASI) and Substance Misuse (AUDIT), Colored by Obstruction of Valued Living (VQ-O)



Note: SMASI = The Sexual Minority Adolescent Stress Inventory, VQ-O = Valuing Questionnaire - Obstruction, AUDIT = Alcohol Use Disorders Identification Test

Figure 10

Interaction Plot Illustrating the Moderating Effect of Valued Living Obstruction (VQ-O) on Minority Stress (SMASI) when Predicting the Estimated Marginal Mean of Substance Misuse (AUDIT; “fit”) - “Model’s 3D”



Note: SMASI = The Sexual Minority Adolescent Stress Inventory, VQ-O = Valuing Questionnaire - Obstruction, AUDIT = Alcohol Use Disorders Identification Test

Model 4

A series of exploratory multiple linear regression analyses were run to test the direct effects and interactions of psychological inflexibility’s core sub-processes in the

relationship between minority stress and suicidality while controlling for all other sub-processes as well as in the absence of these controls. Key results from these series of analyses are presented in Table 9 and Table 10. Both cognitive fusion and experiential avoidance were found to have significant direct effects on suicidality when accounting for the covariate of other psychological inflexibility sub-processes (controlled analyses). Cognitive fusion significantly was associated with suicidality in all models (controlled and non-controlled analyses), with effects ranging from $b = 0.72, p < .001$ to $b = 0.69, p = .023$. In all instances of analyses, as scores of cognitive fusion increased, so did suicidality scores. Experiential avoidance was related to suicidality in the opposite direction, with significant effects in all models excluding the one examining experiential avoidance as the moderator. In all other controlled models, effects of experiential avoidance on suicidality ranged from $b = -0.38, p = .039$, to $b = -0.39, p = .034$. Interestingly, in controlled analyses, increased ratings of experiential avoidance decreased suicidality, though associations between the variables in Pearson's r correlation table (Table 3) suggested effects in the opposite direction. However, when experiential avoidance was examined in the non-controlled model, an opposite, non-significant, effect was discovered in line with theoretical expectations and the correlation matrix. Given associations with other sub-processes, it is likely this result is suppression effect that occurred due to multicollinearity. Overall, no evidence of a significant interaction among any of the sub-process variables and minority stress were found in their relationship with suicidality, therefore the null hypothesis of no significant interactions cannot be rejected.

Table 8

Multiple Linear Regression Parameter Estimates (b) investigating potential moderation of Minority Stress (SMASI) by Each of Four Psychological Inflexibility Sub-processes Regressed on Suicidality (SIQ) with sub-process covariates – “Model’s 4A – 4E”

	<i>Psychological Inflexibility Sub-processes Moderating Minority Stress</i>				
	Model 4-A None	Model 4-B BEAQ	Model 4-C CFQ	Model 4-D MAAS-A	Model 4-E VQ-O
Intercept	19.97	13.11	20.21	15.02	20.16
SMASI	0.17	0.61	0.16	0.40	0.16
Sub-process					
BEAQ	-0.38*	-0.26	-0.38*	-0.39*	-0.38*
CFQ	0.69*	0.69**	0.69*	0.72**	0.69**
MAAS-A	-2.52	-2.49	-2.53	-1.30	-2.53
VQ-O	0.45	0.45	0.45	0.45	0.44
SMASI x Sub-process		-0.01	<0.01	-0.06	<0.01
<i>Model Fit</i>					
R ²	.20	.20	.20	.20	.20
Adj R ²	.17	.17	.17	.17	.17
Residual Std. Error	20.17	20.20	20.24	20.21	20.24

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

Note: SMASI = The Sexual Minority Adolescent Stress Inventory; BEAQ = Brief Experiential Avoidance Questionnaire; CFQ = Cognitive Fusions Questionnaire; VQ-O = Valuing Questionnaire – Obstruction; MAAS-A = Mindful Attentive Awareness Scale – Adolescent; SIQ = Suicidal Ideation Questionnaire.

Table 9

Multiple Linear Regression Parameter Estimates (b) Investigating Potential Moderation of Minority Stress (SMASI) by Each of Four Psychological Inflexibility Sub-Processes Regressed on Suicidality (SIQ) without Sub-Process Covariates – “Model’s 4F – 4I”

	<i>Psychological Inflexibility Sub-processes Moderating Minority Stress</i>			
	Model 4-F	Model 4-G	Model 4-H	Model 4-I
	BEAQ	CFQ	MAAS-A	VQ-O
Intercept	-7.52	-5.90	31.01	2.34
SMASI	0.93	0.32	0.32	0.34
Sub-process Direct Effects	0.33	0.69**	-4.67	0.80*
SMASI x Sub-process	-0.01	<-0.01	<-0.01	<-0.01
<i>Model Fit</i>				
<i>R</i> ²	.09	.16	.12	.13
<i>Adj R</i> ²	.07	.14	.10	.12
Residual Std. Error	21.34	20.56	20.99	20.84

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

Note: SMASI = The Sexual Minority Adolescent Stress Inventory; BEAQ = Brief Experiential Avoidance Questionnaire; CFQ = Cognitive Fusions Questionnaire; VQ-O = Valuing Questionnaire – Obstruction; MAAS-A = Mindful Attentive Awareness Scale – Adolescent; SIQ = Suicidal Ideation Questionnaire.

CHAPTER V

DISCUSSION

Minority stress in the LGB+ community has been considered in many studies and is associated with several harmful outcomes (Boyle et al., 2017; Conlin et al., 2019; Haas et al., 2011; Meyer, 2003). This study proposed to further explain how minority stress influences outcomes in LGB+ adolescents. Psychological inflexibility was investigated as a moderating psychological process that could help advance the understanding of minority stress's relationship with harmful outcomes. It was discovered that global psychological inflexibility may moderate the relationship minority stress has with harmful behaviors. However, global psychological inflexibility was shown to interact with the outcome variables conditionally, meaning it does not influence the strength of the relationship between minority stress and harmful behaviors ubiquitously. Specifically, this study found that global psychological inflexibility has a significant moderating effect on the relationship between minority stress and substance misuse (see Table 4) but not on the relationship between minority stress and suicidality (see Table 5). This general moderating effect was small and positive, suggesting that greater levels of global psychological inflexibility modestly strengthens the relationship between minority stress and substance misuse.

When looking at the sub-processes of global psychological inflexibility, a more comprehensive understanding of the mechanisms that drive the global moderating effect can be explored. Assessing the degree to which each sub-process of psychological inflexibility differentially relates to minority stress and harmful outcomes may offer clues

for researchers and practitioners about what processes to target when providing ACT with LGB+ adolescents. Again, significant interactions between sub-processes and minority stress were only found in the models predicting substance misuse as the outcome (see Table 6 & Table 7) and did not evidence any meaningful moderation when predicting suicidality (see Table 8 & Table 9). Within the variables of the substance misuse models (both with and without covariates), only cognitive fusion and obstruction of valued living were identified as having significant interactions with minority stress. Both of these moderating effects were small and positive (see Figure 8 & 10), suggesting that higher levels of cognitive fusion and obstruction of valued living may modestly influence the relationship between minority stress and substance misuse. Overall, it appears that global psychological inflexibility, and two of its sub-processes, play a small role in moderating the relationship between minority stress and substance misuse, but not suicidality.

