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Coping Self-Efficacy as a Potential Moderator of the Relationship Between Sexual Orientation and Negative Mental Health Outcomes

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COPING SELF-EFFICACY AS A POTENTIAL MODERATOR OF THE RELATIONSHIP BETWEEN SEXUAL ORIENTATION AND NEGATIVE MENTAL HEALTH OUTCOMES

by

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ABSTRACT

COPING SELF-EFFICACY AS A POTENTIAL MODERATOR OF THE RELATIONSHIP BETWEEN SEXUAL ORIENTATION AND NEGATIVE MENTAL HEALTH OUTCOMES

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Old Dominion University, 2020
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Sexual minority individuals (i.e., those who identify as a sexual orientation other than heterosexual) have consistently been linked to an increased risk of negative mental health outcomes. The process of coping can impact the content and severity of said outcomes, and one's ability to cope is often predicted by the concept known as coping self-efficacy (i.e., one's belief in his or her ability to cope). This study aimed to assess the effects of sexual orientation, coping self-efficacy, and their interactions on mental health by looking at different aspects of coping self-efficacy as potential moderating variables. Self-perceptions of coping skills were assessed across three domains; problem-solving, stopping of unpleasant thoughts and emotions, and garnering social support. Mental health variables were evaluated by using measures assessing depression, anxiety, suicidal thoughts/behaviors (STBs), and alcohol use. Archival data were collected via a large single time point survey. Data were gathered from a community sample consisting of members of the National Coalition for Sexual Freedom (NCSF), an organization dedicated to protecting the sexual freedom and privacy rights of consenting adults. Hypotheses were tested through t-tests, analyses of variance, and general linear modeling. Results evidenced an increased prevalence of mental health symptoms among sexual minority individuals when compared to heterosexual counterparts.

This thesis is dedicated to my parents, Benjamin and Christine Macchia, for all the love and support they have given me throughout my life and academic career.

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NOMENCLATURE

GAD	Generalized Anxiety Disorder
LGBQ+	Lesbian, Gay, Bisexual, Queer plus
MDE	Major Depressive Episode
NCSF	National Coalition for Sexual Freedom
STBs	Suicidal Thoughts and Behaviors

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CHAPTER I

INTRODUCTION

When analyzing mental health across populations, it is important to closely examine those that are more vulnerable to negative outcomes/symptoms (Meyer, 1995, 2003, 2013). One of these populations is the sexual minority community, which is reflected by the acronym LGBQ+. The sexual minority community is comprised of those who identify as Lesbian, Gay, Bisexual, Queer/Questioning, and other (i.e., +); the plus sign represents the plethora of other sexual minority identities and orientations (e.g., pansexual, asexual) that exist in addition to the four (LGBQ) that are explicitly referred to (American Psychological Association, n.d.a; Ridolfo et al., 2012). The LGBQ+ community experiences considerable mental health disparities, such as greater general distress, anxiety, depression, suicidality, and more, often due to persistent negative stimuli (e.g., stigma) that can be attributed to minority community membership (Bowleg et al., 2004; Meyer, 1995, 2003, 2013). Gender minorities (i.e., those who have gender identities, expressions, and/or behaviors not traditionally associated with their birth sex; Mayer et al., 2008) are often grouped together with sexual minority individuals (as reflected by the acronym LGB*T*Q+). However, the present study focused on *sexual* minority status as the primary variable of interest.

Numerous physical and mental health risks faced by sexual minorities can be attributed to various factors related to victimization. These factors include barriers to healthcare and exposure to violence, stigma, and discrimination (Graham et al., 2011; NIH LGBT Research Coordinating Committee, 2013). Although the present study could not assess *all* mental health factors, the following common and comorbid conditions (*Diagnostic and Statistical Manual of Mental Disorders, 5th edition* [DSM-5]; American Psychiatric Association, 2013) were studied: general

distress, anxiety, depression, suicidal thoughts and behaviors (STBs), and alcohol use. Indeed, when compared to heterosexuals, sexual minorities have been more likely to report the presence of persistent tension/worry, acute stress, posttraumatic stress, and anxiety (Cramer et al., 2012; Herek et al., 1999; Testa et al., 2015). Moreover, sexual minority identification has been associated with a greater chance for the presence of anxiety disorders (Bailey, 1999; Bostwick et al., 2010; Cohen et al., 2016; King et al., 2008).

Compared to heterosexuals, sexual minorities have also exhibited heightened rates of depressive symptoms (e.g., sadness, rumination) in addition to an increased likelihood for the presence of depressive disorders (Bailey, 1999; Bostwick et al., 2010; Hatzenbuehler et al., 2008; Marshal et al., 2008, 2011; Testa et al., 2015). Significant findings from the 2015 National Survey on Drug Use and Health (NSDUH) support these claims because 18.2% of sexual minorities reported experiencing a major depressive episode (MDE) within the past year, with 13.1% reporting an MDE with severe impairment. Meanwhile, only 6.2% of heterosexual individuals reported experiencing an MDE within the past year, with 3.9% reporting an MDE with severe impairment (Medley et al., 2016). Research on STBs among sexual minorities parallels these findings. For instance, sexual minorities have been reported to be at significantly increased risk of experiencing suicidal ideations and making suicide attempts (Bailey, 1999; King et al., 2008; Kulkin et al., 2000; Marshal et al., 2008, 2011; Remafedi et al., 1998; Russell, 2003). Community-based surveys of sexual minorities alone have suggested that approximately 20% of sexual minority adults have attempted suicide (Hottes et al., 2016).

Alcohol misuse is another common mental health symptom observed among sexual minorities (Burgard et al., 2005; McKirnan & Peterson, 1989; Meyer, 1995, 2003, 2013; Pence et al., 2006; Stall et al., 2001). Findings from both the 2000 National Alcohol Survey (NAS) as

well as the 2004-2005 United States National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) indicated significant differences in alcohol use between heterosexuals and sexual minorities (Drabble et al., 2005; McCabe et al., 2009). These differences include a greater prevalence of alcohol use and dependence, more problematic alcohol behaviors, and greater likelihood of past help-seeking for alcohol-related issues among sexual minorities. Literature from the past decade indicates that sexual minority individuals exhibit heightened past-month alcohol use, more binge drinking, more heavy alcohol use, increased chances of exceeding study-specific weekly drinking limits, and more alcohol-related problems than heterosexual individuals (Green & Feinstein, 2012; Medley et al., 2016; Slater et al., 2017). The heightened presence of these negative mental health symptoms within the LGBQ+ community can be understood through the lens of minority stress theory (Meyer, 1995, 2003, 2013).

Minority Stress Theory & Model

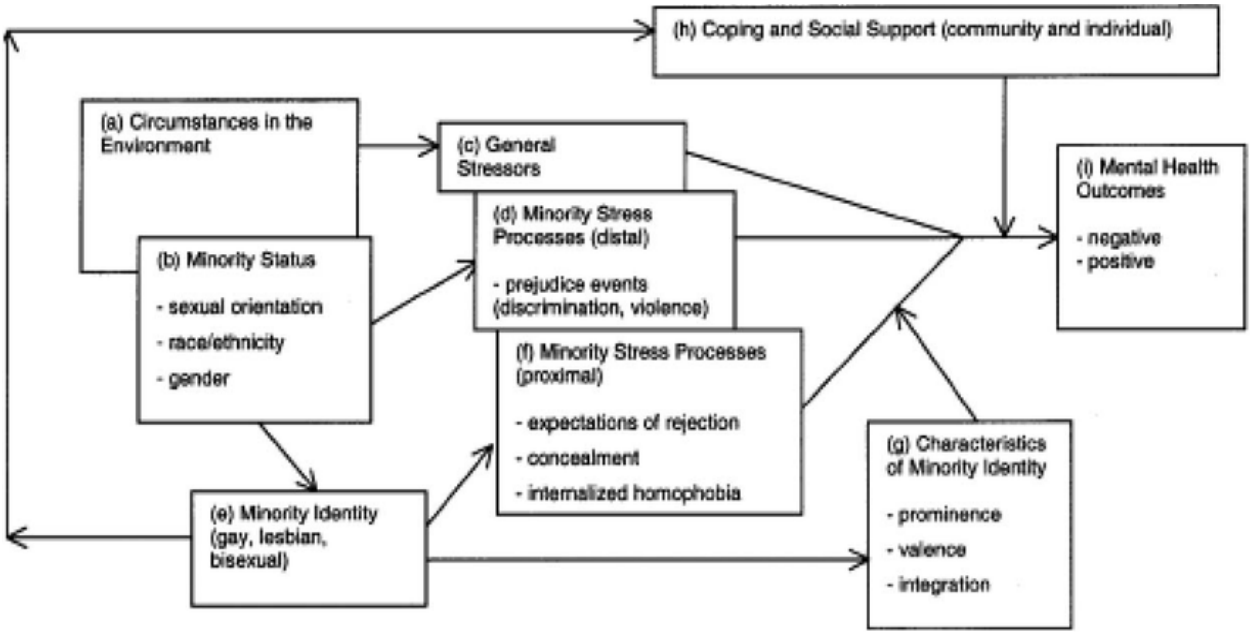
According to Meyer's (1995, 2003, 2013) minority stress theory and accompanying model, mental health disparities for sexual minority individuals can be attributed to stressors resulting from a heteronormative and homophobic environment and culture. These stressors come in a variety of forms, and can be found in figure 1. One integral stressor is conceptualized as *internalized homophobia*. This involves the tendency of gay men to think negatively about themselves and their lifestyles because of overwhelmingly negative/judgmental societal views. *Stigma* is another significant stressor that entails expectations of rejection and discrimination. *Real-life experiences of discrimination and/or violence* is the remaining pertinent stressor (Meyer, 1995, 2003, 2013). One may use the minority stress perspective to comprehend the roles that stigma, prejudice, heteronormativity, rejection, and internalized homophobia play in negative mental health outcomes seen among the LGBQ+ community (Dentato, 2012).

The minority stress model (Meyer, 2003, 2013) organizes the ways in which sexual minority individuals are subjected to heightened stress. The initial components of the model account for natural (i.e., general) stressors experienced in one's environment that do not relate to minority community membership (e.g., work stress). *Distal* (i.e., external) stressors are also highlighted. These stressors are specific to those of *Minority Status* (e.g., sexual minorities, racial minorities, gender minorities) and entail direct experiences of discrimination, rejection, and/or violent victimization. *Minority Identity* (e.g., gay, lesbian, bisexual, etc.) stems from minority status. Sexual orientation identity refers to an individual's conscious recognition and self-labeling with respect to one's sexual predispositions (Worthington & Reynolds, 2009).

Minority identity development influences *proximal* (i.e., internal) stressors (Meyer, 1995, 2003, 2013). These stressors are experienced in a less obvious manner because they include feelings of fear regarding potential victimization/discrimination, a lessened trust in others, and negative internal beliefs about one's own identity (i.e., internalized homophobia) (Meyer, 1995, 2003, 2013; Testa et al., 2015). These stressors have been shown to significantly impact mental health outcomes in sexual minorities in a negative manner (Herek & Garnets, 2007; Herek et al., 1999; Meyer, 1995, 2003, 2013; Testa et al., 2015). The minority stress model also includes stress-mitigating factors that help individuals cope in healthy ways. These coping strategies play a major role in determining how detrimental these stressors are to sexual minorities.

Figure 1

Meyer's (2003) Minority Stress Model



Coping Self-efficacy, Coping Strategies, & Mental Health

Multiple forms of coping have been deemed beneficial for mental health. These coping methods include emotion-focused and problem/solution-oriented behaviors that coincide with factors such as social support and emotional re-appraisal skills (Cramer et al., 2016). Indeed, the use of strategies such as positive re-appraisal of stressors, problem-solving, and acquiring social support has been associated with increases in positive affect (Billings et al., 2000). Coping literature has found that problem-focused and approach-oriented behaviors (i.e., problem-solving) are associated with factors such as enhanced positive mood, decreased depressive symptoms, and even reduced physical pain (e.g., Keefe et al., 1997; Sharkansky et al., 2000). The stopping of unpleasant thoughts is another coping technique used in the process of cognitive restructuring, which has been found to correlate with outcomes such as decreased physical pain as well as the mitigation of symptoms related to posttraumatic stress, general stress, anxiety, and depression (e.g., Ellis, 1998. as cited in Bakker, 2009; Crepaz et al., 2008; Ehde & Jensen, 2004; Marks et al., 1998; Peden et al., 2001; Peden et al., 2005). Thought-stopping has also been effective in treating Generalized Anxiety Disorder (GAD) (Brown et al., 1993). Furthermore, obtaining social support has also been established as a very effective way to cope with stressors. The presence of this support has been associated with positive overall mental health, heightened well-being, a decreased sense of mental distress, and reductions in anxiety, depression, and suicidality (Bovier et al., 2004; Coker et al., 2002, Shilo & Savaya, 2011; Tebbe & Moradi, 2016).

