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Self Stigma Of Seeking Psychological Help As A Predictor Of College Students' Alcohol Use And Consequences During Covid-19

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SELF STIGMA OF SEEKING PSYCHOLOGICAL HELP AS A PREDICTOR OF COLLEGE
STUDENTS' ALCOHOL USE AND CONSEQUENCES DURING COVID-19

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Aitiana Ivonne Sanchez

2022

Dedication

Dedicated to my daughter, Ariella Garciaguirre, and my husband Walter Garciaguirre, for supporting me through the early mornings, late nights, and giving me so many reasons to keep going. I would also like to dedicate this work to my parents, Frank and Carmen Sanchez. Thank you for supporting me and encouraging me through every adventure I began.

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by

AITIANA IVONNE SANCHEZ, B.S.

THESIS

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Abstract

COVID-19 has caused continuous depression, anxiety, and stress, in addition to the already increased symptoms of mental illness typically seen among college students. While diagnosed mental illness is common among college aged individuals, college students frequently experience undiagnosed symptoms of mental illness as well. Additionally, college students typically do not disclose any information regarding experiencing symptoms of mental illness and thus do not receive proper treatment for these undiagnosed disorders. There are numerous reasons students choose not to disclose having a mental illness; however, stigma surrounding mental illness and seeking psychological help stands as the most prominent reason. Untreated mental illness typically leads to unhealthy coping mechanisms, such as alcohol use. Alcohol use is also common among college aged individuals, including binge and heavy drinking. Any amount of alcohol consumption could result in experiencing alcohol-related consequences, which includes increased symptoms of mental illness, leading to unhealthy perpetual coping mechanisms. This study explored the relationships between symptoms of mental illness, self-stigma of seeking psychological help, alcohol use, and alcohol-related consequences. Additionally, this study investigated self-stigma of seeking psychological help as a mediator of the relationship between symptoms of mental illness and alcohol use. Participants ($n=206$; 74.8% female) completed a series of questionnaires that assessed their symptoms of mental illness, stigma towards seeking psychological help, alcohol use, and alcohol consequences. Data was collected retrospectively in which participants given these measures to answer specific to two different time points: pre-COVID (i.e., Time 1) and during COVID-19 (i.e., spring 2021; Time 2). Descriptive analyses suggested that prior to COVID-19, most participants experienced normal to mild range of symptoms of depression (64.6%), anxiety (57.3%), and stress (71.8%).

Additionally, half of the participants (49.5%) reported no alcohol use pre-COVID-19 and most participants (85.9%) reported low severity of alcohol-related consequences. A series of linear regressions were used to investigate the relationships between the predictor variables (i.e., DASS scores, self-stigma of seeking psychological help, and alcohol use) and outcome variables (i.e., alcohol use and alcohol-related consequences) while controlling for COVID stress. Results from the linear regression analyses suggested that all four models of depression, anxiety, stress, and self-stigma of seeking psychological help significantly predicted alcohol use. Similarly, all four models significantly predicted alcohol-related consequences. No mediation model was significant, suggesting that self-stigma of seeking psychological help does not mediate the relationship between symptoms of mental illness and alcohol use or alcohol-related consequences. Alternatively, the moderated mediation that investigated the indirect effects of depression on alcohol consequences via alcohol use at three levels of self-stigma of seeking psychological help was statistically significant. This suggests that self-stigma of seeking help does serve as a moderator for alcohol use and alcohol-related consequences. These findings emphasize the importance of examining the influence of stigma associated with mental illness and help-seeking on the relationship with coping strategies, such as alcohol use, and related consequences. Future directions include establishing interventions that target Hispanic college students to seek psychological help instead of utilizing alcohol use as a maladaptive coping mechanism.