In terms of the suicidality models, a number of significant direct effects were found for psychological inflexibility. Model 2 showed that global psychological inflexibility had a medium positive effect on suicidality, suggesting higher levels of psychological inflexibility may moderately predict more suicidal ideation (see Table 5). The relationship between cognitive fusion and suicidality and experiential avoidance and suicidality in Models 4-A through 4-E also demonstrated significant direct effects (see Table 8). Additionally, obstruction of valued living was found to directly affect suicidality in Model 4-I (see Table 9). While interactions in substance misuse models supported the research hypotheses, those in the suicidality models did not. However, significant direct effects, which were not included in the research hypotheses, were

discovered and will be discussed below, following further interpretation of the interactions.

By first examining these interactions from a broader perspective of global psychological inflexibility, a look into the effects prejudice, discrimination, and societal pressures has on one's behaviors when they do not subscribe to the majority group is presented. Though no direct effect of minority stress on substance misuse in the model looking at interactions of global psychology inflexibility was found (Model 1; see Table 4), psychological inflexibility did significantly affect substance misuse in the model looking solely at direct effects without any interaction analysis (Model 3-A; see Table 6). That said, the interaction between psychological inflexibility and minority stress was shown to be significant in their relationship with substance misuse, and main effects alongside significant interactions should be further scrutinized. Further examination of interaction plots supports the hypothesis that rates of substance misuse increase as minority stress increases, with growth differentials positively associated with higher levels of inflexibility (see Figure 6). These findings suggest that adolescents who have higher scores of global psychological inflexibility have no higher risk for substance misuse until their experiences of minority stress rise. While we know LGB+ populations have higher rates of substance misuse (King et al., 2008), this study contributes to the literature by showing that this phenomenon may be partially explained by variable interactions, like minority stress and psychological inflexibility. Thus, an understanding of LGB+ adolescent's higher rates of substance misuse may benefit from considering the interplay of societally driven factors, such as stigma, prejudice, heteronormativity,

rejection, and internalized homophobia, along with more global processes, such as psychological inflexibility.

When looking at the sub-processes that comprise global psychological inflexibility, cognitive fusion and obstruction of valued living were identified as the only two that significantly moderated the relationship between minority stress and substance misuse. Both variables interacted with minority stress in a positive manner (Figure 8 & 10), meaning that as minority stress increased, so did rates of substance misuse, at a degree partially determined by obstruction of valued living and cognitive fusion. These findings partially support the study's hypotheses in both instances, demonstrating higher ratings of obstructed valued living and cognitive fusion moderated the relationship between minority stress and substance misuse. However, moderating effects were not demonstrated for the other key sub-processes of psychological inflexibility: mindful attention and experiential avoidance.

As mentioned in the introduction, the relationships and influences of cognitive fusion and obstruction of valued living along with other common problems seen in this population (e.g., distress, depression, anxiety) is often cyclical, with each influencing the other. In Model 3-B and 3-D, the finding that cognitive fusion and obstruction of valued living were identified as having significant interactions with minority stress may be supported by the current literature. For instance, Hatzenbuehler et al. (2009) found that LGB+ individuals with more implicit homonegative attitudes engaged in significantly more rumination, a behavior commonly associated with cognitive fusion. Toomey et al. (2018) explained substance abuse in LGB+ populations as a coping skill that provides a

refuge from these preoccupations and reservations regarding internalized feelings about sexuality. In LGB+ populations, there is thus more to worry about, with greater amounts of stress, which can be more difficult to handle appropriately (Meyer, 2003). This explanation may describe the interaction between minority stress and cognitive fusion in terms of substance misuse: the inhibitory effects of alcohol may allow for a reprieve and refuge from overbearing thoughts that might burden someone in the LGB+ community.

The interaction of obstruction of valued living and minority stress in the relationship with substance misuse is also likely understandable through past research. The interaction of obstruction of valued living could be explained by LGB+ adolescents' concealment and the inability or unwillingness to be open about their identity. In the context of such concealment, misusing substances may inhibit one's cognitive functions, anxieties, and mental restraints to a degree that allows for engagement in actions consistent with identity and community culture. Thus, substance misuse may increase as minority stress and obstructed valued living do too. For example, a closeted adolescent faced with high levels of minority stress, like family rejection or internalized homonegativity, may only feel comfortable living authentically when they lower their inhibitions through the use of alcohol or other substances. Rosario et al. (2004) described in detail the associations of psychological distress during the "coming out" process in LGB+ populations, which consists of stages that are gradual and often overlap with identity development and understanding of oneself. Living consistently with personal values can be complicated through the "coming out" phase, as individuals are beginning to discover themselves and what they value in terms of their sexual orientation.

Researchers have written about the psychological distress that ensues when there is incongruence in one's personal beliefs and values and their sexual orientation (Meyer, 2003). Rosario et al. (2004) posit that these incongruences continue to exist until LGB+ individuals begin engaging in supportive activities consistent with their sexual identities, which is synonymous with valued living.

This move toward committed action in line with one's values is an important first step in finding harmony between one's personal identity and beliefs. This action often begins in bars and clubs, where alcohol can be used as a coping mechanism to reduce the pressure of interacting with an unfamiliar community (Boyle et al., 2017). Boyle et al. (2017) studied these behaviors in adults. When extended to adolescents, it could manifest as similar community engagement but in age-appropriate settings, such as parties or clubs. The result is creating LGB+ "safe places" that exist in areas of heavy drinking and drug use. While this first step in engaging with the LGB+ community may seem in line with valued living, this stage of the "coming out" process is often associated with concealment, a spike in psychological distress, cutting ties with heterosexual peers, heavy use of alcohol, and engagement in only LGB+ community activities (Rosario et al., 2004). For example, an individual in this stage may begin engaging with their community at parties, clubs, or bars, but at the expense of other values, like cutting ties with heterosexual loved ones because they are not ready to "come out." As LGB+ individuals become more comfortable in their community and with themselves, progress toward valued living generalizes to other aspects of life and represents a pattern of behaviors more consistent with personal values, which also incorporates other members from within

the LGB+ community. This progression from concealment to disclosure, and potential inhibiting role of alcohol throughout, may offer one explanation for the interaction seen in obstruction of valued living, minority stress, and their relationship with substance misuse.

Although interactions throughout Models 1 and 3 demonstrated positive relationships between global psychological inflexibility, its sub-processes, and minority stress on substance misuse, a different pattern of effects was observed for suicidality. No significant interactions in global psychological inflexibility nor its sub-processes were evidenced in the relationship between minority stress and suicidality, but a few direct effects were discovered. Global psychological inflexibility significantly affected ratings of suicidality, moderately predicting worse suicidal outcomes (see Table 5). This finding is consistent with the literature and past research in non-specific college samples (Krafft et al., 2018). Thus, the lack of interaction effect did not support the hypothesis of this study but was not a surprising result, based on the outcomes of other studies.

Additionally, in the regression analysis of psychological inflexibility's sub-processes (Model 4, see Table 8), cognitive fusion and experiential avoidance were both identified as directly related to suicidality. Cognitive fusion is the tendency to fuse with a thought and subsequently struggle to let it go. Because the SIQ was a measure of suicidal ideation (and not other suicide-related behavior), it is reasonable that cognitive fusion would be positively associated with this. Additionally, rumination and worry, which are behaviors associated with cognitive fusion, are known to be positively associated with suicidal ideation (Morrison & O'Conner, 2008). It is theorized that suicide is essentially the most

severe form of experiential avoidance (Chiles & Strosahl, 2005; Hayes, Pistorello, & Biglan, 2008) and should therefore be associated with higher ratings of experiential avoidance as measured in this study. Yet in Models 4-A, 4-C, 4-D, and 4E (see Table 8), greater participant ratings of experiential avoidance had negative effects on suicidality, which is contrary to past research (Hayes et al., 2006). However, in Model 4-F (see Table 9), looking at experiential avoidance without psychological inflexibility sub-process covariates, the direction of the effect matched that of the correlation matrix and the theoretic relationship with suicidality. While this finding is curious, it does not require interpretation due to other model findings in the correlation matrices, the uncontrolled analyses, and the theoretical conceptualization of the construct, but is best explained by multicollinearity.