Meyer (1995, 2003, 2013) indicates that social support has an especially powerful impact on individuals who identify as sexual minorities, given they face a myriad of stressors that are attributable to their minority identification (e.g., discrimination). Members of groups who are

stigmatized, but have a strong sense of community involvement (i.e., connection with other individuals who belong to the same stigmatized group), tend to compare and evaluate themselves in reference to other individuals within their in-group as opposed to comparing themselves with members of the dominant (i.e., heterosexual) culture (Meyer, 1995, 2003, 2013). This connection and comparison to the in-group has been shown to lead to a sense of belongingness, which often results in a greater sense of well-being (Riggle et al., 2014). This in-group support is invaluable to sexual minorities because this population often experiences the loss of more traditional social support (e.g., from family) due to factors such as identity nondisclosure/concealment and rejection from family and/or heterosexual peers (Katz-Wise et al., 2016; Landolt et al., 2004; Remafedi, 1987; Rosario & Schrimshaw, 2013; Rotheram-Borus et al., 1991).

The extent to which one *believes* that they are able to cope through the use of problem-focused strategies, thought stopping, and social support (i.e., coping self-efficacy; Chesney et al., 2006) has been established as a determining factor of coping behavior (Bandura, 1997). These beliefs about coping abilities are not always internally consistent. A high level of self-efficacy in one of these domains is not guaranteed to correlate with high self-efficacy in other domains (DiClemente, 1986; Hofstetter et al., 1990).

As evidenced by the literature (e.g., Bandura et al., 1988; Benight & Bandura, 2004; Benight & Harper, 2002; Benight et al., 1997; Benight et al., 1999; Benight et al., 2000; Chesney et al., 2006; Cramer et al. 2016), individuals with a strong sense of coping self-efficacy are less vulnerable to the manifestation of adverse mental health symptoms (e.g., stress). Indeed, the current study uses the coping self-efficacy scale (CSE) developed by Chesney et al. (2006). This measure focuses on an individual's beliefs in their own ability to use problem-focused coping, stop unpleasant thoughts, and acquire social support from family and friends. Importantly,

Chesney and colleagues (2006) demonstrated factor-analytic support for a three-factor CSE scale structure. This suggests that the most appropriate use of the measure is its three subscales, as opposed to a total score.

Bisexual & Other Sexual Identities (Q+)

It is often assumed that sexual orientation-based discrimination stems from heteronormative culture (Herek et al., 2009). The stress induced by this culture subsequently forces sexual minorities to cope. However, many people fail to realize that some sexual minority in-groups have also been observed to discriminate against other sexual minorities, particularly against bisexual individuals (Friedman et al., 2014). Therefore, coping self-efficacy and subsequent behaviors among bisexual individuals might differ from those among lesbian and gay (LG) individuals. The bisexual community is a population that is of pertinent interest due to a phenomenon known as double discrimination (Friedman et al., 2014). Double discrimination occurs when bisexual individuals face discrimination from not one, but two other communities. Whereas lesbians and gay men are frequently discriminated against by heteronormative society, bisexual individuals frequently face judgment from both the heterosexual community *and* the LG community.

The erasure/invisibility of bisexual individuals within society (Salway et al., 2019; Yoshino, 2001) is also prevalent. Yoshino (2001) describes an unconscious "epistemic contract" between heterosexual, lesbian, and gay individuals that is a result of favoritism toward monosexual practices. This predominantly monosexual culture has been purported to create an internalized sense of invisibility (i.e., a feeling of being "erased" from the sexual minority community) in bisexual individuals, leading them to experience a phenomenon known as thwarted belongingness (Joiner, 2007), which is a key component of the interpersonal

psychological theory of suicide. The marginalization and social alienation experienced because of invisibility and erasure are also apparent in other known theories of suicide (Salway et al., 2019). Moreover, these concepts appear to complement the stressors purported in Meyer's (1995, 2003, 2013) minority stress theory and model. Bisexual individuals in general have been found to exhibit a less positive sense of identity and experience heightened alcohol misuse, current sadness, and past year suicidal ideation (Conron et al., 2010; Cramer et al., 2017; Green & Feinstein, 2012). The double discrimination phenomenon, coupled with the concepts of erasure and invisibility, may indicate higher rates of adverse mental health outcomes among bisexuals when compared to their monosexual counterparts.

There is a considerable dearth in sexual minority literature pertaining to those who identify as "queer," "questioning," or "other" (i.e., Q+) (Cramer et al., 2018). The "other" label encapsulates a large variety of other identities entailing orientations such as pansexual, curious, flexible, fluid, and more. It also includes a small population of individuals who are resistant to the idea of labels (e.g., "prefer no label"; Russell et al., 2009). Moreover, Entrup and Firestein (2007) purport that many individuals between the ages of 15 and 35 have sexualities that can best be described as fluid and ambisexual. These individuals are also said to exhibit a sense of reluctance toward the labeling of their sexual identity. It is important to study the Q+ group in more detail, as many individuals who identify as such do so as a result of the stress induced by the coming-out process (Ridolfo et al., 2012).

Cramer and colleagues (2018) also assessed Q+ data from a sexuality special interest group. Findings revealed that queer-identifying individuals reported high identity affirmation and low concealment motivation, whereas those who identified as experimenting/fluid exhibited high identity uncertainty as well as negative identity. In another study evaluating sexual orientation

and mental health among the special interest group sample, bisexual and Q+ persons comprised a disproportionate size of those at elevated risk for suicide (Cramer et al., 2017).

The Present Study

The present study aimed to examine the relationship(s) between sexual minority status and mental health outcomes while considering coping self-efficacy as a potential moderator. According to Meyer's (1995, 2003, 2013) theory/model, sexual orientation and mental health are inherently linked. However, individual and group-level coping dictate the nature and severity of mental health symptoms. Thus, it is likely that the relationship between sexual minority status and negative mental health outcomes is dependent upon an individual's coping self-efficacy. For example, if someone who identifies as a sexual minority exhibits high coping self-efficacy, then the relationship between sexual minority status and mental health outcomes will likely be weak and/or absent. Essentially, high coping self-efficacy neutralizes the liability that comes with identifying as a sexual minority.

For mental health outcomes, five integral domains were assessed; general distress, anxiety symptoms, depressive symptoms, STBs, and alcohol misuse. This study was also novel with regard to evaluating, in detail, the differences in bisexual and Q+ subgroups compared to LG counterparts. This interest in bisexual individuals stemmed from the fact that this subgroup experiences the minority stressors purported by Meyer (1995, 2003, 2013) in addition to the unique stressors of invisibility, erasure, and double discrimination (Friedman et al., 2014; Salway et al., 2019; Yoshino, 2001). These additional stressors can be understood within the framework of Meyer's minority stress model under the categories of distal and external stressors, with the consideration of how they are unique to bisexual individuals. Q+ individuals might also experience effects similar to those of invisibility/erasure and double discrimination due to their

failure to align with a monosexual orientation. However, these patterns are unknown and exploratory research questions were posed.

Research Questions & Hypotheses

Because the unique stress experienced by sexual minorities has been linked to various mental health outcomes (Bowleg et al., 2004; Cramer et al., 2016; Meyer, 1995, 2003), the following research questions and hypotheses were proposed:

1) Is there variation in mental health based on sexual orientation?

Hypothesis 1a) Due to the unique stressors purported in minority stress theory (Meyer, 1995, 2003), sexual minority individuals were anticipated to exhibit significantly more mental health symptoms than heterosexual individuals.

Hypothesis 1b) After applying the additional concepts of invisibility, erasure, and double discrimination (Friedman et al., 2014; Yoshino, 2001) to minority stress theory, it was predicted that bisexual individuals would exhibit significantly more mental health symptoms than the heterosexual and LG groups.

Exploratory research question: When compared to other groups, would mental health among Q+ individuals differ?

2) Is there a variation in coping self-efficacy based on sexual orientation?

Hypothesis 2a) Given the marginalized status of LGBQ+ individuals, their experiences of prejudice, discrimination, etc. (Meyer, 1995, 2003), and their potential loss of more traditional support systems (e.g., Rosario & Schrimshaw, 2013), this group would demonstrate significantly less coping self-efficacy with regard to gathering social support compared to heterosexual individuals.

Hypothesis 2b) Given the negative effects brought about by double discrimination, invisibility, and erasure (Friedman et al., 2014; Yoshino, 2001), it was predicted that bisexual individuals would exhibit even lower rates of coping self-efficacy with regard to gathering social support than the heterosexual and LG groups.

Exploratory research question: When compared to other groups, would any aspect of coping self-efficacy among Q+ individuals differ?

3) Does coping self-efficacy moderate the association between sexual orientation and mental health?

Hypothesis 3a). It was predicted that CSE subscales would moderate the association between sexual orientation and mental health, such that the relationship between sexual orientation and negative mental health outcomes is dependent upon an individual's level of coping self-efficacy. This pattern could be explained because coping and social support are of increased importance to the LGBQ+ community, as they serve to mitigate the additional, minority-specific stressors (e.g., prejudice, internalized homophobia) that are not experienced by heterosexuals (Meyer, 1995, 2003).

CHAPTER II

METHODS

Participants

Data were drawn from a community-engaged study in partnership with one sexuality special interest group from which participants (18+) were recruited. This organization is known as the National Coalition for Sexual Freedom (NCSF). The purpose of this partnership study was to further clarify the nature of coping and mental health among sexual minority members of the NCSF. Based in Baltimore, Maryland, the primary objective of the NCSF is to create "… a political, legal, and social environment in the United States that advances equal rights for consenting adults who engage in alternative sexual and relationship expressions." (Carlson, n.d.). All demographic and descriptive information for variables of interest can be seen in Table 1. The sample was primarily White (n = 304, 85.4%), cisgender (male: n = 127, 35.7%; female: n = 180, 50.6%), LGBQ+ (n = 277, 77.8%), and dating or in some form of relationship (n = 319, 89.6%). The sample was also predominantly educated (bachelor's degree or higher: n = 230, 64.6%), middle class (M = \$87,821.51, SD = \$69,383.64), and average level of LGBQ+ community involvement was moderate (M = 2.65, SD = 1.24).

Table 1

Sample demographic characteristics and descriptive statistics

	N (%)
Race	
White	304 (85.4%)
African American/Black	5 (5.4%)
Hispanic/Latinx/Spanish	2 (0.6%)
Asian	5 (1.4%)
American Indian/Alaska Native	3 (0.8%)
Mixed race/Multiracial	29 (8.1%)
Other	8 (2.2%)
Gender	
Male	127 (35.7%)
Female	180 (50.6%)
Male-to-Female	8 (2.2%)
Female-to-Male	6 (1.7%)
Transitioning	1 (3.0%)
Queer	20 (5.6%)
Other	14 (3.9%)
Sexual orientation	
Straight	79 (22.2%)
Lesbian	5 (1.4%)
Gay	18 (5.1%)
Bisexual	73 (20.5%)
Queer	28 (7.9%)
Questioning	3 (0.8%)
Experimenting	13 (3.7%)
Pansexual	65 (18.3%)
Demisexual	20 (5.6%)
Heteroflexible/Homoflexible	44 (12.4%)
Asexual	1 (0.3%)
Other	7 (2.0%)
Relationship status	
Single (not dating)	37 (10.4%)
Dating one partner	25 (7.0%)
Polyamorous	122 (34.3%)
Dating several partners	20 (5.6%)
In a monogamous relationship	48 (13.5%)
In an open relationship	60 (16.9%)
Engaged to be married/married/civil union	44 (12.4%)
Highest education	

1. Continued

	N (%)
Some high school	4 (1.1%)
High school diploma/GED	63 (17.7%)
Associate's degree	59 (16.6%)
Bachelor's degree	109 (30.6%)
Advanced degree (master's or doctorate)	121 (34.0%)

	Mean (SD)
Annual household income	$87,821.51 ($69,383.64)
LGBTQ+ community involvement	2.65 (1.24)
CSE Problem-solving	45.01 (12.72)
CSE Thought-stopping	21.42 (10.61)
CSE Social support	19.08 (7.95)
DASS-21 Depression	5.12 (5.06)
DASS-21 Anxiety	3.99 (4.16)
DASS-21 General distress	6.75 (4.63)
SBQ-R total score	7.05 (3.48)
AUDIT total score	3.47 (3.85)

Note. GED = General Education Diploma; LGBTQ+ = Lesbian, Gay, Bisexual, Transgender, and Queer+; CSE = Coping self-efficacy scale; DASS-21 = Depression, Anxiety, and Stress Scale-21 items; SBQ-R = Suicidal Behaviors Questionnaire-Revised; AUDIT = Alcohol Use Disorders Identification Test; SD = Standard deviation.