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Chapter 1: Introduction

COVID-19

The ongoing COVID-19 pandemic began over two years ago with the first cases in Wuhan, China, causing distress and concern throughout the world. Although there is added information daily on COVID-19, researchers have a sense of how it has affected the mental health of the population. Specifically, the population has continuously been dealing with risk of infection, overwork, frustration, isolation, and lack of contact with social support. All these factors lead to increased symptoms of depression, anxiety, and stress (Gao et al., 2020; Torales et al., 2020). The pandemic is not specific to one population; that is, every person has been affected, including college students. Increased symptoms of mental illness can impede academic success and affect students' motivation and concentration (Son et al., 2020). A study conducted by Son et al. (2020) aimed to identify stressors associated with COVID-19 related to the mental health of college students. Son et al. (2020) found that most students indicated they have increased levels of worry, anxiety, depressive thoughts, and even suicidal thoughts associated with the COVID-19 pandemic. To fully understand the extent to which COVID-19 has worsened symptoms of mental illness for college students, it is important to understand the mental health of college students before the pandemic.

Mental Illness

College students are a population quite familiar with mental illness. This is especially true given that most mental illnesses have their peak onset during young adulthood (Hunt & Eisenberg, 2010; Pedrelli et al., 2015). More specifically, 75% of individuals who will have a mental illness have had their first onset by the age of 25 (Kessler et al., 2007). Regarding mood

and anxiety disorders, about 11.9% of college students meet criteria for an anxiety disorder defined by the DSM-5 (American Psychiatric Association, 2013), making anxiety disorders the most common psychiatric problem among college students (Auerbach et al., 2016; Blanco et al., 2008; Pedrelli et al., 2015). Depression is closely followed with prevalence rates anywhere between 7% to 9% in college students (Auerbach et al 2016; Blanco et al., 2008; Pedrelli et al., 2015). While diagnosed mental illness in college students is common, it is important to emphasize some of the relationships that tend to emerge between specific mental illnesses and alcohol use or alcohol use disorder.

Depressive disorders and alcohol use disorders are common comorbidities (Barrett et al., 2014; McHugh & Weiss, 2019; Quigley et al., 2018). Specifically, individuals are 2.3 times more likely to have a major depressive disorder if they are already diagnosed with alcohol use disorder (McHugh & Weiss, 2019). Additionally, individuals with anxiety disorders, including post-traumatic stress disorder (PTSD), are at an increased risk for developing alcohol use disorder (Berenz et al., 2016; Charles et al., 2021; Overstreet et al., 2017). Regardless of an official anxiety disorder diagnosis, elevated levels of stress have been associated with increased alcohol use and the initiation of alcohol use disorder (Charles et al., 2021; Keyes et al., 2012). Past research has suggested that college students are more likely to utilize alcohol as a coping mechanism for their anxiety and PTSD symptoms (Berenz et al., 2016). However, college students typically do not disclose any symptoms related to having a mental illness, which often results in these students not being accurately diagnosed and properly treated (Denmark et al., 2012; Woodhead et al., 2021).

Understanding the prevalence of undiagnosed mental illness in college students is critical to fully acknowledge how mental illness creates a stigma towards seeking psychological help.

The literature outlined above emphasizes the commonalities of mental illness among college students. However, these are merely rates of diagnosed mental illness. Many students are not officially diagnosed and do not receive treatment because they do not seek treatment for mental illness (Cheng et al., 2015; Oswald et al., 2020). For example, in a randomly selected sample of students from a public university, 13.8% of undergraduates screened positive for major depression and 4.2% of undergraduates screened positive for generalized anxiety disorder (Eisenberg et al., 2007). Additionally, 50-80% of college students who met criteria for mental illnesses did not seek treatment in the past year (Oswald et al., 2020). Even more so, only 16.4% of students with a diagnosed DSM-5 disorder received minimally adequate treatment for their mental illness (Auerbach et al., 2016). Alternatively, however, students are more likely to receive therapy or counseling when compared to the general population who typically receives medication for the same mental illness (Eisenberg et al., 2011). This could be due to the overwhelming presence of counseling services on college campuses as opposed to community settings. Examining the factors that are preventing college students from seeking psychological help includes assessing and understanding the stigma associated with seeking psychological help.