Implications

Results from this study are exploratory in nature and the majority of implications will best serve future research projects. Overall, these findings suggest variables that might be targeted as therapeutic mechanisms. Global psychological inflexibility is considered the active ingredient of change in ACT. By identifying its moderating effect with minority stress on substance misuse, this study suggests the potential for future applied research looking at the therapeutic effects of ACT in LGB+ adolescents experiencing significant minority stress. However, until further research can be conducted to study the efficaciousness of ACT with LGB+ adolescents experiencing high levels of minority stress, interpretations that this is an actual therapeutic mechanism moderating substance misuse with this population should be taken with caution.

Additionally, results looking at the differential effects of ACT's sub-processes suggest future research might put further emphasis on cognitive defusion, values, and committed action activities when working in LGB+ populations struggling with alcohol misuse. These foci could potentially create quicker and more engrained goal completion. Again, until applied studies have targeted these findings in controlled therapeutic settings, applications of these findings should be critical and wary. Furthermore, prior to moving to these applied studies, replication and generalization of these basic findings is warranted, especially in light of this study's limitations.

Limitations

When considering the interpretation and implications of this study, there are several major limitations to keep in mind. First, statistical analyses did not meet residual assumptions, meaning normality of residuals was not met. Due to the exploratory nature of this study, the smallest sample size estimated to acquire significant results was used. However, this sample was not large enough to provide adequate distribution of residuals across all variables or outcomes. Future research would benefit from using larger samples and possibly running polynomial regression models to account for residual deviations. Further limitations include the nature in which data was collected. Purposive sampling procedures were used to access a diverse sample of participants from across the United States through an online paneling company. This method only allowed for individuals with access to internet and computers to participate, and possibly ignored adolescents in lower socio-economic statuses.

Additional limitations include the way in which variables were conceptualized and the measures chosen to capture these constructs. Psychological inflexibility, the moderating variable of this study, has been broken down into core sub-processes discussed throughout this study. Hayes et al. (2006) have identified six key processes that comprise global psychological inflexibility: experiential avoidance, cognitive fusion, lack of values, preoccupation with past or future, attachment to the conceptualized self, and inaction. The sub-process variables are all intended to work together to inform change in global psychological inflexibility, and for that reason, sub-process interaction models were run to account for covariate effects of sub-processes when considered in the context of each other. However, because of the complicated nature of one of the six sub-processes—attachment to the conceptualized self—and the lack of reliable measurement in adolescent samples, data was not collected on this construct. Additionally, due to the overlap in measurement of lack of values and inaction, it was decided that measurement of obstruction of valued living was sufficient to capture both. Because of these decisions, analyses were unable to account for all of the sub-processes comprising global psychological inflexibility. While it is the hope of this study to inform future practice and research, this study fails to comprehensively represent the breadth of ACT processes targeted during treatment.

Furthermore, this study was approached from a deficits-based model, looking at the mechanism of change in ACT as global psychological inflexibility (undesirable) as opposed to flexibility (desirable). Many ACT-based models in research view the change through a strengths-based lens, with global psychological flexibility as the overarching

process and acceptance, defusion, values, present moment awareness, self as context, and committed action as the sub-processes. Difference in measurement valence (undesirable vs. desirable) and item phrasing could potentially influence respondent answers and study outcomes. Therefore, future research replicating this model with a strengths-based approach to measurement is suggested. This study chose reliable and valid measures for measuring psychological inflexibility that were mostly normed with adolescent samples. But a strengths-based approach may be more challenging to measure, as not all variables have multiple measures to choose from. Another approach for future research would be to model both deficit-based and strength-based approaches simultaneously, comparing the results found alone and together. For example, the Multidimensional Psychological Flexibility Inventory (MPFI; Rolffs et al., 2016) looks at both psychological inflexibility and flexibility, attempting to measure both sides of the key dimensions of flexibility addressed through ACT using 12 subscales. While this format of measurement could offer new perspectives to the questions addressed in this study, the MPFI has yet to be validated with adolescents. Like the MPFI, several other measures of psychological flexibility have also yet to be validated with youth, leaving the AFQ-Y8 as the prime choice for the present study.

Similarly, the SMASI was chosen to assess minority stress because it has been validated with adolescents and offered a total minority stress score. That said, there are other minority stress measures that should be considered in future research, including the Gay-related Stressful Life Events Scale (Rosario et al., 2002), the Heterosexist Harassment, Rejection and Discrimination Scale (Szymanski, 2009), The Daily

Heterosexist Experiences Questionnaire (Balsam et al., 2013), and the LGBT People of Color Microaggressions Scale (Balsam et al., 2011) that look at additional aspects of minority stress, including racial and ethnic intersectionality. Ultimately, the measures in this study were chosen due to reliability, accessibility, readability, length, and validity; however, results found in this study would benefit from being tested with other scales measuring the same constructs.

Conclusion

Adolescence is a difficult time, especially for those who identify as LGB+. Increased rates of substance abuse and suicidality are well documented outcomes that tend to be worse in the LGB+ adolescent community than in mainstream groups. Minority stress has been accepted within the research community as a theory to explain the health disparities seen in this group. Psychological inflexibility and five of its six key sub-processes (experiential avoidance, cognitive fusion, lack of values, preoccupation with the past or future, and inaction) was posited as a moderator in the relationship between minority stress and substance misuse or suicidality.

This study found that global psychological inflexibility, cognitive fusion, and obstruction of valued living did indeed have significant positive interactions with minority stress in the relationship with substance misuse. Though no interactions were found in suicidality, moderate to small direct effects of global psychological inflexibility, cognitive fusion, and experiential avoidance were discovered. Implications suggest that psychological inflexibility as mechanism of change in LGB+ adolescents is worth further study. Preliminary analyses imply psychological inflexibility explains a small significant

portion of minority stress' effect on the harmful outcome of substance misuse. Further study into the effectiveness of ACT in LGB+ populations struggling with minority stress' effects and/or substance misuse should be conducted to better understand the implication of these results. Sample size, valence, and measure selection are possible limitations to the current study.

While this study is limited, it is hopeful that these exploratory results open a door for future research that can replicate and improve procedures toward a growth-minded, empirically based dialogue toward healing in this vulnerable community.

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APPENDIX A

Informed Consent



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Informed Consent

STRESS AND PSYCHOLOGICAL FLEXIBILITY

Introduction

Your child is invited to participate in a research study conducted by Dr. Tyler Renshaw, an Assistant Professor in the Department of Psychology at Utah State University, and Sean Weeks, a graduate student researcher. The purpose of this research is to understand the influence of thinking flexibly in the relationship between stress experienced by youth who identify as LGB+ and harmful outcomes, such as substance misuse and suicidality. Your child's participation is entirely voluntary.

This form includes detailed information on the research to help you decide whether to allow your child to participate. Please read it carefully and ask any questions you have before you agree to participate.

Procedures

Your child's participation will involve completing nine short surveys asking about thoughts, feelings, and behaviors, and one longer survey about experiences they have had related to their LGB+ identity. If you agree to allow your child to participate, the researchers will also collect information about their age, sexual orientation, race/ethnicity, and gender identity. Your child's total participation in this project will take approximately 20 minutes. We anticipate that 145 people will participate in this research study.