Procedure

Participants were recruited online. Specifically, a recruitment flyer containing a Qualtrics link was attached to the NCSF membership listserv. The flyer was also posted to both the organization's primary website and Facebook page. The flyer encouraged NCSF members to take a new health and technology survey to help researchers better understand the health issues faced by the kink, leather, fetish, and non-monogamy communities (See Appendix A)**.** The Qualtrics link directed participants to a larger survey assessing mental health, protective factors, and technology usage (See Appendix B). The link to the survey was prefaced with a short description and introduction. The NCSF launched the survey distribution in the spring semester of 2018 and provided a maximum of two reminders to participants. Data collection began in February of 2018 and occurred for approximately three months.

Participants were given the option to enter a raffle for an Amazon e-gift card. Upon completion of the survey, participants were provided with an optional link that directed them to a separate survey. Doing this ensured that email addresses were not associated with any specific responses. Post-data collection, each subject's email address file was used to identify raffle winners through the use of a random number generator (random.org) to identify the winners. Winners were then contacted individually by email to verify the email address before sending out the gift card. If confirmation was not received after two contact attempts, then another winner was identified. The email address database was deleted within two weeks of the final gift card dissemination.

Demographics

Participants completed a demographics form. Notably, all Williams Institute-recommended sexual orientation and gender response options were included (Badgett, 2009;

Herman, 2014). Furthermore, additional identity options supported by empirical literature (e.g., Cramer et al., 2018) and organizational consultation were included.

Coping Self-efficacy Measure

Coping Self-Efficacy Scale (CSE; Chesney et al., 2006)

The CSE provides a unique approach to the measurement of coping, focusing on changes in a person's beliefs in his/her own ability to cope effectively with difficult circumstances. Developed from a sample of people living with HIV/AIDS (PLWHA), the original scale consisted of 26 items. However, exploratory and confirmatory factor analyses have resulted in the development of a reduced form consisting of 13 items (e.g., "Break an upsetting problem down into smaller parts.") each rated on an 11-point Likert scale (0 = I cannot do this at all, 5 = Moderately certain I can do this, 10 = I'm certain that I can do this). Factor-analytic evidence suggests the 13 items can be broken down into three subscales: problem-focused coping (6 items, Cronbach's alpha = .91), stopping of unpleasant emotions and thoughts (4 items, Cronbach's alpha = .91), and getting support from family and friends (3 items, Cronbach's alpha = .80) (Chesney et al., 2006).

Both exploratory and confirmatory factor analysis identified that factor loadings for all items included in the scale ranged from .58 to .97. Additionally, concurrent validity analyses confirmed that this instrument assesses self-efficacy for the different types of coping entailed within the three categories. This was shown by each category's respective positive correlations with factors such as positive morale, optimism, positive states of mind, positive reappraisal, perceived social support, social support, and planful problem solving. In addition to this, each CSE category correlated negatively with perceived stress, burnout, anxiety, and negative morale.

Predictive validity was also evidenced by analyses that showed that change in using problem and emotion focused coping skills was predictive of reduction in psychological stress as well as an increase in psychological well-being over time (Chesney et al., 2006). Studies involving the CSE have demonstrated a negative relationship between CSE scores and psychological symptoms (e.g., Chesney et al., 2006; Cramer et al., 2017; Denton et al., 2014). In addition, all three subscales have demonstrated modest negative associations with somatic health symptoms as well as internalized homophobia (Cramer et al., 2017). The descriptive statistics and internal consistencies for all coping self-efficacy subscales among the sample assessed in the current study are as follows: Problem-solving $M = 45.01$, $SD = 12.72$, Cronbach's alpha = .93; thought-stopping $M = 21.42$, $SD = 10.61$, Cronbach's alpha = .95; social support $M = 19.08$, $SD = 7.95$, Cronbach's alpha = .88).

Mental Health Measures

Alcohol Use Disorders Identification Test (AUDIT; Saunders et al., 1993)

Developed by the World Health Organization (WHO), the AUDIT consists of ten total items and is designed to assess the frequency of alcohol use behaviors (Saunders et al., 1993). Items are all scored on a five-point Likert scale (0 – 4) and the answer options vary depending on the question (e.g., "How often do you have a drink containing alcohol?"). Responses are then summed and the point total is assessed.

Psychometric properties of the AUDIT have been shown to be relatively strong. A study conducted by Bohn and colleagues (1995) examined the validity of this measure by administering it to a sample of known alcoholics and general medical patients. Results from this study displayed correlations between the AUDIT, other alcohol use measures such as the Michigan Alcoholism Screening Test (MAST; Selzer, 1971), and measures of alcoholism

vulnerability (e.g., familial alcoholism) (Bohn et al., 1995). The AUDIT was also significantly correlated with levels of aspartate aminotransferase (ASAT), alanine aminotransferase (ALAT), gamma-glutamyltransferase (GGT), and macrocytic volume (MCV), which are indicative of heavy drinking. Discriminant validity was assessed through discriminant function analyses. Specifically, results indicated that the AUDIT is both sensitive and specific in discriminating alcoholics from non-alcoholic medical patients (Bohn et al., 1995).

A study conducted by Daeppen and colleagues (2000) examined reliability properties by administering the AUDIT in primary care settings. Results from this study demonstrated a Cronbach's alpha coefficient of .85, indicating relatively strong reliability. Another study (Kokotailo et al., 2004) assessed psychometric properties of the AUDIT among a population of college drinkers. The Cronbach's alpha coefficient for the measure was .81, evidencing an adequate level of internal reliability. The test-retest reliability of the AUDIT was also analyzed through a study consisting of a general population sample (Selin, 2003). Findings from the data indicated an overall reliability coefficient of .84. Additionally, 91% of participants were correctly classified as problem drinkers after the retest when compared to the first administration. The sample evaluated in the current study exhibited a mean AUDIT total score of 3.47 with a standard deviation of 3.85. Internal consistency (as represented by Cronbach's alpha) was .80.

Suicidal Behaviors Questionnaire-Revised (SBQ-R; Osman et al., 2001)

This instrument evaluates past thoughts, threats, attempts, and likelihood of future suicide attempt through four items (e.g., "How often have you thought about killing yourself in the past year?") (Osman et al., 2001). The SBQ-R is scored by summing the total of respondents' answers. The sum value then represents the overall risk for suicidal behavior. Osman and colleagues (2001) initially examined the psychometric properties of the SBQ-R among samples

of psychiatric inpatient adolescents, high school students, psychiatric inpatient adults, and undergraduates. Cronbach's alpha coefficients ranged from .76 (undergraduates) to .88 (psychiatric inpatient adolescents), demonstrating acceptable internal consistency. Logistic regression analyses were implemented to establish discriminant validity by differentiating between psychiatric inpatients who were suicidal or non-suicidal prior to admission. It was found that SBQ-R total scores were useful in discriminating suicidal and non-suicidal examinees. Specifically, each suicidal subgroup scored higher than the non-suicidal subgroups on both individual items of the SBQ-R as well as total score. In turn, these analyses suggest that SBQ-R scores are useful in identifying risk factors for STBs. They also found that the SBQ-R was correlated negatively with reasons for living and showed strong positive correlations with other measures of suicidal ideation and attempts (e.g., Beck Hopelessness Scale [BHS]; Beck et al., 1974). The SBQ-R was also shown to correlate positively with indicators of minority stress such as internalized heterosexism (Cramer et al., 2018). Cramer and colleagues (2018) also observed a Cronbach's alpha coefficient of .76 among a sample of sexual minorities, indicating acceptable internal consistency. The sample evaluated in the current study exhibited a mean SBQ-R total score of 7.05 with a standard deviation of 3.48. Internal consistency (as represented by Cronbach's alpha) was .77.

Depression Anxiety Stress Scales (DASS-21; Lovibond & Lovibond, 1995)

Developed as a reduced version of the original 42-item DASS (Lovibond & Lovibond, 1993), the DASS-21 assesses three primary internalizing symptoms through subscales that inquire about depressive symptoms (e.g., "I felt like life was meaningless."), anxiety symptoms (e.g., "I was aware of dryness of my mouth."), and general distress (e.g., "I found it hard to wind down."). Items are measured on a four-point Likert scale (Never, Sometimes, Often, Almost

Always) and then summed. Each subscale on the DASS-21 contains 7 items, as opposed to the 14 items per subscale on the original measure. Full subscale scores can be calculated by doubling the subscale scores obtained on the short version (Lovibond & Lovibond, 1995). The internal consistencies for the original DASS normative sample, as represented by coefficient alpha, were .91 for depression, .84 for anxiety, and .90 for stress (Lovibond & Lovibond, 1993). Results from the DASS among 717 first-year psychology undergraduates at the University of New South Wales were also used to establish correlations between DASS subscales and clinical measures developed by Beck. Specifically, the anxiety subscale correlated with the Beck Anxiety Inventory (BAI; Beck et al., 1988) (r = .81), and the depression subscale correlated with the Beck Depression Inventory (BDI; Beck et al., 1961) (r = .74) (Lovibond & Lovibond, 1995). While the anxiety and general distress subscales appear to be similar, they measure distinct characteristics. The anxiety subscale entails items that assess factors such as physiological arousal and specific situational anxiety, whereas the general distress subscale focuses on factors related to more chronic arousal that is not attributed to specific events (e.g., irritability, impatience, tendency to become easily upset and overreact.). Much of the DASS-21 items are consistent with DSM criterion for disorders including but not limited to major depression, GAD, and panic disorder. However, this measure is based on a dimensional (rather than categorical) conceptualization of mental illness, meaning that it was developed under the assumption that individuals differ according to the *degree* to which they experience depression, anxiety, and general distress (Antony et al., 1998; Lovibond & Lovibond, 1993, 1995).

According to the 2018 study conducted by Cramer and colleagues involving a sample of sexual minority adults, internal consistency was high across subscales (Cronbach's alpha range = .85 to .91). Furthermore, there was significant inter-correlation among subscales (r range = .75 to

.83). There were also large positive correlations with negative affect (*r* range = .62 to .65) and minor to moderate negative correlations with positive well-being (*r* range for positive affect = -.11 to -.45). These correlations between DASS-21 items and characteristics relating to depression, general distress, and anxiety indicate that the DASS-21 is indeed measuring what it purports to measure. The descriptive statistics and internal consistencies for all DASS-21 subscales among the sample assessed in the current study are as follows: Depression *M* = 5.12, *SD* = 5.16, Cronbach's alpha = .92; anxiety *M* = 3.99, *SD* = 4.16, Cronbach's alpha = .84; general distress *M* = 6.75, *SD* = 4.63, Cronbach's alpha = .87).

CHAPTER III

RESULTS

Missing Data & Preliminary Analyses

Consistent with established best practices for handling missing data in clinical research (Enders, 2017), multiple imputation was used prior to data analysis. For variables of interest, imputation occurred for any item with missing values. A total of five imputations were conducted. Several demographic variables required re-coding for primary analyses due to low cell counts. The sexual orientation subgroups were organized as follows: Heterosexual (H; *n* = 79, 22.2%), Lesbian/Gay (LG; *n* = 23, 6.5%), Bisexual (B; *n* = 73, 20.5%), and Queer+ (Q+; *n* = 181, 50.8%). Prior to analyzing the data, several potential covariates were also reclassified. Gender was recoded as Male (*n* = 127, 35.7%), Female (*n* = 180, 50.6%), and Transgender/Gender non-conforming (TGNC; *n* = 49, 13.8%). Relationship status was reclassified to represent number of romantic partners (Single [no partners] *n* = 37, 10.4%); One partner *n* = 117, 32.9%; More than one partner *n* = 202, 56.7%), and education level was reclassified so that some high school and high school diploma/equivalent were combined (*n* = 67, 18.8%; Associate's degree *n* = 59, 16.6%; Bachelor's degree *n* = 109, 30.6%; Advanced degree *n* = 121, 34.0%).

Normality was assessed with histograms for all pertinent coping self-efficacy and mental health variables. Skewness and kurtosis statistics were also evaluated. All variables were normally distributed except for the AUDIT total score. Individuals who scored more than three standard deviations above the mean (i.e., total score > 15) were considered outliers and subsequently removed from the data. Indeed, a total of eight outliers were removed. Follow-up examination of histograms, skewness, and kurtosis confirmed normality.