Self-Stigma of Seeking Psychological Help

Stigma is defined as the belief that some attribute or characteristic that conveys a specific social identity is devalued in a particular social context (Link & Phelan, 2001). There are two distinct types of stigmas that are specifically associated with mental illness and psychological services: public stigma and self-stigma. Public stigma can be defined as the stigma endorsed by the general population, while self-stigma is defined as the reduction in a person's self-esteem or self-worth due to the negative perception held by that individual (Corrigan, 2004; Vogel et al., 2013). That is, public stigma is what the public does to a potentially stigmatized group when they

believe prejudices about that group and self-stigma is what those that are stigmatized might internalize about themselves (Corrigan, 2004). Past research has suggested that self-stigma occurs when individuals experience mental illness or attempt to seek help for a mental illness and subsequently self-label as someone who is socially unaccepted (Vogel et al., 2013). This negative perception about mental illness and seeking psychological help can have negative consequences for individuals who are enduring symptoms of mental illness (Corrigan, 2004; Vogel et al., 2013, 2017). Stigma serves as a barrier to seeking psychological help, which is one of the negative consequences these individuals face (Vogel et al., 2017). Specifically, these individuals may avoid seeking treatment out of fear of receiving a socially negative label (Jennings et al., 2015; Vogel et al., 2013). Recognizing that mental illnesses typically peak during the college-aged years allows for investigating how college students view stigma associated with mental illnesses and seeking psychological help.

Most college students who experience symptoms of mental illness do not seek psychological help for several reasons (Cheng et al., 2015; Oswald et al., 2020). Past research has suggested that college students believe their peers would treat them differently if they sought psychological help, even though they, themselves, would not treat a peer differently if they sought psychological help (Pederson & Paves, 2014). This is a prime example of self-stigma associated with seeking psychological help. College students with greater self-stigma are less likely to endorse seeking psychological help (Cheng et al., 2018). Additionally, college students are more likely to experience symptoms of depression and anxiety associated with the stigma of seeking psychological help (Cheng et al., 2015; Kosyluk et al., 2021; Pedersen & Paves, 2014). Alternatively, greater familiarity and understanding of mental illnesses is significantly associated with lower levels of self and public stigma (Cheng et al., 2018; Corrigan et al., 2012; Kosyluk et

al., 2021). This suggests that student lack of awareness regarding help seeking, or treatment availability, is a factor associated with increased stigma towards seeking psychological help. College students may also not seek help for their mental illnesses because they may have their own biases associated with treatment (Hyun et al., 2006). Moreso, past research has found that most students report attitudinal barriers over structural barriers to seeking help (Ebert et al., 2019). That is, students are given options and resources for treatment utilization, but they are either too embarrassed to seek help or prefer to handle their problems on their own (Vidourek et al., 2014; Yorgason et al., 2008). Notably, college students could also be in denial about their symptoms, thus not wanting to seek treatment to acknowledge their own mental health problems (Vidourek et al., 2014). Past research has also found that students who have previously received psychological help were less likely to endorse seeking help in the future (Vidourek et al., 2014). One possible explanation for this could be that these students know of the administrative difficulties of mental health services, thus they are not encouraged to return. Overall, lack of awareness and education of mental illnesses and ease of access to treatment for psychological issues leads to detrimental beliefs that could lead to alcohol use as a way to cope with symptoms rather than seeking and receiving effective mental health treatment.

Alcohol Use and Alcohol-Related Consequences

Alcohol use among college aged young adults is common. Specifically, results from the National Survey on Drug Use and Health (NSDUH), an annual survey sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA; 2021), showed that 50% of people who are 12 years of age or older in 2020 drank alcohol in the past month. Furthermore, alcohol consumption was highest among adults who are 26 years of age or older (54.6%), followed closely by young adults between the ages of 18 and 25 (52.5%; SAMHSA,