Before you read this form, Qualtrics online survey panels already collected information regarding your child's eligibility for this study, including age and sexual orientation. Researchers will never have personal identifiers regarding your child. Once you have finished signing, please allow your child to complete the rest of the survey by themselves. These questionnaires ask personal questions so please give your child privacy while they fill it out. Feel free to download the "starting a conversation" document (see below) for ideas on how to talk about some of the topics they will be responding to in the survey.

Risks

This study is greater than minimal risk, meaning that the risks are slightly higher than those you encounter in everyday activities. The foreseeable risks or discomforts include psychological risks (answering deeply personal questions regarding bullying, suicidality, lying, substance use, and sexuality), possible invasion of privacy (if surveys are completed in public places or on public computers), and possible breach of confidentiality. In order to minimize those risks and discomforts, the researchers have provided resources for starting a discussion about tough topics between parents and children, national suicide resources during and after completion of the surveys, and anonymous data collection so answers are never paired with respondent identifying information. We also ask that you allow your child privacy while they complete these surveys. If you have a bad research-related experience, please contact Sean Weeks at snweeks@aggiemail.usu.edu or Dr. Tyler Renshaw at tyler.renshaw@usu.edu. If you are injured in any way, additional compensation is not available. Please see below for resources for suicidality, substance abuse, and assault or harassment.

The [National Suicide Prevention Lifeline](https://www.nationalsuicideline.org) is 800-273-8255. Other international suicide helplines can be found at [befrienders.org](https://www.befrienders.org). You can also text TALK to 741741 for free, anonymous 24/7 crisis support in the US from the [Crisis Text Line](https://www.crisistextline.org).

If your child has been the victim of assault, please report the experience to local police as soon as possible by dialing 911. If your child is a student enrolled in a public school and has been a victim of abuse (physical, sexual, or emotional) or harassment at school because of gender, gender expression, or sexual orientation, then your child is protected under Title IX. You can report to the school district's Title IX coordinator to file a complaint and seek accommodations and supports for your child. Local Title IX coordinators can be found at [Title IX Locator](#).



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If your child is experiencing mental or behavioral health problems, you can contact the Substance Abuse and Mental Health Services Administration's National Helpline: [1-800-662-HELP \(4357\)](tel:1-800-662-HELP). This hotline is a confidential, free, 24-hour-a-day, 365-day-a-year, information service, in English and Spanish, for individuals and family members facing mental and/or substance use disorders. This service provides referrals to local treatment facilities, support groups, and community-based organizations. Callers can also order free publications and other information. You can also locate service providers by visiting [online treatment locators](#).

Benefits

Although you will not directly benefit from this study, it has been designed to learn more about what inspires change in behaviors related to LGB+ youth who experience minority stress. We intend to use the results of this study to help develop effective supports for LGB+ youth.

Confidentiality

The researchers will make every effort to ensure that the information your child provides as part of this study remains confidential. The researchers will not collect any personally identifying information and so you and your child's identity will not be revealed in any publications, presentations, or reports resulting from this research study. Additionally, you will not have access to the survey or your child's responses after they complete the survey. You can learn more about the topics your child is asked about in the survey by downloading and reading the "starting a conversation" document (see below).

We will collect your child's information through online survey panels. Online activities always carry a risk of a data breach, but we will use systems and processes that minimize breach opportunities. This data will be securely stored in a restricted-access folder on Box.com, an encrypted, cloud-based storage system. Your digital signature to this form will be kept for three years after the study is complete, and then it will be destroyed.

It is unlikely, but possible, that others (Utah State University or state or federal officials) may require us to share the information your child gives us from the study to ensure that the research was conducted safely and appropriately. We will only share your child's information if law or policy requires us to do so.

Voluntary Participation & Withdrawal

Your child's participation in this research is completely voluntary. If you agree to allow your child to participate now and change your mind later, they may withdraw at any time by exiting out of the survey. If your child chooses to withdraw from the study before fully completing the surveys, then any data already collected will be discarded and compensation will not be distributed.

Payment

For your child's participation in this research study, financial compensation will be received as stated by the online paneling service. Payment is only issued if your child completes the survey fully with quality. After your child answers the survey the entire way through, the researchers will have time to look through the data and decide who is a quality data point (e.g., by conducting time-to-completion checks and looking at variability in response patterns). Most of the time, it is almost all participants that receive compensation if they complete the survey. No other forms of compensation will be provided for participating in this study.

Findings

Identifiers will never be collected or associated with your child's information. These de-identified data may be used or distributed for future research without additional consent from you. If you do not wish for us to use your child's information in this way, please state so below.

IRB Review



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The Institutional Review Board (IRB) for the protection of human research participants at Utah State University has reviewed and approved this study. If you have questions about the research study itself, please contact the Principal Investigator at tyler.renshaw@usu.edu. If you have questions about your rights or would simply like to speak with someone *other* than the research team about questions or concerns, please contact the IRB Director at (435) 797-0567 or irb@usu.edu.

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snweeks@aggiemail.usu.edu

Informed Consent

By typing your name below, you agree to allow your child to participate in this study. You indicate that you understand the risks and benefits of participation, and that you know what they will be asked to do. You also agree that you have asked any questions you might have, and are clear on how to stop your child's participation in the study if you choose to do so. Below is a downloadable copy of the consent form. Please be sure to save and print a copy of this form for your records.

APPENDIX B

Informed Assent



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 Protocol #10605
 IRB Approval Date: January 14, 2020
 Consent Document Expires: January 13, 2020

v.9

 Youth Assent

Dr. Tyler Renshaw and Sean Weeks at Utah State University are doing a research study about how stress leads to harmful behaviors. Research studies help us learn more about people. If you would like to be a part of this research study, you will complete nine surveys on your computer about your thoughts, feelings, and behaviors. This study should take approximately 20 minutes to finish.

When the researchers do things like collecting personal information from people, some other things could happen. For example, answering tough personal questions might bring up unwanted feelings or make you think hurtful thoughts. Also, information collected online can sometimes end up in the wrong hands or a parent might look over your shoulder while you are answering questions and see something you did not want them to. We will do everything we can to prevent those things from happening, but there is still a chance, so we want you to know that first. We recommend going to a private place, like your room or a quiet area, to take the survey. We asked that your parents give you privacy, but you can also ask for privacy while taking these questionnaires. If questions make you feel sad or uncomfortable, please reach out to your parents or an adult who you feel comfortable talking to about your feelings.

Not everyone who is a part of research studies receives something good from it. In this study, nothing directly good will happen to you, but you will help us learn more about people like you. Also, we will tell other people about what we learned from doing this study with you and the 145 other people who are in the study, but we won't tell anyone your name or that you were in the study.

If this sounds like something you would like to do, and you feel like you understand everything in this form, you can participate. You do not have to be in this study if you do not want to be. If you decide to stop after we begin, you just need to exit out of the survey on your computer. No one will be upset if you don't want to do this. Also, nothing will happen if you change your mind later and choose to exit out of the survey before finishing. It's all up to you.

You can ask any questions you have, now or later, by emailing Sean Weeks at snweeks@aggiemail.usu.edu or Dr. Tyler Renshaw at tyler.renshaw@usu.edu. Your parents know about this research study, and they have said you can participate, if you want. Your parents will never see your answers, but you can talk with them about the survey when you're done, if you choose.