Hypothesis Testing

Hypothesis 1a was tested by running five independent samples t-tests to compare the differences in each mental health symptom between heterosexual and sexual minority participants. Results showed that LGBQ+ participants exhibited significantly higher scores on the DASS-21 depression subscale ($M = 5.33$, $SD = 5.06$) than heterosexual participants ($M = 4.06$, $SD = 4.80$), $t(346) = 2.00$, $p < .05$, Cohen's $d = .26$). On the DASS-21 anxiety subscale, LGBQ+ participants also reported significantly higher scores ($M = 4.26$, $SD = 4.22$) than heterosexual participants ($M = 2.80$, $SD = 3.58$), $t(346) = 2.80$, $p < .01$, Cohen's $d = .37$. Similar results were obtained on the DASS-21 general distress subscale, as LGBQ+ participants again scored higher ($M = 6.93$, $SD = 4.69$) than heterosexual participants ($M = 5.77$, $SD = 4.32$), $t(346) = 5.02$, $p = .05$, Cohen's $d = .26$. Regarding STBs, LGBQ+ participants reported significantly higher scores on the SBQ-R ($M = 7.31$, $SD = 3.50$) than heterosexual participants ($M = 6.04$, $SD = 3.09$), $t(346) = 2.92$, $p < .01$, Cohen's $d = .39$. No significant difference in alcohol use was found between LGBQ+ ($M = 3.05$, $SD = 2.90$) and heterosexual participants ($M = 3.24$, $SD = 2.86$), $t(346) = -.518$, $p = .605$. Nonetheless, hypothesis 1a was largely supported given that LGBQ+ participants exhibited heightened risk for all negative mental health variables except for alcohol use when compared to heterosexual participants.

Analysis of variance (ANOVA) was used to evaluate hypothesis 1b. Results indicated a significant effect of sexual orientation on SBQ-R scores ($F[3, 344] = 3.37$, $p < .05$) as well as DASS-21 anxiety scores ($F[3, 344] = 2.70$, $p < .05$). However, no significant effect of sexual orientation was found for AUDIT scores ($F[3, 344] = .82$, $p = .48$), DASS-21 depression scores ($F[3, 344] = 1.37$, $p = .25$), and DASS-21 general distress scores ($F[3, 344] = 1.46$, $p = .22$).

Results from planned contrasts indicated no significant differences in SBQ-R scores between bisexual participants and heterosexual participants, as well as no significant differences in SBQ-R scores between bisexual participants and LG participants. Planned contrasts did, however, indicate a significant difference in DASS-21 anxiety scores between bisexual participants and heterosexual participants. Specifically, bisexual participants exhibited significantly higher DASS-21 anxiety scores ($M = 4.30$, $SD = 4.51$) than heterosexual participants ($M = 2.80$, $SD = 3.58$), $t(344) = 2.23$, $p < .05$, Cohen's $d = .37$. However, no significant differences in DASS-21 anxiety scores were found between bisexual participants and LG participants. Thus, hypothesis 1b was largely unsupported.

Bonferroni post-hoc tests were used to assess the first exploratory research question by comparing Q+ participants relative to all other groups. Results from these tests indicated that Q+ participants exhibited significantly higher SBQ-R scores ($M = 7.50$, $SD = 3.56$) when compared to heterosexual participants ($M = 6.04$, $SD = 3.09$; $p = .01$, Cohen's $d = .44$). Moreover, Q+ participants also exhibited higher DASS-21 anxiety scores ($M = 4.31$, $SD = 4.23$) than heterosexual participants ($M = 2.80$, $SD = 3.58$; $p < .05$, Cohen's $d = .38$).

Overall, results from Hypothesis 1 produced mixed findings. As predicted, LGBQ+ participants were found to have more prevalent, negative mental health symptoms when compared to their heterosexual counterparts. However, this was not the case regarding alcohol use. Regarding planned comparisons, bisexual participants were not found to significantly differ from LG individuals when it came to STBs nor anxiety. Indeed, bisexual participants were found to exhibit significantly higher feelings of anxiety when compared to heterosexual participants only.

Hypothesis 2a was tested by running one independent samples t-test comparing levels of coping self-efficacy with regard to social support between heterosexual participants and LGBQ+ participants. Results indicated that LGBQ+ participants (M = 18.69, SD = 8.05) scored lower than heterosexual participants (M = 20.28, SD = 7.80) on the CSE social support subscale. However, this difference was not significant (t[346] = -1.55, p = .120, Cohen's d = -.20). Thus, Hypothesis 2a was not supported.

Hypothesis 2b was assessed via another ANOVA, which failed to indicate a significant effect of sexual orientation on the CSE domain of social support (F[3, 344] = 73.99, p = .33). Indeed, planned comparisons revealed no significant differences in social support coping self-efficacy between any sexual orientation subgroups. Thus, hypothesis 2b was also not supported.

Bonferroni post-hoc tests were used to assess the second exploratory research question by comparing each of the CSE subscale scores of Q+ participants to all other groups. Results indicated that the Q+ group did not significantly differ from any other sexual orientation subgroup on the CSE domains of problem-solving and social support. However, Q+ participants reported significantly lower CSE thought-stopping subscale scores (M = 20.00, SD = 10.69) than heterosexual participants (M = 25.70, SD = 9.88; p < .001, Cohen's d = -.55).

The final hypothesis required the use of five separate general linear model (GLM) analyses; one for each mental health outcome. Regression assumptions were evaluated prior to interpretation of each model. Normality was evaluated through the creation of histograms and Q-Q plots of the unstandardized residuals. Linearity was assessed via the creation of scatterplots containing observed values versus standardized residuals. Homoscedasticity was evaluated via Levene's Test of Equality of Error Variances as well as through the interpretation of scatterplots

containing the standardized residuals versus predicted values. No concerns over non-independence were noted due to the lack of a complex sampling design.

Pertinent covariates were included in the models based on their relevance and connection to various mental health outcomes as evidenced by the literature. These covariates included race (Lee & Chen, 2017; Riolo, Nguyen, Greden, & King, 2005; Smith et al., 2006; Williams, 2018), gender (Armstrong & Khawaja, 2002; Brennan et al., 2010; Bruce et al., 2005; Kiely, Brady, & Byles, 2019; Valentine & Shipherd, 2018), relationship status (Braithwaite, Delevi, & Fincham, 2010; Braithwaite & Holt-Lunstad, 2017; Kyung-Sook, SangSoo, Sangjin, & Young-Jeon, 2018; Salvatore et al., 2014; Salvatore et al., 2016), and education level (Araya, Lewis, Rojas, & Fritsch, 2003; Assari & Lankarani, 2016; Bracke, Pattyn, & von dem Knesebeck; Pompili et al., 2013; Slutske, 2005; von dem Knesebeck, Pattyn, & Bracke, 2011). Given the large amount of predictors and subsequent concerns over model saturation, each model was rerun multiple times while removing covariates one-by-one in order of decreasing significance. Final models only included covariates that were statistically significant.

Results indicated no significant main effects of sexual orientation ($F[3,332] = 1.37$, $p = .25$), CSE problem-solving subscale scores ($F[1,332] = .03$, $p = .86$), CSE thought stopping subscale scores ($F[1,332] = 3.72$, $p = .06$), nor CSE social support subscale scores ($F[1,332] = .46$, $p = .50$) on AUDIT total scores after accounting for other predictors in the model. Moreover, sexual orientation did not significantly interact with any of the CSE subscale scores. Pooled test of between-subjects effects for AUDIT total scores appear in Table 1 of Appendix C.

After accounting for other predictors in the model, there was a significant, negative main effect of CSE thought-stopping subscale scores ($B = -1.02$, $F[1,327] = 17.52$, $p < .001$, partial $\eta^2 = .051$) on SBQ-R total scores. There was also a significant main effect of education level on

SBQ-R total scores (F[3,327] = 3.26, p < .05, partial η^2 = .029), such that the some HS/HS diploma group (MM = 7.78, SE = .42, 95% CI = [6.95, 8.60], M = 7.86, SD = 4.01) and bachelor's degree group (MM = 7.57, SE = .35, 95% CI = [6.88, 8.26], M = 7.46, SD = 3.34) reported higher SBQ-R scores than the advanced degree group (MM = 6.50, SE = .35, 95% CI = [5.82, 7.18], M = 6.12, SD = 3.18). A significant main effect of relationship status on SBQ-R total scores was also discovered (F[2,327] = 8.16, p < .001, partial η^2 = .048). Specifically, the one partner group (MM = 6.19, SE = .33, 95% CI = [5.54, 6.84], M = 6.30, SD = 3.35) exhibited significantly lower SBQ-R total scores compared to the single group (MM = 8.27, SE = .52, 95% CI = [7.25, 9.30], M = 8.54, SD = 3.78) and multiple partner group (MM = 7.32, SE = 0.27, 95% CI = [6.79, 7.86], M = 7.17, SD = 3.36). No main effects of sexual orientation (F[3,327] = .51, p = .68), CSE problem-solving subscale scores (F[1,327] = 1.09, p = .30), nor CSE social support subscale scores (F[1,327] = 1.38, p = .24) were found. Again, no significant interactions were discovered between sexual orientation and any of the CSE subscale scores. Pooled test of between-subjects effects for SBQ-R total scores appear in Table 2 of Appendix C.

Regarding DASS-21 depression subscale scores, significant, negative main effects of CSE problem-solving subscale scores (B = -.72, F[1,332] = 7.11, p < .01 , partial η^2 = .021), CSE thought-stopping subscale scores (B = -2.62, F[1,332] = 24.49, p < .001, partial η^2 = .069), and CSE social support subscale scores (B = -.44, F[1,332]= 14.77, p < .001, partial η^2 = .043) were discovered after all other predictors in the model had been accounted for. No significant main effect of sexual orientation was discovered (F[3,332]= .25, p = .86). There were also no significant interaction effects between sexual orientation and any of the CSE subscale scores. Pooled test of between-subjects effects for DASS-21 depression subscale scores appear in Table 3 of Appendix C.

A significant, negative main effect of CSE problem-solving subscale scores (B = -.26, F[1,330] = 3.88, p = .05, partial η^2 = .012) was discovered for DASS-21 anxiety subscale scores after accounting for all other predictors in the model. Moreover, a significant main effect of gender was found (F[2,330] = 4.81, p < .01 , partial η^2 = .028). Specifically, the male group (MM = 3.35, SE = .38, 95% CI = [2.60, 4.09], M = 2.82, SD = 3.45) scored significantly lower on the DASS-21 anxiety subscale than the female group (MM = 4.77, SE = .38, 95% CI = [4.03, 5.51], M = 4.60, SD = 4.44). No significant main effects of sexual orientation (F[3,330] = 1.05, p = .37), CSE thought-stopping subscale scores (F[1,330] = 2.70, p = .10), nor CSE social support subscale scores (F[1,330] = 3.46, p = .06) were found. No significant interactions between sexual orientation and any CSE subscale scores were discovered. Pooled test of between-subjects effects for DASS-21 anxiety subscale scores appear in Table 4 of Appendix C.

Last, a significant, negative main effect of CSE thought-stopping subscale scores was discovered for DASS-21 general distress subscale scores (B = -2.43, F[1,330] = 21.53, p < .001, partial η^2 = .061) after accounting for all other predictors in the model. There was also a significant main effect of gender (F[2,330] = 7.13, p = .001, partial η^2 = .041). Specifically, the male group (MM = 5.71, SE = .40, 95% CI = [4.92, 6.50], M = 4.95, SD = 3.84) scored significantly lower on the DASS-21 general distress subscale than both the female group (MM = 7.66, SE = .40, 95% CI = [6.88, 8.44], M = 7.56, SD = 4.77) and the TGNC group (MM = 7.04, SE = .66, 95% CI = [5.76, 8.33], M = 7.76, SD = 4.77). No significant main effects of sexual orientation (F[3,330] = .70, p = .55), CSE problem-solving subscale scores (F[1,330] = 1.97, p = .16), nor CSE social support subscale scores (F[1,330] = 1.50, p = .22) were found. No significant interactions between sexual orientation and any of the CSE subscales were found

either. Pooled test of between-subjects effects for DASS-21 general distress subscale scores appear in Table 5 of Appendix C.

CHAPTER IV

DISCUSSION

Primary Findings

The present study sought to 1) examine the relationship between sexual minority status and mental health outcomes, 2) uncover any potential within-group differences in coping self-efficacy and mental health among sexual minority participants, and 3) determine if coping self-efficacy is a potential moderator of the association between sexual orientation and mental health. Current results show that, as a whole, LGBQ+ individuals displayed greater average levels of depression, anxiety, general distress, and STBs when compared to their heterosexual counterparts. This is consistent with previous literature that has shown that sexual minority individuals exhibit higher rates of depressive symptoms and have higher chances of being diagnosed with a depressive disorder when compared to heterosexual individuals (Bailey, 1999; Bostwick et al., 2010; Hatzenbuehler et al., 2008; Marshal et al., 2008, 2011; Testa et al., 2015). These same studies, in addition to several others, have found sexual minority identification to be associated with higher rates of STBs (Hottes et al., 2016; Kulkin et al., 2000; Remafedi et al., 1998; Russell, 2003), persistent tension and worry, acute stress, posttraumatic stress, general anxiety, as well as an increased likelihood of being diagnosed with an anxiety disorder (Cohen et al., 2016; Cramer et al., 2012; Habarth et al., 2015; Herek et al., 1999; King et al., 2008). Although LGBTQ+ participants in this study did show significantly higher levels of these negative mental health symptoms when compared to heterosexuals, effect sizes for these differences ranged from small to medium-small. This could be attributed to the sample that was used. Unlike most of the previous literature, the current study sample consists of members

belonging to a sexuality special interest group (NCSF). Factors such as pride and sense of community within the NCSF could have lessened the extent of these differences.