2021). Previous studies have found that college students were significantly more likely to have an alcohol use disorder when compared to their non-college attending peers (Auerbach et al., 2016; Blanco et al., 2008). Frequent and consistent alcohol use has led to problematic drinking behaviors, such as binge drinking or becoming heavy alcohol users (Dvorak et al., 2013; Ham & Hope, 2003). Results from the NSDUH showed that 22.2% of people who were 12 years of age or older in 2020 reported binge drinking in the past month and 6.4% were heavy alcohol users in the past month (SAMHSA, 2021). Among those that reported binge drinking and identifying as heavy alcohol users, the highest amount was among young adults between the ages of 18 and 25 (31.4% and 8.6%, respectively; SAMHSA, 2021). There are a multitude of factors that could affect a student's alcohol use. Specifically, feelings of sadness or hostility have been found to be associated with increased unhealthy alcohol use among college students (Hussong et al., 2001). Furthermore, group affiliation also has been found to influence alcohol use. That is, males, members of Greek organizations, athletes, and students coping with psychological distress have been found to have increased alcohol use compared to students not belonging to these groups (Foster et al., 2013; Mallett et al., 2013; Wechsler & Kuo, 2003). Examining alcohol use in college students is important in understanding how different alcohol consumption predicts alcohol-related consequences.

There are numerous factors that could influence college students to drink alcohol, such as alcohol use during high school, campus norms related to drinking, and expectations of drinking (White & Hingson, 2014). Simultaneously, there are numerous factors that could influence the type of alcohol-related consequences college students might face, such as missing class, injuries, or memory blackouts (Park, 2004; White & Hingson, 2014). Other alcohol-related consequences experienced by most drinkers include getting physically sick, blacking out due to drinking,

unplanned sexual activity, poor self-care, and social/interpersonal problems (Barnett et al., 2014; Merrill & Carey, 2016; Read et al., 2006). A study conducted by Barnett and colleagues (2014) reported that 82% of students who consumed alcohol experienced one or more negative alcohol-related consequences. Increased binge drinking in college students has been found to result in experiencing increased alcohol-related consequences (Ham & Hope, 2003). Heavy alcohol use has also been shown to result in negative alcohol-related consequences for college students (Merrill & Carey, 2016; Mundt et al., 2012; Read et al., 2013). Additionally, students who experience mental illness (e.g., depressive symptoms, anxiety symptoms), are involved in Greek organizations, and are athletes are at a higher risk for experiencing negative alcohol-related consequences after alcohol use (Foster et al., 2013; Labrie et al., 2010; Linden et al., 2013; Mallett et al., 2013; Martens et al., 2008). It is essential to understand how college students' everyday lives are affected by different mental illnesses, the stigma associated by seeking help for these mental illness, and how mental illness further affects alcohol use and alcohol consequences in a never-ending cycle.

Hispanic College Students

Understanding the relationship between mental illness, the stigma associated with seeking psychological help, alcohol use, and alcohol-related consequences is essential among college students. However, examining and understanding these factors among an underrepresented population is essential in creating and establishing interventions to target vulnerable Hispanic college students and address alcohol-related health disparities.

Mental Illness

Previous studies have found that being in a racial and ethnic minority group significantly predicts poor mental health outcomes, including symptoms of depression (Smith et al., 2014).

Additionally, Hispanic college students are at an increased risk for experiencing anxiety symptoms (Blume et al., 2012). A primary reason for Hispanic college students experiencing negative mental health outcomes, such as depression, anxiety, and psychological distress, could be linked to cultural-related stressors, such as familism, traditional gender roles, and respect (Corona et al., 2017; Lee & Ahn., 2012). Disparities in terms of access to mental health treatment also exist among Hispanic college students. Specifically, Hispanic college students are significantly less likely to receive mental health treatment or be prescribed medication when compared to their non-Hispanic White college peers (Eghaneyan & Murphy, 2020; Eisenberg et al., 2011; Katiria Perez & Cruess, 2014). Furthermore, the impact of stigma associated with mental illness also disproportionately affects certain racial and ethnic minority groups differently, including Hispanics (Clement et al., 2015).