By clicking "YES" below, you agree to participate in this study. If you do not want to participate, you can click "NO" and then exit out of the survey on your computer. By clicking "YES," you're showing that you understand the risks and benefits of participation, and that you know what you will be asked to do. You also agree that you have asked any questions you might have, and that you are clear on how to stop your participation in the study if you choose to do so. Below is a downloadable copy of this assent form. Please be sure to save and print a copy of this form for your records.

APPENDIX C

The Sexual Minority Adolescent Stress Inventory (SMASI)**The Sexual Minority Adolescent Stress Inventory (SMASI)**

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

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

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

	Yes	No
1. I am questioning how to label my sexual orientation.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
2. I am having trouble accepting that I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
3. I feel pressured to label myself as gay or lesbian.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
4. I am concerned that if I am LGBTQ, I will have a worse life than if I were straight.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
5. A family member told other family members that I am LGBTQ without my permission.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
6. A family member told me not to tell other family members that I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
7. I have to lie to my family about being LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
8. I think I will lose friends if I come out as LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
9. I expect people to reject me when they find out that I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
10. If I come out, it will cause problems within my family.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
11. A family member asked me if I was gay or lesbian before I wanted to talk about it.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
12. I was forced to come out to someone because I got "caught".	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
13. I was "outed" by someone other than my family without my permission.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
14. There are times when I do not want to be LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
15. If I could, I would become straight.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>

	Yes	No
16. I hate being LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
17. I think it is wrong for me to be LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
18. I hope that being LGBTQ is just a phase for me.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
19. I think negatively about other LGBTQ people who act "too gay".	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
20. I am uncomfortable with being LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
21. I have heard a family member make negative comments about LGBTQ people.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
22. My family does not want to talk to me about being LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
23. Someone who lives with me has told me they disapprove of me being LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
24. I feel as though I am a disappointment to my family because I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
25. My family has told me that being LGBTQ is just a phase.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
26. My parents are uncomfortable with LGBTQ people.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
27. My mother (or female caregiver) does not accept me as LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
28. My father (or male caregiver) does not accept me as LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
29. My parents are sad that I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
30. My family tries to make me straight.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
31. I felt unsafe or threatened in school because I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
32. Other youth refuse to do school activities with me because I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
33. I have seen other LGBTQ youth treated badly at my school.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
34. It's hard to be an LGBTQ person at my school.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
35. Other students make fun of me for being LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
36. I have seen other LGBTQ youth treated badly in the neighborhood where I live.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>

	Yes	No
37. I have felt unsafe or threatened in the neighborhood where I live because I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
38. I have had to move or change where I live because I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
39. I have felt isolated or alone in the neighborhood where I live because I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
40. Other people in the neighborhood where I live make fun of me for being LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
41. I have been physically assaulted in the neighborhood where I live because I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
42. My friends make jokes about LGBTQ people.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
43. Other youth refuse to hang out with me because I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
44. Other people who are in my racial/ethnic community judge me for being LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
45. I have heard negative comments from others in my racial/ethnic community about being LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
46. I feel as though I don't fit in my racial/ethnic community because I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
47. As an LGBTQ person in my racial/ethnic community, I feel like I am a minority within a minority.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
48. I hear other LGBTQ people use words like "fag" or "dyke."	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
49. My family is part of a religion that has homophobic beliefs.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
50. I have heard negative messages about being LGBTQ from religious people.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
51. I would not be accepted as an LGBTQ person in my family's religion.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
52. I believe it is wrong for me to be LGBTQ because of my religion.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
53. A religious leader has encouraged me to reconsider my sexual orientation.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
54. A religious leader tried to change my sexual orientation.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>

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

	Yes	No
55. I have seen other LGBTQ youth treated badly at work.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
56. I have felt unsafe or threatened at work because I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
57. I have had to leave or change jobs because I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
58. I have felt isolated or alone at work because I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
59. I have lost friendships since coming out as LGBTQ at work.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
60. It's hard to be LGBTQ at my workplace.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
61. I have been physically assaulted by people at work because I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
62. My workplace does not protect LGBTQ employees.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
63. People at work talk about me being LGBTQ behind my back.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>
64. My boss is unsupportive of me because I am LGBTQ.	<input type="radio"/>	<input type="radio"/>
↳ IF YES: was it within the past 30 days?	<input type="radio"/>	<input type="radio"/>

Scoring Instructions for the SMA SI

Four types of scores can be created based on a complete SMA SI instrument: overall lifetime score (Items 1 – 54 only), overall 30-day score (Items 1 – 54 only), subscale lifetime scores, and subscale 30-day scores.

Overall

Responses to lifetime (i.e., numbered) items are scored in a binary fashion: "Yes" responses are coded as 1, "No" responses are coded as 0. The coded responses to Items 1 – 54 are summed to create the overall lifetime score (theoretical range: 0 to 54). A similar procedure is used for the supplemental 30-day (i.e., "IF YES") items to create the overall 30-day score (theoretical range: 0 to 54). Idiosyncratic mean substitution is recommended for participants who skipped or declined to answer individual items.

Subscales

Lifetime and 30-day subscale scores are created as percentages of endorsed statements within the given subscale. Correspondence between subscales and item numbers is as follows:

Identity management: Items 1, 2, 3

Negative expectancies: Items 4, 8, 9

Negative disclosure experiences: Items 5, 6, 11, 12, 13

Family rejection: Items 7, 10, 22, 23, 24, 25, 26, 27, 28, 29, 30

Internalized homonegativity: Items 14, 15, 16, 17, 18, 19, 20

Homonegative communication: Items 21, 42, 45, 48, 50

Homonegative climate: Items 31, 33, 34, 35

Social marginalization: Items 32, 36, 37, 38, 39, 40, 41, 43

Intersectionality: Items 44, 46, 47

Religion: Items 49, 51, 52, 53, 54

Work: Items 55, 56, 57, 58, 59, 60, 61, 62, 63, 64

Note: Scores on the work subscale should only be calculated for participants who indicated current or previous employment. Participants who have never been employed should not be given a score on the work subscale, even if they respond to the items.

Suggested Citations

Schrager, S. M., Goldbach, J. T., Mamey, M. R. (2018). Development of the Sexual Minority Adolescent Stress Inventory. *Frontiers in psychology, 9*, 319.

Goldbach, J. T., Schrager, S. M., Mamey, M. R. (2017). Criterion and divergent validity of the Sexual Minority Adolescent Stress Inventory. *Frontiers in psychology, 8*, 2057.

APPENDIX D

Acceptance and Fusion Questionnaire - Youth

AFQ-Y8

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

We want to know more about what you think, how you feel, and what you do.
Read each sentence. Then, circle a number between 1-5 that tells how true each sentence is for you.

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

Avoidance and Fusion Questionnaire for Youth (AFQ-Y8)

Scoring and Interpretation Guide

- Create the Psychological Inflexibility Scale score by summing all 8 items.
- No reverse-scoring necessary.
- Higher scale scores represent greater levels of psychological inflexibility.
- A cutoff score of 15 identifies youth at-risk for clinical-level internalizing problems.
- No large-scale normative data available.
- The AFQ-Y8 was originally developed by Greco, Lambert, & Baer (2008)
- For more information visit: www.tylerrenshaw.com/afq-y8

APPENDIX E

Brief Experiential Avoidance Questionnaire (BEAQ)

BEAQ

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

1. The key to a good life is never feeling any pain.	1	2	3	4	5	6
2. I'm quick to leave any situation that makes me feel uneasy	1	2	3	4	5	6
3. When unpleasant memories come to me, I try to put them out of my mind.	1	2	3	4	5	6
4. I feel disconnected from my emotions.	1	2	3	4	5	6
5. I <u>yoop</u> do something until I absolutely have to.	1	2	3	4	5	6
6. Fear or anxiety <u>yoop</u> stop me from doing something important.	1	2	3	4	5	6
7. I would give up a lot not to feel bad.	1	2	3	4	5	6
8. I rarely do something if there is a chance that it will upset me.	1	2	3	4	5	6
9. It's hard for me to know what I'm feeling.	1	2	3	4	5	6
10. I try to put off unpleasant tasks for as long as possible.	1	2	3	4	5	6
11. I go out of my way to avoid uncomfortable situations.	1	2	3	4	5	6
12. One of my big goals is to be free from painful emotions.	1	2	3	4	5	6
13. I work hard to keep out upsetting feelings.	1	2	3	4	5	6
14. If I have any doubts about doing something, I just <u>yoop</u> do it.	1	2	3	4	5	6

15. Pain always leads to suffering.	1	2	3	4	5	6
-------------------------------------	---	---	---	---	---	---

Please indicate the extent to which you agree or disagree with each of the following statements.