The results of the present study also fail to show any differences in alcohol use between sexual minorities and heterosexuals. This is contrary to findings from previous literature (e.g., Drabble et al., 2005; McCabe et al., 2009; McKirnan & Peterson, 1989) that shows significant differences in substance use between these populations. However, many studies have found greater differences in alcohol use specifically between sexual minority women and heterosexual women, whereas greater differences in other illicit substance use were found between sexual minority and heterosexual men (Burgard et al., 2005; Drabble et al., 2005; Green & Feinstein, 2012; McCabe et al., 2009). Indeed, one of the reasons the present study failed to find a significant difference in alcohol use between sexual minority participants and heterosexual participants may be the low number of lesbians (n = 4) present in the sample.

Results from the current study also show that bisexual individuals did not significantly differ from LG participants on any mental health measure. However, bisexual individuals displayed significantly greater signs of anxiety when compared to heterosexual participants. This is consistent with literature stating that, among the LGB population, bisexual individuals are often shown to have the highest likelihood of struggling with anxiety-related mental health difficulties (e.g., Jorm et al., 2002; Ross et al., 2018). Although the differences in anxiety between bisexual and LG participants were not statistically significant, bisexual individuals comprised the only participants for whom these symptoms were *significantly* greater when compared to the heterosexual group. This discovery may be attributed to the traditional minority stress that bisexual individuals experience (Meyer, 1995, 2003), compounded with the additional

factors of double discrimination, invisibility, and erasure, which the LG population does not experience (Friedman et al., 2014, Salway et al., 2019; Yoshino, 2001).

Like bisexual participants, Q+ participants reported higher rates of anxiety when compared to heterosexual participants. In addition, Q+ participants also reported more STBs than heterosexual participants. There is a significant lack of previous research examining mental health factors such as these among the Q+ population (Cramer et al., 2018). This is problematic considering the fact that many young, sexual minority adults identify with fluid, less compartmentalized sexual orientations (Entrup & Firestein, 2007). Nonetheless, the present study builds on Cramer and colleagues' (2017) study in which Q+ individuals comprised a disproportionate number of participants at heightened risk of suicide. These findings can likely be attributed to isolating factors such as erasure and lack of social support that result from failing to align with a monosexual orientation (Joiner, 2007; Salway et al., 2019). Indeed, one may consider that Q+ individuals are adversely impacted by factors similar to those of double discrimination, invisibility, and erasure.

While the hypothesized association between coping self-efficacy and sexual orientation was in the expected direction, this was not statistically significant, and no differences in coping self-efficacy were discovered between LGBQ+ subgroups. Limited research has examined coping self-efficacy, specifically related to social support, within the LGBQ+ community. Cramer and colleagues (2016) found that coping self-efficacy mediates the relationship between personality factors (e.g., extraversion) and mental health outcomes and that those high in social support coping self-efficacy feel most capable of finding support. Moreover, Cramer et al. (2017) found that high social support coping self-efficacy was associated with a more positive sense of identity as well as decreased identity uncertainty. Unfortunately, the current non-significant

findings do not fully support these studies nor the previous literature that has highlighted the loss of social support as a common theme among sexual minority populations due to factors such as identity concealment and rejection (e.g., Katz-Wise et al., 2016; Landolt et al., 2004; Remafedi, 1987; Rosario & Schrimshaw, 2013; Rotheram-Borus et al., 1991). However, the potential sense of community entailed in NCSF membership could have been a key reason for the non-significant findings, since it may have negated the effects of these aforementioned factors.

When compared to heterosexual participants, Q+ individuals scored lower in thought-stopping coping self-efficacy. This builds on the previous findings of Cramer et al. (2017) that show how individuals who sexually identify as experimenting/fluid are more likely to exhibit feelings of uncertainty (e.g., related to their identity). This uncertainty may result in identity-related ruminations in these individuals, which are likely difficult to control.

Current results show a negative relationship between thought-stopping coping self-efficacy and STBs. Unsurprisingly, one's belief in their ability to halt negative thoughts (e.g., related to death/self-harm) is associated with a decrease in suicidality. Thought-stopping is a key technique used in cognitive restructuring, which is a core component of many treatments that previous literature has highlighted as effective in managing self-harm and suicidality (e.g., Cognitive Behavioral Therapy [CBT]; Bakker, 2009; Jurgela, 1993; Rudd et al., 2015; Tarrier et al., 2008; Wanstall & Oei, 1989). Indeed, these current findings parallel this research.

All three domains of coping self-efficacy were found to be negatively associated with depression. Specifically, increased belief in one's ability to problem-solve, stop negative thoughts, and garner social support was associated with decreased depression levels. This is consistent with literature that shows how these coping strategies are associated with outcomes such as heightened emotion regulation/management (Cramer et al., 2016), decreased depressive

symptoms, and increased positive affect (e.g., Billings et al., 2000; Crepaz et al., 2008; Peden et al., 2001; Peden et al., 2005; Tebbe & Moradi, 2016). Furthermore, thought-stopping coping self-efficacy also had a negative effect on feelings of general distress. This is consistent with previous research findings that evidence this same relationship as well as the assuaging effects of thought-stopping on posttraumatic stress (Ellis, 1998. as cited in Bakker, 2009; Marks et al., 1998). Additionally, problem-solving coping self-efficacy was found to have a negative relationship with anxiety. This builds on the literature that demonstrates the negative relationship between problem-solving skills and anxiety symptoms (Kant et al., 1997; Ranjbar et al., 2013) as well as the mitigating effects of problem-solving therapy/training on anxiety (Eizadifard, 2010; Provencher et al., 2004; Zhang et al., 2018). It also parallels results from Davey's (1994) study that highlighted a negative relationship between problem-solving *confidence* and anxiety. Indeed, these findings all extend previous research by highlighting the effects of one's *beliefs* in their coping abilities as opposed to the effects of the abilities themselves.

As previously stated, participants who identified as sexual minorities were found to exhibit more prevalent mental health symptoms (i.e., depression, anxiety, stress, STBs) than heterosexual participants. Despite these results, the effect of sexual orientation on mental health was eventually rendered insignificant. This can potentially be attributed to the smaller subsample sizes created as a result of dividing the sexual minority participants into subcategories, in combination with the presence of several additional predictors/covariates that likely took away from the variance in the model accounted for by sexual orientation. Although it has also been stated that coping is of increased importance to the LGBQ+ community due to the additional, minority-specific stressors faced by its members (Meyer, 1995, 2003, 2013), the lack of any significant interactions fails to support the proposed moderating effects of coping self-efficacy

on the hypothesized association between sexual orientation and mental health outcomes. Although it is possible that this moderation might not exist, no previous literature that has explored these specific relationships. Indeed, the lack of moderation could also possibly be attributed to the demographics of the current sample due to the fact that members of the NCSF are largely educated, higher-income individuals. Indeed, mental health symptoms/disorders have been found to be more prevalent among lower-income and less educated populations (Araya et al., 2003; Sareen et al., 2011). Taking this into account, coping self-efficacy may not have been of as much importance to the current sample's mental health as originally hypothesized due to the presence of other protective factors (i.e., high income/education).

Additional Findings

The present study also found a relationship between education level and STBs. Specifically, those with more education were found to exhibit lower rates of STBs than those with a bachelor's degree as well as those with a high school degree or equivalent. This is contrary to the study conducted by Pompili and colleagues (2013), which found that individuals with higher educational achievement were more prone to suicide risk. The findings of the current study can possibly be attributed to a heightened level of suicide awareness among more educated participants, of which the NCSF sample contains many.

STBs were also found to be associated with relationship status. Specifically, having one partner was associated with the lowest rate of STBs as opposed to being single or having multiple partners. Indeed, the present results parallel the findings of research that shows how non-married individuals are at greater risk of suicide (Kyung-Sook et al., 2018) and that those in more committed relationships demonstrate better overall mental health (Braithwaite & Holt-Lunstad, 2017; Braithwaite et al., 2010). This finding is particularly salient when it comes to the

NCSF sample. Specifically, the NCSF consists of a significant number of individuals who practice sexual activities such as bondage, domination, and sadism/masochism (i.e., BDSM). Although the practice of BDSM is relatively widespread, there is a significant amount of stigma surrounding it (Bezreh et al., 2006). Previous research has found evidence of isolation in individuals who did not disclose their BDSM interests to their spouses (Bezreh et al., 2006). Indeed, having one trustworthy partner with whom to disclose interest and engage in BDSM likely mitigates these feelings of isolation. In turn, this lack of isolation may promote a sense of security and serve as a barrier to the effects of discrimination.

Present results also demonstrate the influence of gender on both feelings of general distress as well as anxiety levels. Male participants reported lower average feelings of general distress and anxiety specifically when compared to female participants. Male participants also reported lower feelings of general distress when compared to TGNC participants. Previous research has examined the relationship between gender and stress/anxiety, and findings have indicated a heightened presence of stress, anxiety symptoms, and anxiety disorders among females (Armstrong & Khawaja, 2002; Bruce et al., 2005; Kessler et al., 1994; Lewinsohn et al., 1998). Current results are consistent with these findings. Research has also shown that TGNC individuals exhibit heightened stress symptoms due to gender minority-specific factors such as identity concealment (Rood et al., 2017) and expectations of rejection (Rood et al., 2016) (Valentine & Shipherd, 2018). Thus, the fact that the male group (but not the female group) demonstrated a significantly lower rate of general distress than the TGNC group partially supports these extant findings.

Importance of Findings

The results of the current study are of both general and clinical importance. First, the present findings further support the extant bodies of literature that highlight the disproportionate rates of negative mental health outcomes that exist among sexual minorities (e.g., Bowleg et al., 2004; Herek & Garnets, 2007; Medley et al., 2016; Meyer, 1995, 2003; Testa et al., 2015) when compared to the heterosexual population. Indeed, an increased sense of awareness and insight among clinical, research, and LGBQ+ communities regarding the existence and effects of distal (e.g., discrimination) and proximal (e.g., internalized homophobia) factors entailed in minority stress theory (Meyer, 1995, 2003, 2013) may contribute to an eventual reduction in mental health symptoms over time. Thus, it is the duty of clinicians and healthcare systems to provide this psychoeducation to clients, particularly those who identify with or have ties to the LGBQ+ community.

Furthermore, the current study partially supports the existence and influence of factors such as double discrimination, invisibility and erasure. It does so by highlighting significant disparities in anxiety and general distress between bisexual/Q+ participants and heterosexual participants, whereas no notable disparities in these variables were found between LG and heterosexual participants. Thus, it is imperative for clinicians to be cognizant of the negative mental health symptoms that are often perpetuated by these factors while treating patients who do not identify with monosexual orientations.

The significance of the NCSF sample is also important to note, given that it is a binding feature of the present study. Although the use of this population entails a lack of generalizability for many reasons already noted (e.g., high income, high education), it can also be seen as a strength being that it represents the intersectionality of sexual minority identification and BDSM

practices. This effectively classifies sexual minority members of the NCSF as a double-stigmatized group, which will be important to consider in future research.

The present findings related to coping self-efficacy also have therapeutic implications. Specifically, the belief in one's ability to stop negative thoughts was shown to have a negative influence on multiple mental health symptoms including STBs, depression, and general distress. Because thought-stopping and restructuring are instrumental techniques commonly taught within the context of effective cognitive therapies (Bakker, 2009), said therapies should be among the first considered when clinicians are deciding on which treatment to implement for clients facing any of these symptoms. When treating LGBQ+ clients, mental health professionals may find it beneficial to teach thought-stopping techniques specifically in relation to minority stressors (e.g., to mitigate thoughts related to a negative sense of identity), as coping plays an instrumental role in determining mental health outcomes as purported by minority stress theory (Meyer, 1995, 2003, 2013). The fact that problem-solving coping self-efficacy was found to have an inverse relationship with anxiety also supports the use of therapies that incorporate the building of problem-solving skills when it comes to the treatment of anxiety disorders. These problem-solving skills could be specifically tailored to minority-specific stressors when treating LGBQ+ clients (e.g., role-playing experiences of stigma).