Self-Stigma of Seeking Psychological Help

The relationships between mental illness, stigma of having a mental illness, and attitudes about seeking psychological help in the Hispanic community might be best understood by examining the Hispanic culture. Most individuals in the Hispanic community put value in protecting their family name and being independent when attempting to resolve their own personal issues, such as mental illness (Interian et al., 2007; Rastogi et al., 2012). Most Hispanic individuals prefer not to share their personal problems, a phenomenon known as forbearance. Forbearance is one kind of collectivistic coping mechanism and is defined as the attempt to suppress visible signs of negative emotion for the sake of group harmony and connectedness (Constantine et al., 2004; Yue, 2001). In the Hispanic community, if individuals were to seek help for their mental illness, they could be viewed as weak or disgraceful (Mendoza et al., 2015). Conversely, if individuals in the Hispanic community were to seek help, past research has shown

that they would most likely consult with a religious leader (i.e., priest or pastor) before consulting a mental health professional (Bridges et al., 2012). Additionally, if students of certain racial and ethnic minority groups, such as Hispanics, perceived discrimination from others, they were also more likely to feel stigmatized by others for seeking psychological help (Cheng et al., 2013). Furthermore, this perceived stigmatization by others significantly predicts increased self-stigma of having a mental illness among racial and ethnic minority groups (Cheng et al., 2013). This view is harmful not only to the Hispanic individuals who have mental illnesses, but to the general population, as these stigmas could deny individuals of improved quality of life.

Alcohol Use and Alcohol-Related Consequences

Alcohol use is more common among the Hispanic community when compared to a White population (Ceballos et al., 2012). Hispanic adolescents are disproportionately more likely than their non-Hispanic peers to consume alcohol (CDC, 2012; Miech et al., 2020). Furthermore, Hispanic adolescents typically begin alcohol use at a younger age when compared to their non-Hispanic peers (CDC, 2012) and continue alcohol use in the subsequent years (Malone et al., 2012). Hispanic college students may be at increased risk of unhealthy alcohol use if they are fixated on trying to maintain their traditional cultural values and social roles while adopting more American cultural values and social roles (Ceballos et al., 2012; Orona et al., 2007). That is, Hispanic college students may be having a challenging time adjusting to the individualistic American society, as compared to the more collectivistic Hispanic community they might be accustomed to (DiBello et al., 2016). Additionally, students of color, such as Hispanic students, may be at increased risk for binge drinking as well as experiencing negative alcohol-related consequences (Blume et al., 2012). Past research has shown that previous exposure to various forms of stress could potentially elicit alcohol use (Keyes et al., 2012). Specifically, Hispanic

college students who experience discrimination are more likely to develop alcohol problems (Cano et al., 2021; Cheng & Mallinckrodt, 2015). Hispanic college students who have experienced discrimination have also reported higher levels of symptoms of mental illness, such as PTSD (Cheng & Mallinckrodt, 2015). Notably, Hispanic college students also face additional cultural related stressors, such as family (e.g., family having problems with immigration papers), community (e.g., lower socioeconomic neighborhoods with less resources available), and educational stress (e.g., teachers accusing them of cheating for speaking Spanish). These stressors have been associated with increased alcohol use (Goldbach et al., 2015).

Positive Psychology Interventions

Investigating what factors attribute to and relieve self-stigma of seeking help as well as increased alcohol use and alcohol-related consequences requires examining past research into various interventions. More specifically, positive psychology interventions should be reviewed to determine their significance in promoting seeking psychological help. Positive psychology is a study that aims to increase positive outcomes (Seligman & Csikszentmihalyi, 2000). Similarly, positive psychology interventions focus on activities that boost an individual's well-being or positive feelings to improve wellness (Trom & Burke, 2022). Past research has shown support for using positive psychology interventions to address and lower symptoms of mental illness (Kobau et al., 2011; Layous et al., 2011). Additionally, past research has attempted to utilize aspects of positive psychology, such as character strengths, to examine their influence on mental health stigma. Vertilo and Gibson (2014) found that character strengths had a considerable influence on mental health stigma. For example, individuals who were more open-minded were also less likely to report negative attitudes towards mental illness or those with a mental illness (Vertilo & Gibson, 2014). Furthermore, past research has made the connection between

psychological well-being and self-stigma whereby psychological well-being mediates the relationship between self-stigma and subjective well-being (Perez-Garin et al., 2015). Overall, past research suggests that aspects of positive psychology have the potential to be significant factors in lowering an individual stigma associated with mental health and seeking help.