1 =	2 =	3 =	4 =	5 =	6 =
Strongly	Moderately	Slightly	Slightly	Moderately	Strongly
Disagree	Disagree	Disagree	Agree	Agree	Agree

Brief Experiential Avoidance Questionnaire (BEAQ)

Scoring and Interpretation Guide

- Create the Experiential Avoidance Scale by summing all 15 items.
- Reverse-score item #6 (subtract the value from 7) prior to summing all items.
- Higher scale scores represent greater levels of experiential avoidance.
- No large-scale normative data available.
- The BEAQ was originally developed by ~~Garner~~ [Garner et al. \(2014\)](#)

APPENDIX F

Cognitive Fusion Questionnaire (CFQ)

CFQ

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

Below you will find a list of statements.
Please rate how true each statement is for you by circling a number next to it.
Use the scale below to make your choice.

1 =	2 =	3 =	4 =	5 =	6 =	7 =
Never	Very	Seldom	Sometimes	Frequently	Almost	Always
True	Seldom True	True	True	True	Always True	True

1.	My thoughts cause me distress or emotional pain.	1	2	3	4	5	6	7
2.	I get so caught up in my thoughts that I am unable to do the things that I most want to do.	1	2	3	4	5	6	7
3.	I over-analyze situations to the point where it's unhelpful to me.	1	2	3	4	5	6	7
4.	I struggle with my thoughts.	1	2	3	4	5	6	7
5.	I get upset with myself for having certain thoughts.	1	2	3	4	5	6	7
6.	I tend to get very entangled in my thoughts.	1	2	3	4	5	6	7
7.	It's such a struggle to let go of upsetting thoughts even when I know that letting go would be helpful.	1	2	3	4	5	6	7

Cognitive Fusion Questionnaire (CFQ)

Scoring and Interpretation Guide

- Create the Cognitive Fusion Scale score by summing all 7 items.
- No reverse-scoring necessary.
- Higher scale scores represent greater levels of cognitive fusion.
- No large-scale normative data available.
- The CFQ was originally developed by Gillanders et al. (2014)

APPENDIX H

Mindful Attentive Awareness Scale-Adolescent

(MAAS-A)

Day-to-Day Experiences

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what *really reflects* your experience rather than what you think your experience should be. Please treat each item separately from every other item.

1	2	3	4	5	6
Almost Always	Very Frequently	Somewhat Frequently	Somewhat Infrequently	Very Infrequently	Almost Never

I could be experiencing some emotion and not be conscious of it until some time later.	1	2	3	4	5	6
I break or spill things because of carelessness, not paying attention, or thinking of something else.	1	2	3	4	5	6
I find it difficult to stay focused on what's happening in the present.	1	2	3	4	5	6
I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.	1	2	3	4	5	6
I tend not to notice feelings of physical tension or discomfort until they really grab my attention.	1	2	3	4	5	6
I forget a person's name almost as soon as I've been told it for the first time.	1	2	3	4	5	6
It seems I am "running on automatic," without much awareness of what I'm doing.	1	2	3	4	5	6
I rush through activities without being really attentive to them.	1	2	3	4	5	6
I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.	1	2	3	4	5	6
I do jobs or tasks automatically, without being aware of what I'm doing.	1	2	3	4	5	6
I find myself listening to someone with one ear, doing something else at the same time.	1	2	3	4	5	6

	1	2	3	4	5	6				
	Almost Always	Very Frequently	Somewhat Frequently	Somewhat Infrequently	Very Infrequently	Almost Never				
I drive places on 'automatic pilot' and then wonder why I went there.					1	2	3	4	5	6
I find myself preoccupied with the future or the past.					1	2	3	4	5	6
I find myself doing things without paying attention.					1	2	3	4	5	6
I snack without being aware that I'm eating.					1	2	3	4	5	6

MAAS Scoring

To score the scale, simply compute a mean of the 15 items. Higher scores reflect higher levels of dispositional mindfulness.

APPENDIX I

Suicidal Behaviors Questionnaire-Revised (SBQ-R)

STABLE RESOURCE TOOLKIT

The Suicide Behaviors Questionnaire-Revised (SBQ-R) - Overview

The SBQ-R has 4 items, each tapping a different dimension of suicidality:¹

- Item 1 taps into lifetime suicide ideation and/or suicide attempt.
- Item 2 assesses the frequency of suicidal ideation over the past twelve months.
- Item 3 assesses the threat of suicide attempt.
- Item 4 evaluates self-reported likelihood of suicidal behavior in the future.

Clinical Utility

Due to the wording of the four SBQ-R items, a broad range of information is obtained in a very brief administration. Responses can be used to identify at-risk individuals and specific risk behaviors.

Scoring

See scoring guideline on following page.

Psychometric Properties¹

	Cutoff score	Sensitivity	Specificity
Adult General Population	≥7	93%	95%
Adult Psychiatric Inpatients	≥8	80%	91%

1. Osman A, Bagge CL, Gutierrez PM, Konick LC, Kooper BA, Barrios FX, *The Suicidal Behaviors Questionnaire-Revised (SBQ-R): Validation with clinical and nonclinical samples, Assessment, 2001, (5), 443-454.*

SBQ-R - Scoring

Item 1: taps into lifetime suicide ideation and/or suicide attempts			
Selected response 1	Non-Suicidal subgroup	1 point	
Selected response 2	Suicide Risk Ideation subgroup	2 points	
Selected response 3a or 3b	Suicide Plan subgroup	3 points	
Selected response 4a or 4b	Suicide Attempt subgroup	4 points	Total Points
Item 2: assesses the frequency of suicidal ideation over the past 12 months			
Selected Response:	Never	1 point	
	Rarely (1 time)	2 points	
	Sometimes (2 times)	3 points	
	Often (3-4 times)	4 points	
	Very Often (5 or more times)	5 points	Total Points
Item 3: taps into the threat of suicide attempt			
Selected response 1		1 point	
Selected response 2a or 2b		2 points	
Selected response 3a or 3b		3 points	Total Points
Item 4: evaluates self-reported likelihood of suicidal behavior in the future			
Selected Response:	Never	0 points	
	No chance at all	1 point	
	Rather unlikely	2 points	
	Unlikely	3 points	
	Likely	4 points	
	Rather Likely	5 points	
	Very Likely	6 points	Total Points
Sum all the scores circled/checked by the respondents. The total score should range from 3-18.			Total Score

AUC – Area Under the Receiver Operating Characteristic Curve; the area measures discrimination, that is, the ability of the test to correctly classify those with and without the risk. [.90-1.0 = Excellent; .80-.90 = Good; .70-.80 = Fair; .60-.70 = Poor]

	Sensitivity	Specificity	PPV	AUC
Item 1: a cutoff score of ≥ 2				
• Validation Reference: Adult Inpatient	0.80	0.97	.95	0.92
• Validation Reference: Undergraduate College	1.00	1.00	1.00	1.00
Total SBQ-R: a cutoff score of ≥ 7				
• Validation Reference: Undergraduate College	0.93	0.95	0.70	0.96
Total SBQ-R: a cutoff score of ≥ 8				
• Validation Reference: Adult Inpatient	0.80	0.91	0.87	0.89

SBQ-R Suicide Behaviors Questionnaire-Revised

Patient Name _____ Date of Visit _____

Instructions: Please check the number beside the statement or phrase that best applies to you.