Current findings related to Q+ participants are also of utmost importance given the dearth of research centered around this unique population. Participants who identified as Q+ comprised a large amount of the current study's sexual minorities, which is consistent with research stating that many young adults have sexualities that can best be described as fluid and ambisexual (Entrup & Firestein, 2007). Based on the results of this study and findings from Cramer et al. (2017), the heightened presence of mental health symptoms among the Q+ population is

important for mental health professionals to consider. Although future research must still be conducted around this population, it is important for mental health professionals to keep in mind the potential isolating effects of sexually identifying outside the confines of monosexuality and the more traditionally studied LGB community. Considering the minority stress model, the characteristics entailed in Q+ individuals' minority identities are of pertinent interest given that there is a high likelihood for the presence of factors such as identity uncertainty (Cramer et al., 2017) and other variables that may contribute to more negative mental health outcomes.

Limitations

One of the most notable limitations of the current study is the population from which the sample was obtained. Specifically, the NCSF is vocal in its dedication to protecting the sexual freedom and privacy rights of consenting adults, and the sexual identities of registered members are extremely diverse. Taking this into account, it is possible that individuals who opt to join such a progressive organization may have a greater sense of community belongingness and higher levels of self-confidence, regardless of sexual orientation. These potential factors could have had an influence on the extent of the current findings. Thus, future studies should aim to recruit samples that are more generalizable to more mainstream heterosexual and LGBQ+ populations. The aforementioned lack of lesbians within the current sample could have also affected results, especially those related to alcohol use. In addition to alcohol use, the current study survey only assessed marijuana use via a yes/no question. A more extensive marijuana use measure was initially included in the survey, but legal/ethical concerns expressed by the NCSF prevented the current study from including those results. Indeed, additional substance use measures should be used in future research. Moreover, whereas the CSE does provide valuable information regarding coping beliefs, measures of actual coping *behaviors* (e.g., positive vs.

negative) were not implemented and should be in future studies. Although the current study participants were all confirmed to be at or above the age of 18, specific participant ages were not reported on. Gathering this data would have given current study results a chance to highlight potential differences in coping and mental health outcomes between age groups.

Future Research

The findings and limitations of the current study imply the need for more extensive future research. Specifically, coping self-efficacy and mental health should continue to be studied, but within the context of larger and more generalizable populations (i.e., Heterosexual/LGBQ+ populations in which the practice of BDSM is not as common, such as college campuses, LGBT+ life centers, etc.). Gender differences in relation to mental health within the LGBQ+ community should also be studied in greater detail. Moreover, future studies should include more varied substance use measures and/or a measure assessing more general illicit substance use (e.g., Drug Abuse Screening Test [DAST]; Skinner, 1982). It would also be beneficial for future studies to examine the longitudinal effects of different coping strategies on LGBQ+ mental health. For instance, this may be done via randomized clinical trials [RCT] in which coping strategies such as thought-stopping are taught as part of cognitively-based interventions administered to LGBQ+ participants. Given the variation in identity factors (e.g., certainty/uncertainty, monosexuality) between sexual minority subgroups, future studies may also deem it unnecessary to compare sexual minority participants as a whole to heterosexual participants (i.e., LGBQ+ vs. Heterosexual would be a pointless comparison to make). Given their unique differences, each sexual minority subgroup should be analyzed individually in comparison to heterosexual participants.

Perhaps most importantly, future research should focus on within-group differences specifically among those who identify as Q+. The amount of sexual identities encapsulated by "Q+" is quite extensive, and many of these identities appear to be significantly different from one-another (e.g., queer vs. questioning). Cramer and colleagues (2018) found that participants who identified as queer reported high levels of identity affirmation and low identity concealment motivation, whereas participants who were classified as experimenting were less certain of and felt negatively about their identities. Considering these findings, someone who identifies as queer may exhibit more pride, confidence, and/or involvement with the LGBQ+ community when compared to someone who is more uncertain about their identity. Thus, future studies may attempt to devise a methodology or system according to which Q+ subgroups are categorized (e.g., based on degree of identity certainty/pride [high vs. low]). These studies should also analyze the differences that will likely emerge between these Q+ subgroups when it comes to factors including but not limited to coping self-efficacy, coping behaviors, and mental health outcomes.

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APPENDICES

A. NCSF Survey Flyer

B. Full Survey Questionnaire

C. Tables Containing Pooled Tests of Between-Subjects Effects

APPENDIX A

Take our New Survey!

Please take our new Health and Technology Survey, done in partnership with Dr. Rob Cramer's Old Dominion University research team. Help us to better understand the health issues we face as members of the kink, leather, fetish and non-monogamy communities, and find out how technology can be used to improve our health.

It takes 20-30 minutes to complete, and has Human Subjects Review Committee approval from Old Dominion University:

https://odu.co1.qualtrics.com/jfe/form/SV_7NwXXq9VFzcyoKh?RID=MLRP_6xsdlw2x33QEh6d&Q_CHL=email

This survey is a follow-up to our 2015 Mental Health Survey, done in partnership with Dr. Cramer's research team at University of Alabama and University of Central Florida. Over 800 kinky people took the 2015 survey and were found to be mentally and emotionally healthy as a group.

The results also documented the effects of stigma due to kink discrimination and persecution. These results have been published in: *Journal of Social and Clinical Psychology, Journal of Behavioral Health Services & Research, Journal of Trauma and Dissociation and International Journal of Social Psychiatry.* A poster on the results will be presented at the American Psychological Association annual conference in San Francisco, CA, this August with NCSF Board Members attending and exhibiting to help educate mental health professionals.

Help us further the understanding of our communities by taking this survey!

APPENDIX B

Full Questionnaire

About you:

Gender: (please check one)

_____ Male _____ Female _____ Male-to-Female _____ Female-to-Male
_____ Transitioning _____ Queer _____Other (specify):_____

Are you of Hispanic, Latino, or Spanish origin? (please check one)

_____ No, not of Hispanic, Latino, or Spanish origin
_____ Yes, Mexican, Mexican American, Chicano _____ Yes, Puerto Rican
_____ Yes, Cuban _____ Yes, another Hispanic, Latino, or Spanish origin: _____

Race: (please check all that apply)

_____ White _____ Black, African American, or Negro _____ Chinese
_____ Asian Indian _____ American Indian or Alaska Native _____ Japanese
_____ Korean _____ Vietnamese _____ Guamanian or Chamorro
_____ Samoan _____ Native Hawaiian _____ Filipino
_____ Other Pacific Islander _____ Other (please specify): _____

Sexual Orientation: (please check all that apply)

_____ Gay _____ Lesbian _____Queer _____ Straight
_____ Questioning _____ Experimenting _____Pansexual _____ Demisexual
_____ Heteroflexible _____ Bisexual _____ Other (specify): _____

LGBQ+ community involvement: (please circle one)

Not involved 1 2 3 4 5 Very involved

People are different in their sexual attraction to others. Which best describes your feelings? (check one)

____ I am only attracted to women. _____ I am mostly attracted to women.
_____ I am equally attracted to men and women. _____ I am mostly attracted to men.
_____ I am only attracted to men.

Religious Orientation: (please check one)

_____ Christian _____ Muslim _____ Catholic _____Jewish _____ Buddhist _____ Atheist
_____ Agnostic _____ Non-Religious _____ Other (specify):_____

Do you regularly attend any sort of religious services? (please circle one) YES NO

Highest Education Status: (please check one)

_____ Some high school _____ High school diploma/GED _____ Associates degree
_____ Bachelor's degree _____ Advanced degree (Masters or Doctorate)

Annual Household Income (per year): _____

Which of the following options best describes your current relationship status? (check one)

_____ Single (not dating) _____ Dating one partner _____ Polyamorous
_____ Dating several partners _____ In a monogamous relationship _____ In an open relationship
_____ Engaged to be married or married or civil union

If not single: Are you currently in a relationship with or dating (Check one):

_____ A woman _____ A man _____ Both a woman and a man

What is your profession? _____

Height (in inches): _____ Weight (in pounds): _____

Do you currently have any of the following medical conditions: (please check all that apply):
_____Cancer _____HIV _____Hypertension _____Hyperlipidemia
_____AIDS _____Hep C _____Diabetes _____Other (specify): _____

Have you ever known someone who *attempted suicide* (please check all that apply)?
_____ No _____ Yes, an acquaintance _____ Yes, a friend _____ Yes, a family member
_____ Yes, other (please specify): _____

Have you ever known someone who *died by suicide* (please check all that apply)?
_____ No _____ Yes, an acquaintance _____ Yes, a friend _____ Yes, a family member
_____ Yes, other (please specify): _____

Are you CURRENTLY receiving any of the following types of mental health treatment?
a. Psychotherapy or counseling? _____ Yes _____ No
b. Pharmacotherapy or medications? _____ Yes _____ No
c. Other mental health treatment (e.g., chemical dependency)? _____ Yes _____ No

In the PAST have you received any of the following types of mental health treatment?
a. Psychotherapy or counseling? _____ Yes _____ No
b. Pharmacotherapy or medications? _____ Yes _____ No
c. Other mental health treatment (e.g., chemical dependency)? _____ Yes _____ No

Do you currently use marijuana/THC? _____ Yes _____ No
If yes, do you use it for medical purposes? _____ Yes _____ No

Attention Check Items

The following items will be distributed in the survey to help check for participant attention to detail while completing the survey.

Please choose "24" below:
☐54 ☐28 ☐15 ☐24 ☐42

Please check choice "b" below
☐a ☐b ☐c ☐d ☐e

What is the sum of 2+2?
☐22 ☐202 ☐40 ☐4

AUDIT

Instructions: Using the scale provided, please indicate how often you do the following:

Questions	0	1	2	3	4
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
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
How often do you have six or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
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
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
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
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
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
Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year
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

CSE	
Instructions: Using the scale provided, please indicate **the degree to which you believe you can do** the following:	
0--------1--------2--------3--------4--------5--------6---------7--------8--------9--------10 I cannot do this at all — Moderately certain that I can do this — I'm certain that I can do this	
_____ 1.	Break an upsetting problem down into smaller parts.
_____ 2.	Sort out what can be changed, and what cannot be changed.
_____ 3.	Make a plan of action and follow it when confronted with a problem.
_____ 4.	Leave options open when things get stressful.
_____ 5.	Think about one part of a problem at a time.
_____ 6.	Find solutions to your most difficult problems.
_____ 7.	Make unpleasant thoughts go away.
_____ 8.	Take your mind off unpleasant thoughts.
_____ 9.	Stop yourself from being upset by unpleasant thoughts.
_____ 10.	Keep from feeling sad.
_____ 11.	Get friends to help you with things you need.
_____ 12.	Get emotional support from friends and family.
_____ 13.	Make new friends.

LGBIS

Instructions: Some of you may prefer to use labels other than 'lesbian, gay, bisexual, queer and other' (LGBQ+) sexual orientation identities (e.g., 'pansexual' 'questioning'). We use the term LGBQ+ in this survey to represent as full a range of sexual orientation identities as we can, and we ask for your understanding if the term does not completely capture your identity. For each of the following questions, please mark the response that best indicates your current experience as an LGBQ+ person. Please be as honest as possible: Indicate how you really feel now, not how you think you should feel. Use the scale:

1 = Disagree strongly **2 = Disagree** **3 = Disagree somewhat**
4 = Agree somewhat **5 = Agree** **6 = Agree strongly**

1. I prefer to keep my same-sex romantic relationships rather private.	1	2	3	4	5	6
2. If it were possible, I would choose to be straight.	1	2	3	4	5	6
3. I keep careful control over who knows about my same-sex relationships.	1	2	3	4	5	6
4. My sexual orientation is a very personal and private manner.	1	2	3	4	5	6
5. I wish I were heterosexual.	1	2	3	4	5	6
6. I believe it is unfair that I am attracted to people of the same-sex.	1	2	3	4	5	6

HHRDS

Use the following scale to indicate how often you experienced these events during the PAST YEAR **because you are lesbian/gay/bisexual/queer/pansexual/other (LGBQ+)?**

1	2	3	4	5	6
Never happened	Happened ONCE IN A WHILE (less than 10% of the time)	Happened SOMETIMES (10-25% of the time)	Happened A LOT (26% - 49% of the time)	Happened MOST OF THE TIME (50-70% of the time)	Happened ALMOST ALL OF THE TIME (more than 70% of the time)

1.	Treated unfairly by teachers or professors?	1	2	3	4	5	6
2.	Treated unfairly by your employer, boss or supervisors?	1	2	3	4	5	6
3.	Rejected by friends	1	2	3	4	5	6
4.	Treated unfairly by your co-workers, fellow students or colleagues	1	2	3	4	5	6
5.	Treated unfairly by people in service jobs (by store clerks, waiters, bartenders, waitresses, bank tellers, mechanic and others	1	2	3	4	5	6
6.	Treated unfairly by strangers	1	2	3	4	5	6
7.	Treated unfairly by people in helping jobs (by doctors, nurses, psychiatrists, caseworkers, dentists, school counselors, therapists, pediatricians, school principals, gynecologists, and others	1	2	3	4	5	6
8.	Denied a raise, a promotion, tenure, a good assignment, a job, or other such thing at work that you deserved	1	2	3	4	5	6
9.	Called a heterosexist name like dyke, lezzie, faggot, sissy, or other	1	2	3	4	5	6
10.	Treated unfairly by your family	1	2	3	4	5	6
11.	Made fun of, picked on, pushed, shoved, hit, or threatened with harm	1	2	3	4	5	6
12.	Rejected by family members	1	2	3	4	5	6
13.	Heard anti LGBQ+ remarks from family member	1	2	3	4	5	6
14.	Verbally insulted because you are a LGBQ+ person?	1	2	3	4	5	6

LGBQ+ CS

These are questions about the LGBQ+ community. By LGBQ+ community, we don't mean any particular neighborhood or social group, but in general, groups of gay men, bisexual men and women, lesbians, queer and other sexual orientation minority individuals.