Minority Stress Theory

The minority stress theory offers an interesting perspective into mental health and alcohol use disparities among Hispanic college students. Specifically, Hispanic college students may face stressors related to discrimination they experience because of their ethnicity (Meyer, 2003). Facing minority stress, such as discrimination, has been shown to have associations with negative health outcomes such as increased mental health symptoms, increased alcohol consumption, and alcohol-related consequences (Flood et al., 2013; Pittman et al., 2019). On the other hand, Hispanic college students can cope with minority-related stressors with important resources such as group solidarity and cohesiveness that helps Hispanic college students strengthen their ability to cope with stressors (Meyer, 2003). Thus, according to the minority stress theory, resilience, or the ability to cope with a stressor, is common among minorities and may serve as a protective factor that can mitigate increased self-stigma of seeking psychological help, unhealthy alcohol use, and the development of alcohol-related consequences, which may be particularly relevant in a majority Hispanic population.

In summary, symptoms of mental illness remain prevalent and untreated in college populations. Additionally, seeking psychological help for either diagnosed or undiagnosed mental illnesses carries a stigma which increases college students' chances of using alcohol as a coping mechanism. Unhealthy and unmonitored alcohol use can lead to negative alcohol

consequences which could result in increased symptoms of mental illness. This continuous cycle could be stopped if the stigma associated with seeking psychological help is addressed.

Present Study

Despite the established relationships outlined previously, researchers have yet to create proper interventions targeting Hispanic college students' stigma associated with seeking psychological help and the relationship this has with alcohol use and alcohol-related consequences. The present study seeks to close the gap between the self-stigma of seeking help and using alcohol as a coping mechanism for depression and anxiety, which are the most common mental illnesses experienced by college students. Additionally, the present study intends to investigate the effects that COVID-19 had on the previously outlined relationships. Findings from the present study will inform potential interventions and benefits that may exist by targeting Hispanic college students' stigma associated with seeking psychological help and lowering this stigma to potentially reduce its relationship with alcohol use and alcohol-related consequences.

Study Aims & Hypotheses

The primary aim of the present study was to assess the potential relationships between symptoms of mental illness, self-stigma of seeking psychological help, alcohol use, and alcohol-related consequences. Additionally, this study examined self-stigma of seeking psychological help as a mediator of the relationship between symptoms of mental illness and alcohol use. The hypotheses for the current study included: H₁) Symptoms of mental illness will have a positive relationship with self-stigma of seeking psychological help and a positive relationship with alcohol use and alcohol-related consequences. H₂) Self-stigma of seeking psychological help will have a positive relationship with alcohol use and alcohol-related consequences. H_{3a}) Self-stigma

of seeking psychological help will serve as a mediator of the relationship between symptoms of mental illness and alcohol use, such that if an individual has increased self-stigma of seeking psychological help, they are more likely to have increased alcohol use, regardless of symptoms of mental illness. H_{3b}) Self-stigma of seeking psychological help will serve as a mediator of the relationship between symptoms of mental illness and alcohol-related consequences, such that if an individual has increased self-stigma of seeking psychological help, they are more likely to have increased alcohol-related consequences, regardless of symptoms of mental illness. H₄) Alcohol use will mediate the relationship between mental illness and alcohol-related consequences, while self-stigma of seeking psychological help moderates the relationship between alcohol use and alcohol-related consequences. Specifically, increased alcohol use will have positive effects on the relationship between symptoms of mental illness and alcohol-related consequences. Simultaneously, self-stigma of seeking psychological help will have protective effects on the relationship between alcohol use and alcohol-related consequences.