1. Have you ever thought about or attempted to kill yourself? (check one only)

- 1. Never
- 2. It was just a brief passing thought
- 3a. I have had a plan at least once to kill myself but did not try to do it
- 3b. I have had a plan at least once to kill myself and really wanted to die
- 4a. I have attempted to kill myself, but did not want to die
- 4b. I have attempted to kill myself, and really hoped to die

2. How often have you thought about killing yourself in the past year? (check one only)

- 1. Never
- 2. Rarely (1 time)
- 3. Sometimes (2 times)
- 4. Often (3-4 times)
- 5. Very Often (5 or more times)

3. Have you ever told someone that you were going to commit suicide, or that you might do it? (check one only)

- 1. No
- 2a. Yes, at one time, but did not really want to die
- 2b. Yes, at one time, and really wanted to die
- 3a. Yes, more than once, but did not want to do it
- 3b. Yes, more than once, and really wanted to do it

4. How likely is it that you will attempt suicide someday? (check one only)

- 0. Never
- 1. No chance at all
- 2. Rather unlikely
- 3. Unlikely
- 4. Likely
- 5. Rather likely
- 6. Very likely

APPENDIX J

Suicidal Ideation Questionnaire (SIQ)

FFT
S/06

SUICIDAL IDEATION QUESTIONNAIRE

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

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

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Visit: Initial 3 month 6 month 9 month 12 month 18 month 24 month

SITE Colorado Pittsburgh Cincinnati

ID
 DATE / /


APPENDIX K

Alcohol Use Disorders Identification Test (AUDIT)

AUDIT

Introduction

The Alcohol Use Disorders Identification Test (AUDIT) is a 10-item screening tool developed by the World Health Organization (WHO) to assess alcohol consumption, drinking behaviors, and alcohol-related problems. Both a clinician-administered version (page 1) and a self-report version of the AUDIT (page 2) are provided. Patients should be encouraged to answer the AUDIT questions in terms of standard drinks. A chart illustrating the approximate number of standard drinks in different alcohol beverages is included for reference. A score of 8 or more is considered to indicate hazardous or harmful alcohol use. The AUDIT has been validated across genders and in a wide range of racial/ethnic groups and is well-suited for use in primary care settings. Detailed guidelines about use of the AUDIT have been published by the WHO and are available online: http://whqlibdoc.who.int/hq/2001/who_msd_msb_01.6a.pdf

The Alcohol Use Disorders Identification Test: Interview Version

Read questions as written. Record answers carefully. Begin the AUDIT by saying "Now I am going to ask you some questions about your use of alcoholic beverages during this past year." Explain what is meant by "alcoholic beverages" by using local examples of beer, wine, vodka, etc. Code answers in terms of "standard drinks". Place the correct answer number in the box at the right.

<p>1. How often do you have a drink containing alcohol?</p> <p>(0) Never [Skip to Qs 9-10] (1) Monthly or less (2) 2 to 4 times a month (3) 2 to 3 times a week (4) 4 or more times a week</p> <p style="text-align: right;"><input type="checkbox"/></p>	<p>6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?</p> <p>(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily</p> <p style="text-align: right;"><input type="checkbox"/></p>
<p>2. How many drinks containing alcohol do you have on a typical day when you are drinking?</p> <p>(0) 1 or 2 (1) 3 or 4 (2) 5 or 6 (3) 7, 8, or 9 (4) 10 or more</p> <p style="text-align: right;"><input type="checkbox"/></p>	<p>7. How often during the last year have you had a feeling of guilt or remorse after drinking?</p> <p>(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily</p> <p style="text-align: right;"><input type="checkbox"/></p>
<p>3. How often do you have six or more drinks on one occasion?</p> <p>(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily</p> <p><i>Skip to Questions 9 and 10 if Total Score for Questions 2 and 3 = 0</i></p> <p style="text-align: right;"><input type="checkbox"/></p>	<p>8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?</p> <p>(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily</p> <p style="text-align: right;"><input type="checkbox"/></p>
<p>4. How often during the last year have you found that you were not able to stop drinking once you had started?</p> <p>(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily</p> <p style="text-align: right;"><input type="checkbox"/></p>	<p>9. Have you or someone else been injured as a result of your drinking?</p> <p>(0) No (2) Yes, but not in the last year (4) Yes, during the last year</p> <p style="text-align: right;"><input type="checkbox"/></p>
<p>5. How often during the last year have you failed to do what was normally expected from you because of drinking?</p> <p>(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily</p> <p style="text-align: right;"><input type="checkbox"/></p>	<p>10. Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down?</p> <p>(0) No (2) Yes, but not in the last year (4) Yes, during the last year</p> <p style="text-align: right;"><input type="checkbox"/></p>
<p style="text-align: right;">Record total of specific items here <input type="checkbox"/></p> <p><i>If total is greater than recommended cut-off, consult User's Manual.</i></p>	

The Alcohol Use Disorders Identification Test: Self-Report Version

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

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

APPENDIX L

Sean Weeks Curriculum Vitae

Updated: February 2020

Sean Weeks

694 S 600 E
 River Heights, Utah
 (859) 230-7857
 seannweeks@gmail.com

EDUCATION

Graduate Coursework (Ph.D.), School Psychology Utah State University (NASP Accredited), Logan, Utah	2017 – Present
Bachelor of Arts (B.A.), Psychology University of Kentucky, Lexington, Kentucky <i>Graduated Cum Laude with Departmental Honors</i>	2008 – 2012

PROFESSIONAL LICENSES

Student Teacher/Intern License, Utah (#712612)
 Early Intervention Specialist, Utah Department of Health (#1239)

CLINICAL EXPERIENCE

Graduate Student Clinician Integrated Assessment Clinic, Logan, Utah <i>Supervisor: Maryellen McClain Verdoes, Ph.D., LP</i>	August 2019 - Present
<ul style="list-style-type: none"> Conducted diagnostic interviews, psychological evaluations, and diagnostic feedback for individuals across the lifespan Scored and interpreted results from autism specific and other neurodevelopmental assessments Wrote comprehensive reports and recommendations for families Presented and staffed client cases with interdisciplinary teams 	
Behavior Specialist Up to 3 Early Intervention, Logan, Utah <i>Supervisor: Gretchen Peacock, Ph.D., LP</i>	May 2019 - Present
<ul style="list-style-type: none"> Provided home-based parent training and behavior support to families with children under 3 across northern Utah Consulted and teamed with multidisciplinary groups 	
School Psychology Practicum Student Granite School District, West Valley City, Utah <i>Supervisors: Paul McClatchy, Ed.S., NCSP & Megan Hoyborne, Ph.D., LP</i>	August 2018 – June 2019
<ul style="list-style-type: none"> Provided school-based cognitive assessments (verbal & non-verbal), interventions (class wide & individual), and consultation (parents & teachers) Conducted psychotherapy (individual), crisis intervention, and family intervention 	