Please answer the following items on a scale of 1 (Agree strongly) to 4 (Disagree strongly).

		Agree strongly			Disagree strongly
1.	You feel you're a part of the LGBQ+ community	1	2	3	4
2.	Participating in the LGBQ+ community is a positive thing for you.	1	2	3	4
3.	You feel a bond with the LGBQ+ community.	1	2	3	4
4.	You are proud of the LGBQ+ community.	1	2	3	4
5.	It is important for you to be politically active in the LGBQ+ community.	1	2	3	4
6.	If we work together, gay, bisexual, and lesbian people can solve problems in the LGBQ+ community.	1	2	3	4
7.	You really feel that any problems faced by the LGBQ+ community are also your own problems.	1	2	3	4
8.	You feel a bond with other LGBQ+ persons.	1	2	3	4

CS-E

Instructions: Please provide your agreement with the following statements using the scale provided.

		Strongly Agree						Strongly Disagree
1.	I'm glad I belong to the LGBQ+ community.	1	2	3	4	5	6	7
2.	I regret belonging to the LGBQ+ community.	1	2	3	4	5	6	7
3.	My membership in the LGBQ+ community is an important reflection of who I am.	1	2	3	4	5	6	7
4.	I feel good about belonging to the LGBQ+ community.	1	2	3	4	5	6	7
5.	I make a positive contribution to the LGBQ+ community.	1	2	3	4	5	6	7
6.	Belonging to the LGBQ+ community is an important part of my self-image.	1	2	3	4	5	6	7
7.	I feel I don't have much to offer to the LGBQ+ community.	1	2	3	4	5	6	7
8.	I feel that belonging to the LGBQ+ community is not a good thing for me)	1	2	3	4	5	6	7
9.	My membership in the LGBQ+ community has very little to do with how I feel about myself.	1	2	3	4	5	6	7

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

NAQ-S

Instructions: For each item below, please circle the scale number that best reflects how closely the item is true or false for you.

(-3) ---------- (-2) ---------- (-1) ---------- (0) ---------- (1) ---------- (2) ---------- (3)

Strongly Disagree | Moderately Disagree | Slightly Disagree | Neither | Slightly Agree | Moderately Agree | Strongly Agree

1. If I reflect on my past, I see that I tend to be afraid of feeling emotions.	-3	-2	-1	0	1	2	3
2. I feel that I need to experience strong emotions regularly.	-3	-2	-1	0	1	2	3
3. Emotions help people to get along in life.	-3	-2	-1	0	1	2	3
4. I find strong emotions overwhelming and therefore try to avoid them.	-3	-2	-1	0	1	2	3
5. I think that it is important to explore my feelings.	-3	-2	-1	0	1	2	3
6. I would prefer not to experience either the lows or highs of emotion.	-3	-2	-1	0	1	2	3
7. I do not know how to handle my emotions, so I avoid them.	-3	-2	-1	0	1	2	3
8. It is important for me to be in touch with my feelings.	-3	-2	-1	0	1	2	3
9. It is important for me to know how others are feeling.	-3	-2	-1	0	1	2	3
10. Emotions are dangerous—they tend to get me into situations that I would rather avoid.	-3	-2	-1	0	1	2	3

BRS

Instructions: Please answer the following on a scale of 1 (strongly disagree) to 5 (strongly agree).

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I tend to bounce back quickly after hard times.	1	2	3	4	5
2. I have a hard time making it through stressful events.	1	2	3	4	5
3. It does not take me long to recover from a stressful event.	1	2	3	4	5
4. It is hard for me to snap back when something bad happens	1	2	3	4	5
5. I usually come through difficult times with little trouble.	1	2	3	4	5
6. I tend to take a long time to get over set-backs in my life.	1	2	3	4	5

Need for Cognition Scale-Short Form (Petty & Caccioppo, 1982)

Instructions: *For each of the statements below, please indicate to what extent the statement is characteristic of you. Please use the following scale:*

1	2	3	4	5
Extremely Uncharacteristic of Me *(Not at all like me)*	Somewhat Uncharacteristic of Me	Uncertain	Somewhat Characteristic of Me	Extremely Characteristic of Me *(Very much like me)*

_____1. I really enjoy a task that involves coming up with new solutions to problems.
_____2. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.
_____3. Learning new ways to think doesn't excite me very much.
_____4. I usually end up deliberating about issues even when they do not affect me personally.
_____5. The idea of relying on thought to get my way to the top does not appeal to me.
_____6. The notion of thinking abstractly is not appealing to me.
_____7. I only think as hard as I have to.
_____8. I like tasks that require little thought once I've learned them.
_____9. I prefer to think about small daily projects to long-term ones.
_____10. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.
_____11. I find little satisfaction in deliberating hard and for long hours.
_____12. I don't like to have the responsibility of handling a situation that requires a lot of thinking.
_____13. I feel relief rather than satisfaction after completing a task that required a lot of mental effort.
_____14. Thinking is not my idea of fun.

_____15. I try to anticipate and avoid situations where there is a likely chance I'll have to think in depth about something.
_____16. I prefer life to be filled with puzzles that I must solve.
_____17. I would prefer complex to simple problems.
_____18. It's enough for me that something gets the job done; I don't care how or why it works.

The Cannabis Use Disorder Identification Test - Revised (CUDIT-R)

Have you used any cannabis over the past six months? **YES / NO**

If YES, please answer the following questions about your cannabis use. Circle the response that is most correct for you in relation to your cannabis use *over the past six months*

1. How often do you use cannabis?

Never	Monthly or less	2-4 times a month	2-3 times a week	4 or more times a week
0	1	2	3	4

2. How many hours were you "stoned" on a typical day when you had been using cannabis?

Less than 1	1 or 2	3 or 4	5 or 6	7 or more
0	1	2	3	4

3. How often during the past 6 months did you find that you were not able to stop using cannabis once you had started?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily
0	1	2	3	4

4. How often during the past 6 months did you fail to do what was normally expected from you because of using cannabis?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily
0	1	2	3	4

5. How often in the past 6 months have you devoted a great deal of your time to getting, using, or recovering from cannabis?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily
0	1	2	3	4

6. How often in the past 6 months have you had a problem with your memory or concentration after using cannabis?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily
0	1	2	3	4

7. How often do you use cannabis in situations that could be physically hazardous, such as driving, operating machinery, or caring for children:

Never	Less than monthly	Monthly	Weekly	Daily or almost daily
0	1	2	3	4

8. Have you ever thought about cutting down, or stopping, your use of cannabis?

Never	Yes, but not in the past 6 months	Yes, during the past 6 months
0	2	4

The Eating Pathology Symptoms Inventory (EPSI)

Below is a list of experiences and problems that people sometimes have. Read each item to determine how well it describes your recent experiences. Then select the option that best describes **how frequently** each statement applied to you **during the past four weeks, including today**.

0	1	2	3	4
Never	**Rarely**	**Sometimes**	**Often**	**Very Often**

1. I did not like how clothes fit the shape of my body 1._____
2. I tried to exclude "unhealthy" foods from my diet 2._____
3. I ate when I was not hungry 3._____
4. People told me that I do not eat very much 4._____
5. I felt that I needed to exercise nearly every day 5._____
6. People would be surprised if they knew how little I ate 6._____
7. I used muscle building supplements 7._____
8. I pushed myself extremely hard when I exercised 8._____
9. I snacked throughout the evening without realizing it 9._____
10. I got full more easily than most people 10._____
11. I considered taking diuretics to lose weight 11._____
12. I tried on different outfits, because I did not like how I looked 12._____
13. I thought laxatives are a good way to lose weight 13._____
14. I thought that obese people lack self-control 14._____
15. I thought about taking steroids as a way to get more muscular 15._____
16. I used diet teas or cleansing teas to lose weight 16._____
17. I used diet pills 17._____
18. I did not like how my body looked 18._____
19. I ate until I was uncomfortably full 19._____
20. I felt that overweight people are lazy 20._____
21. I counted the calories of foods I ate 21._____
22. I planned my days around exercising 22._____
23. I thought my butt was too big 23._____
24. I did not like the size of my thighs 24._____
25. I wished the shape of my body was different 25._____
26. I was disgusted by the sight of an overweight person wearing tight clothes 26._____
27. I made myself vomit in order to lose weight 27._____
28. I did not notice how much I ate until after I had finished eating 28._____
29. I considered taking a muscle building supplement 29._____
30. I felt that overweight people are unattractive 30._____
31. I engaged in strenuous exercise at least five days per week 31._____
32. I thought my muscles were too small 32._____
33. I got full after eating what most people would consider a small amount of food 33._____
34. I was not satisfied with the size of my hips 34._____
35. I used protein supplements 35._____
36. People encouraged me to eat more 36._____
37. If someone offered me food, I felt that I could not resist eating it 37._____
38. I was disgusted by the sight of obese people 38._____
39. I stuffed myself with food to the point of feeling sick 39._____
40. I tried to avoid foods with high calorie content 40._____

41. I exercised to the point of exhaustion 41._____
42. I used diuretics in order to lose weight 42._____
43. I skipped two meals in a row 43._____
44. I ate as if I was on auto-pilot 44._____
45. I ate a very large amount of food in a short period of time (e.g., within 2 hours) 45._____

Modified Eating Disorder Examination Questionnaire (EDEQ)

1. Over the past four weeks (28 days), have there been any times when you have felt that you have eaten what other people would regard as an unusually large amount of food given the circumstances? No Yes

If you answered yes:
1a. How many such episodes have you had over the past four weeks?_____

1b. During how many of these episodes of overeating did you have a sense of having lost control over your eating? _____

2. Have you had other episodes of eating in which you have had a sense of having lost control and eaten too much, but have not eaten an unusually large amount of food given the circumstances? No Yes

If you answered yes:
2a. How many such episodes have you had over the past four weeks? _____

3. Over the past four weeks, have you made yourself sick (vomit) as a means of controlling your shape or weight? No Yes

If you answered yes:
3a. How many have you done this over the past four weeks? _____

4. Over the past four weeks, have you taken laxatives as a means of controlling your shape or weight? No Yes

If you answered yes:
4a. How many have you done this over the past four weeks? _____

5. Over the past four weeks, have you taken diuretics (water tablets) as a means of controlling your shape or weight? No Yes

If you answered yes:
5a. How many have you done this over the past four weeks? _____

6. Over the past four weeks, have you exercised hard as a means of controlling your shape or weight? No Yes

If you answered yes:
6a. How many have you done this over the past four weeks? _____

SF-12

This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities. **Answer each question by choosing just one answer**. If you are unsure how to answer a question, please give the best answer you can.