Chapter 2: Methods

Participants

Participants were recruited from a university located on the U.S/Mexico border. To be eligible for the study, participants had to be at least 18 years of age, an undergraduate student enrolled in at least 1 course at UTEP, experienced symptoms of mental illness, and given consent to participate in the survey. Exclusion criteria included not being at least 18 years of age, not an undergraduate student enrolled in at least one course at UTEP, not previously experienced any symptoms of mental illness, and not giving consent to participate in the survey. The screening question for experiencing symptoms of mental illness stated, “Have you experienced previous symptoms of mental illness (i.e., depression, anxiety, or stress)?” and responses were compared to the Depression, Anxiety, and Stress Scale to verify truthfulness. A total of 244 responses were obtained. However, any participant who did not complete the survey in its entirety was removed. The resulting sample consisted of 206 primarily Hispanic participants ($M_{age} = 21.49$ years, $SD = 4.61$; 74.8% female; 90.3% Hispanic). This sample varies slightly when compared to the undergraduate student body population at UTEP (*Age range*: 22-24 years; 52.8% female; 83.7% Hispanic). A post-hoc power analysis was conducted to determine the power for investigating a medium effect. The amount of variance explained was used to determine the effect size appropriate to use, which resulted in a medium effect of .26. This is similar to previous analyses involving stigma of psychological help (Cheng et al., 2015; Cheng et al., 2018). With an α of .05 and an effect size of .26, the power for the proposed analyses would be .99, which is sufficient for the current study. However, given the large power, the chances of a Type I error increases. That is, with a power of .99, there is a high chance that the current study could produce a false positive result.

Measures

Sociodemographics

This questionnaire collected demographic information including age, gender, student classification, marital status, and race. This information was utilized as control variables in the analyses (Appendix A).

COVID Stress Scale (CSS)

Participants' stress levels specifically related to COVID-19 were assessed with the COVID Stress Scale (CSS; Taylor et al., 2020). The CSS is a 36-item, self-report scale where participants indicated the degree to which each item is true for them. The CSS uses a 5-point Likert-type scale with 0 being "*not at all*" and 4 being "*extremely*", with scores ranging from 0-144. Higher scores in the CSS indicates greater stress associated with COVID-19. The CSS has six subscales: danger, socio-economic, xenophobia, contamination, traumatic stress, and compulsive checking. Participants were shown the CSS only at the second time point, during COVID-19 (i.e., spring 2021), thus only these scores will be used. The CSS has shown good reliability of the total score in other studies (McNeil & Purdon, 2022; $\alpha = .94$) and the present study ($\alpha = .97$; Appendix B).

Depression, Anxiety, and Stress Scale – Short Version (DASS-21)

Participants' negative emotional states of depression, anxiety, and stress were assessed with the standardized Depression, Anxiety, and Stress Scale (DASS21; Henry & Crawford, 2005). The DASS21 is a condensed version (i.e., 21-items) of the DASS42 which is a self-report instrument where participants indicated the degree to which they have experienced each item. The DASS21 uses a 4-point Likert type scale with 0 being "*did not apply to me at all*" and 3 being "*applied to me very much, or most of the time.*" The DASS21 has three subscales:

depression, anxiety, and stress. Participants were shown DASS21 twice, one specific to pre-COVID-19 (i.e., Time 1) and one time specific to during COVID-19 (i.e., spring 2021; Time 2). Past tense language was used in the Time 1 measures, while present tense language was used in the Time 2 measure. In the proposed analyses, only Time 1 responses will be used. The DASS21 has shown adequate reliability of the total score in other studies (Henry & Crawford, 2005; $\alpha = .93$) and the present study ($\alpha = .94$; Appendix C).

Self-Stigma of Seeking Psychological Help Scale (SSOSH)

Participants' stigma of seeking psychological help was assessed with the Self-Stigma of Seeking Psychological Help (SSOSH; Vogel et al., 2006). The SSOSH is a 10-item self-report instrument designed to assess the stigma associated with seeking psychological help using a 5-point Likert-type scale with 1 being "*strongly disagree*" and 5 being "*strongly agree*." Higher average scores indicate greater self-stigma of seeking psychological help. In the present study, participants were shown the SSOSH only at Time 1 (i.e., pre-COVID-19), thus only these scores will be used. This scale has high internal consistency ranging from .88 to .90 in a sample of non-Hispanic White college students (Vogel et al., 2006). In the present study, the SSOSH averaged a lower reliability ($\alpha = .70$; Appendix D).