Weeks Curriculum Vitae 2

- Reported student updates and progress at Multi-Tiered Systems of Support meetings with school staff and administrators
- Mental Health Counselor** August 2018 – June 2019
Bridges Day Treatment Program, Canyons School District, Midvale, Utah
Supervisors: Aaron Fischer, Ph.D., LP & Megan Hayborne, Ph.D., LP
- Bridges Program is a restrictive tier three environment for children with severe behavioral problems. An intensive, individualized, multidisciplinary approach is used to address school and home problem behaviors.
 - Aided in the development, launch, and continual restructuring of the Bridges Program.
 - Established program infrastructure including program procedures, forms, and templates
 - Provided psychotherapy (individual) for an assigned child presenting with severe emotional and behavioral disorders
 - Collected weekly and pre – post data for progress monitoring using empirically validated measures
 - Attended multidisciplinary team meetings (mental health providers, special education teachers, behavior analysts, social workers, administrators, private therapists, and parents) to discuss treatment progress, skills development, and goals
 - Worked closely with family to update, train, and progress monitor coping skills and positive behaviors through frequent phone conversations, meetings, and home visits
- Social/Emotional Skills Group Co-Facilitator** January – May 2018
Bear River Charter School, Logan, Utah
Supervisor: Donna Gilbertson, Ph.D., LP, NCSP
- Co-facilitated evidence-based social-emotional and mindfulness-based group therapy for elementary and secondary students, targeting skills such as positive peer relationships, productive communication styles, emotion regulation, and bullying
 - Developed and implemented behavior management plans in groups of up to forty
- Academic Intervention Practicum Student** January – May 2018
Edith Bowen Laboratory Elementary School, Utah State University, Logan, Utah
Supervisor: Donna Gilbertson, Ph.D., LP, NCSP
- Assessed reading, writing, and math skills in elementary children referred by teachers
 - Provided evidence-based reading and writing interventions weekly (individual & group)
 - Collected data for progress monitoring and intervention adaptation
- Adolescent Counselor/Group Leader** June – Aug. 2015
Northwest Behavioral Healthcare Services, Portland, Oregon
- Assisted in the substance use and behavioral treatment and rehabilitation of adolescent
 - Managed adolescent behavior in group therapeutic classes
 - Developed and led recreational activities for patients
- Intern** Jan. – May 2012
Eastern State Psychiatric Hospital, Lexington, Kentucky
Supervisor: Sung Hee Kim, Ph.D.
- Assisted and led inpatient rehabilitation courses
 - Observed diagnostic assessments and treatment planning

RESEARCH EXPERIENCE

- Graduate Student Researcher** August 2017 – Present
 Utah State University, Logan, Utah
Supervisor: Tyler L. Renshaw, Ph.D., NCSP
- Conducted systematic reviews of current Acceptance and Commitment Therapy literature
 - Presented preliminary finding at national conferences
- Principal Investigator, Master's Thesis** August 2017 – Present
 Utah State University, Logan, Utah
Supervisor: Tyler L. Renshaw, Ph.D., NCSP
- *Thesis:* The moderating role of psychological flexibility in the relationship between minority stress, substance misuse, and suicidality in LGB+ adolescents.
- Undergraduate Research Assistant** Jan. 2011 – May 2012
 University of Kentucky, Lexington, Kentucky
Supervisor: Nathan DeWall, Ph.D.
- Assisted with design, execution, and evaluation of research projects
 - Obtained participant data through observation in lab settings
 - Managed subject participation and experimental methods

PUBLICATIONS

Book Chapter

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

Technical Manuals

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

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

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

PRESENTATIONS

Conference Poster Presentations

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

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

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

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

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

Professional Development Presentations & Workshops

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

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

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

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

TEACHING EXPERIENCE

Graduate Teaching Assistant, Utah State University, Department of Psychology Aug. 2017 – May 2019
Courses: Introduction to Psychology & Research Methods

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

Weeks Curriculum Vitae 5

Guest Lecturer (6) , Utah State University, Department of Psychology	December 2019
Course: Introduction to Psychology (undergraduate coursework)	February & March 2019
Course: Introduction to School Psychology (graduate coursework)	December 2018
English Teacher , Sumitomo Electric English Center, Amata City, Thailand	Nov. 2013 – Apr. 2014
<ul style="list-style-type: none"> • Taught English as a second language to Thai professional level employees • Developed the initial English Center and the course structure implemented in the classrooms • Designed lesson plans, activities, and tests for individual and peer-based learning 	
English Teacher , Huayrab Public School, Rayong, Thailand	Nov. 2013 – Apr. 2014
<ul style="list-style-type: none"> • Taught English as a second language to middle school aged children • Created lesson plans, activities, and events designed to improve English ability • Collaborated with Thai faculty and administration to implement coursework 	

HONORS, FELLOWSHIPS, AND AWARDS

Utah Regional Leadership Education in Neurodevelopmental Disabilities, 2019
 Anthony La Pray Scholarship, Utah State University, 2019

SERVICE TO PROGRAM/PROFESSION

Student Representative , USU School Psychology	September 2017- May 2019
Chair, Community Service , USU Student Affiliates of School Psychology	August 2018 – May 2019
Diversity Event Coordinator , USU College of Education and Human Services	January 2018 – May 2019
Guest Speaker , USU Graduate Student Panel, PSY 2010	Feb. 2018 & Feb. 2019
Student Member , USU Department of Psychology Faculty Search Committee	May – July 2018
Chair, Awareness , USU Student Affiliates of School Psychology	January – May 2018

CERTIFIED TRAININGS

American Institute for Avalanche Research and Education (AIARE) 1	January 2020
American Heart Association First Aid CPR	September 2019
Department of Health, Baby Watch Early Intervention	April 2019
H.I.P.A.A. certified	October 2018
Question, Persuade, and Refer (QPR) Training for suicide prevention	September 2018
Cognitive Behavioral Intervention for Trauma in Schools (CBITS) training	April 2018
Safe Passages for U, diversity and inclusion training	March 2018
LGBTQ Ally training	March 2018
FERPA training for confidentiality in schools	August 2017
Collaborative Institutional Training Initiative (CITI) training for ethical research	August 2017

Weeks Curriculum Vitae 6

Teaching English as a Foreign Language (TEFL) certification

October 2013

COMMUNITY DEVELOPMENT

- | | |
|--|-----------------------|
| Volunteer , Logan Pride Foundation, Logan, UT | March 2019 - Present |
| <ul style="list-style-type: none"> • Facilitated allies trainings for Utah State University and the community | |
| Volunteer , Common Ground Outdoor Adventures, Logan, UT | January 2018– Present |
| <ul style="list-style-type: none"> • Instructed individuals with physical and mental disabilities to ski • Organized group volunteer activities | |
| Volunteer , Legal Aid of the Bluegrass, Lexington, KY | May – December 2014 |
| <ul style="list-style-type: none"> • Assisted the immigration attorney with any necessary duties • Translated letters and court documents | |
| Volunteer , Kloinomadelfia Orphanage, Santiago, Chile | January – April 2013 |
| <ul style="list-style-type: none"> • Tutored children with emotional disabilities in their native Spanish language • Organized recreational activities, games, art projects, and workshops | |

ORGANIZATIONS & PROFESSIONAL AFFILIATIONS

Utah Regional Leadership Education in Neurodevelopmental and related Disabilities
 Association of Psychological Science
 National Association of School Psychology
 Utah Association of School Psychology
 Student Affiliates of School Psychology, APA