1. **In general, would you say your health is**:

☐1 Excellent ☐2 Very good ☐3 Good ☐4 Fair ☐5 Poor

The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

	YES, limited a lot	YES, limited a little	NO, not Limited at all
2. **Moderate activities** such as moving a table, pushing a vacuum cleaner, bowling, or playing golf.	☐1	☐2	☐3
3. Climbing **several** flights of stairs.	☐1	☐2	☐3

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

	YES	NO
4. **Accomplished less** than you would like.	☐1	☐2
5. Were limited in the **kind** of work or other activities.	☐1	☐2

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

	YES	NO
6. **Accomplished less** than you would like.	☐1	☐2
7. Did work or activities **less carefully than usual**.	☐1	☐2

8. **During the past 4 weeks, how much did pain interfere with your normal work (including work outside the home and housework)?**

☐1 Not at all ☐2 A little bit ☐3 Moderately ☐4 Quite a bit ☐5 Extremely

These questions are about how you have been feeling during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks…

	All of the time	Most of the time	A good bit of the time	Some of the time	A little of the Time	Non of th time
9. Have you felt calm & peaceful?	☐1	☐2	☐3	☐4	☐5	☐6
10. Did you have a lot of energy?	☐1	☐2	☐3	☐4	☐5	☐6
11. Have you felt down-hearted and blue?	☐1	☐2	☐3	☐4	☐5	☐6

12. **During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)?**

☐1 All of the time ☐2 Most of the time ☐3 Some of the time ☐4 A little of the time ☐5 None of the time

DASS-21

Instructions: Please read each statement and circle a number, 0, 1, 2 or 3, which indicates how much the statement applied to you over the **past week**. There are no right or wrong answers. Do not spend too much time on any statement. Use this rating scale:

0 = Did not apply to me at all
1 = Applied to me to some degree, or some of the time
2 = Applied to me to a considerable degree, or a good part of time
3 = Applied to me very much, or most of the time

1.	I found it hard to wind down.	0	1	2	3
2.	I was aware of dryness of my mouth.	0	1	2	3
3.	I couldn't seem to experience any positive feeling at all.	0	1	2	3
4.	I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion).	0	1	2	3
5.	I found it difficult to work up the initiative to do things.	0	1	2	3
6.	I tended to over-react to situations.	0	1	2	3
7.	I experienced trembling (e.g., in the hands).	0	1	2	3
8.	I felt that I was using a lot of nervous energy.	0	1	2	3
9.	I was worried about situations in which I might panic and make a fool of myself.	0	1	2	3
10.	I felt that I had nothing to look forward to.	0	1	2	3
11.	I found myself getting agitated.	0	1	2	3
12.	I found it difficult to relax.	0	1	2	3
13.	I felt down-hearted and blue.	0	1	2	3
14.	I was intolerant of anything that kept me from getting on with what I was doing.	0	1	2	3
15.	I felt I was close to panic.	0	1	2	3
16.	I was unable to become enthusiastic about anything.	0	1	2	3
17.	I felt I wasn't worth much as a person.	0	1	2	3
18.	I felt that I was rather touchy.	0	1	2	3
19.	I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat).	0	1	2	3
20.	I felt scared without any good reason.	0	1	2	3
21.	I felt that life was meaningless.	0	1	2	3

Your Views on Technology Use

Instructions: Please provide your opinion or personal use using the following responses:

1. How often do you use a cell phone?
- More than once a day
- About once a day
- A few times as week
- A few times a month
- I never/rarely use a cell phone

↳ 2. IF anything EXCEPT "I never/rarely use a cell phone" THEN: Is that cell phone a smart phone (for example, does it access the web or have apps)?
- Yes, it is a smart phone
- No, it is not a smart phone
- I use both

↳ 3. If "I use both" or "Yes, it is a smart phone" THEN: What type of smart phone? (select all that apply)
- Apple
- Android
- Windows
- Blackberry
- Other

↳ 4. IF anything EXCEPT "I never/rarely use a cell phone" THEN: Do you have a long-term monthly contract or is it pay-as-you-go (sometimes called prepaid or tracfone)?
- I have a long-term contract
- I use pay-as-you-go

↳ 5a. IF "I use pay-as-you-go" THEN: Does your phone number usually change at least once per year?
- Yes
- No

↳ 5b. IF "I have a long-term contract" THEN: Which of the following is included as unlimited or nearly unlimited within your plan?
- Voice
- Text
- Data

How often do you do the following activities using a mobile device, such as a cell phone, smartphone, or tablet?

6. Send or receive text messages using a mobile device?
- More than once a day
- About once a day

- A few times a week
- A few times a month
- A few times a year
- I never or rarely use

7. Access email using a mobile device?
   - More than once a day
   - About once a day
   - A few times a week
   - A few times a month
   - A few times a year
   - I never or rarely email on a mobile device

8. Go on the internet or to a website using a mobile device?
   - More than once a day
   - About once a day
   - A few times a week
   - A few times a month
   - A few times a year
   - I never or rarely use the internet on a mobile device

9. Use apps (for example maps, calendars, Facebook, or games) on a mobile device:
   - More than once a day
   - About once a day
   - A few times a week
   - A few times a month
   - A few times a year
   - I never or rarely use apps on a mobile device

10. If any of the above options, other than "never or rarely" are selected:
Which type or types of apps do you use? (select all the apply)
   - Productivity apps, for example calendar, alarms, or list-making apps
   - Social media apps, for example Facebook, Instagram, or Twitter
   - Health and lifestyle apps, for example apps to track diet or weight, physical activity, or sleep
   - Entertainment apps, for example apps to play games, listen to music, or watch sports
   - Travel or Weather apps, for example apps to access maps, check traffic, plan trips, or check the weather
   - News apps, for example apps to read about local or national news
   - Food and dining apps, for example apps to find restaurants or recipes
   - Finance apps, for example banking apps to manage your finances

Instructions: The following questions ask about your physical and mental health (Health satisfaction)

	Strongly Disagree			Neutral			Strongly Agree
I would like to improve my physical health	1	2	3	4	5	6	7
I would like to improve my mental health	1	2	3	4	5	6	7
I am satisfied with my current overall health	1	2	3	4	5	6	7

Instructions: The following questions ask about are about your willingness to use a mobile phone or similar device – for example, a tablet or ipad – to track or change aspects of your physical and mental health (Technology use).

	Strongly Disagree			Neutral			Strongly Agree
1. I am willing to use mobile technology for tracking my health.	1	2	3	4	5	6	7
2. I am willing to use mobile technology to help me try to improve my health.	1	2	3	4	5	6	7
3. I think using mobile technology for healthier physical health behaviors (e.g., apps for eating habits, physical activity, drinking, etc.) can improve my physical well-being.	1	2	3	4	5	6	7
4. I think using mobile technology for mental health improvement (e.g., apps for tracking mood, relaxation, etc.) can improve my emotional well-being.	1	2	3	4	5	6	7
5. I think I would be successful in using mobile technology to improve my health	1	2	3	4	5	6	7
6. I think I would enjoy using mobile technology to improve my health	1	2	3	4	5	6	7
7. Mobile technology is easy to use for me	1	2	3	4	5	6	7
8. Mobile technology is affordable for me	1	2	3	4	5	6	7

APPENDIX C

Table 1

Pooled test of between-subjects effects for AUDIT total scores

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	Partial η^2
Intercept	1494.487	1	1494.487	180.193	.000	.352
Sexual Orientation	34.144	3	11.381	1.372	.251	.012
ProbCSE	.252	1	.252	.030	.862	.000
ThoughtCSE	30.830	1	30.830	3.720	.056	.011
SupportCSE	3.780	1	3.780	.456	.500	.001
Sexual Orientation x ProbCSE	6.439	3	2.146	.259	.855	.002
Sexual Orientation x ThoughtCSE	42.919	3	14.306	1.727	.165	.015
Sexual Orientation x SupportCSE	24.620	3	8.207	.992	.397	.009

Note. *AUDIT* = Alcohol Use Dsorders Identification Test; *df* = degrees of freedom; ProbCSE = Coping Self-Efficacy problem-solving subscale score; ThoughtCSE = Coping Self-Efficacy thought-stopping subscale score; SupportCSE = Coping Self-Efficacy social support subscale score; x = interaction.

Table 2

Pooled test of between-subjects effects for SBQ-R total scores

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	Partial η^2
Intercept	6812.335	1	6812.335	796.368	.000	.709
Sexual Orientation	13.126	3	4.375	.511	.675	.005
ProbCSE	9.305	1	9.305	1.088	.298	.003
ThoughtCSE	149.887	1	149.887	17.522	.000	.051
SupportCSE	11.771	1	11.771	1.376	.242	.004
Sexual Orientation x ProbCSE	58.900	3	19.633	2.295	.078	.021
Sexual Orientation x ThoughtCSE	30.644	3	10.215	1.194	.312	.011
Sexual Orientation x SupportCSE	21.044	3	7.015	.820	.484	.007
Education	83.643	3	27.881	3.259	.022	.029
Relationship Status	139.676	2	69.838	8.164	.000	.048

Note. *SBQ-R* = Suicide Behaviors Questionnaire – Revised; ProbCSE = Coping Self-Efficacy problem-solving subscale score; ThoughtCSE = Coping Self-Efficacy thought-stopping subscale score; SupportCSE = Coping Self-Efficacy social support subscale score; x = interaction.

Table 3

Pooled test of between-subjects effects for DASS-21 depression subscale scores

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	Partial η^2
Intercept	4660.348	1	4660.348	308.871	.000	.482
Sexual Orientation	11.277	3	3.759	.249	.862	.002
ProbCSE	107.295	1	107.295	7.111	.008	.021
ThoughtCSE	369.523	1	369.523	24.490	.000	.069
SupportCSE	222.783	1	222.783	14.765	.000	.043
Sexual Orientation x ProbCSE	24.457	3	8.152	.540	.655	.005
Sexual Orientation x ThoughtCSE	81.200	3	27.067	1.794	.149	.016
Sexual Orientation x SupportCSE	84.278	3	28.093	1.862	.136	.016

Note. *DASS-21* = Depression Anxiety Stress Scales-21; ProbCSE = Coping Self-Efficacy problem-solving subscale score; ThoughtCSE = Coping Self-Efficacy thought-stopping subscale score; SupportCSE = Coping Self-Efficacy social support subscale score; x = interaction.

Table 4

Pooled test of between-subjects effects for DASS-21 anxiety subscale scores

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	Partial η^2
Intercept	2156.069	1	2156.069	155.074	.000	.320
Sexual Orientation	43.968	3	16.323	1.054	.369	.010
ProbCSE	53.937	1	53.937	3.879	.050	.012
ThoughtCSE	37.480	1	37.480	2.696	.102	.008
SupportCSE	48.119	1	48.119	3.461	.064	.010
Sexual Orientation x ProbCSE	54.033	3	18.011	1.295	.276	.012
Sexual Orientation x ThoughtCSE	98.738	3	32.913	2.367	.071	.021
Sexual Orientation x SupportCSE	39.288	3	13.096	.942	.420	.008
Gender	133.670	2	66.835	4.807	.009	.028

Note. *DASS-21* = Depression Anxiety Stress Scales-21; ProbCSE = Coping Self-Efficacy problem-solving subscale score; ThoughtCSE = Coping Self-Efficacy thought-stopping subscale score; SupportCSE = Coping Self-Efficacy social support subscale score; x = interaction.

Table 5

Pooled test of between-subjects effects for DASS-21 general distress subscale scores

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	Partial η^2
Intercept	6473.124	1	6473.124	418.820	.000	.560
Sexual Orientation	32.319	3	10.773	.697	.554	.006
ProbCSE	30.364	1	30.364	1.965	.162	.006
ThoughtCSE	332.724	1	332.724	21.528	.000	.061
SupportCSE	23.221	1	23.221	1.502	.221	.005
Sexual Orientation x ProbCSE	34.087	3	11.362	.735	.532	.007
Sexual Orientation x ThoughtCSE	55.712	3	18.571	1.201	.309	.011
Sexual Orientation x SupportCSE	59.239	3	19.746	1.277	.282	.011
Gender	220.521	2	110.260	7.134	.001	.041

Note. *DASS-21* = Depression Anxiety Stress Scales-21; ProbCSE = Coping Self-Efficacy problem-solving subscale score; ThoughtCSE = Coping Self-Efficacy thought-stopping subscale score; SupportCSE = Coping Self-Efficacy social support subscale score; x = interaction.

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Background

James M. Macchia is a third-year doctoral student in the Virginia Consortium Program in Clinical Psychology. He is pursuing his Master's degree in Experimental Psychology as well as his Ph.D. in Clinical Psychology. James's research interests include a myriad of topics related to overall LGBTQ+ health such as psychopathology, substance use, suicidality, and coping.

Selected Publications

Wilsey, C.N., Cramer, R.J., **Macchia, J.M.**, & Golom, F. D. (2020). Describing the nature and correlates of health service providers' competency working with sexual and gender minority (SGM) patients: A systematic review. *Health Promotion Practice.*

Cramer, R.J., Wilsey, C., Hinkle, I., Kukla, A., & **Macchia, J.** (2019). Implementation and evaluation of a psycho-educational training on sexual and gender minority needs for military sexual assault victim advocates. *Military Behavioral Health, 7*(1), 14-21.

Selected Presentations

Wilsey, C.N., Cramer, R.J., **Macchia, J.M.**, Poston, R., & Golom, F.D. (June 2019). Describing the Nature and Correlates of Health Service Providers' Competency Working with Sexual and Gender Identity Minorities: A Systematic Review. Poster session presented at the American Association of Sexuality Educators, Counselors, and Therapists annual conference, Philadelphia, PA.