Alcohol Use Disorders Identification Test (AUDIT)

Participants' alcohol use will be measured with the Alcohol Use Disorders Identification Test (AUDIT; WHO, 2001). The AUDIT is a brief tool that is commonly used to assess participants' alcohol consumption, drinking behaviors, and alcohol-related problems. The AUDIT is a 10-item screening tool that utilizes a 5-point Likert-type scale, with 0 being "*never*" and 4 being "*daily or almost daily*." Scores are totaled and can range from 0 to 40 with higher scores indicating greater alcohol use severity. In the current study, participants were shown the

AUDIT twice, one time specific to pre-COVID-19 (i.e., Time 1) and one time specific to during COVID-19 (i.e., spring 2021; Time 2). Past tense language was used in the Time 1 measures, while present tense language was used in the Time 2 measure. In the proposed analyses, only Time 2 responses will be used. The AUDIT has been validated in a wide range of racial and ethnic groups, as well as across genders (WHO, 2001). In the present study, this scale shows good reliability ($\alpha = .88$; Appendix E).

Brief Young Adult Alcohol Consequences Questionnaire (BYAACQ)

To measure alcohol-related consequences the Brief Young Adult Alcohol Consequence Questionnaire (BYAACQ; Kahler et al., 2005) was utilized. The BYAACQ is a 24-item self-report instrument designed to assess a range of alcohol-related consequences and severity experienced by college students within the past 3 months. Items are rated on a 2-point Likert scale (i.e., 0 = *no* to 1 = *yes*), where the total score is calculated by summing all responses. The total score can range from 0 to 24 with higher scores suggesting greater alcohol consequences have recently been experienced. Participants were shown the BYAACQ twice, one time specific to pre-COVID-19 (i.e., Time 1) and one time specific to during COVID-19 (i.e., spring 2021; Time 2). Past tense language was used in the Time 1 measures, while present tense language was used in the Time 2 measure. In the proposed analyses, only Time 2 responses will be used. This measure has shown adequate reliability in other studies (Sanchez et al., 2022; $\alpha = .89$) and the current study ($\alpha = .95$; Appendix F).

Procedure

Approval was obtained from the Institutional Review Board at the University of Texas at El Paso (UTEP; Protocol: 1689165) prior to commencing the study. Participants were recruited via UTEP Sona Systems, a secure web-based recruitment site. The survey, as well as informed

consent, was administered using QuestionPro. Data was collected between April 1, 2021 and May 7, 2021. After completing the informed consent process, participants were given multiple measures to answer specific to two different time points: pre-COVID (i.e., Time 1) and during COVID-19 (i.e., spring 2021; Time 2). Data was collected retrospectively in which participants were asked to think prior to COVID on their typical behaviors and mental state. The following prompt was shown to participants to get into the mindset of pre-COVID:

“Recall that on March 13, 2020, Greg Abbott, the Governor of the State of Texas declared a state-wide emergency due to COVID-19. The following week was Spring Break at the University of Texas at El Paso. The University extended Spring Break by one week and announced on March 30, 2020, that all classes would be converted to online courses. With that in mind, please consider your experiences before that time when answering the following questions.”

Once participants were shown the prompt, they were asked to respond to a question (i.e., “What are the 3 biggest things you miss most about your life before COVID-19?”) to prepare the participants to answer the DASS21, SSOSH, AUDIT, and BYAACQ questionnaires regarding their life and behaviors prior to COVID-19. Upon completion of the prior measures, participants were then asked to respond to a question (i.e., “What are the 3 biggest challenges that COVID-19 has brought about in your life?”) to prepare participants to answer the DASS21, AUDIT, BYAACQ, and CSS questionnaires regarding their life and behaviors currently (i.e., during COVID-19). Participants were offered resources such as the University Counseling Center should they have been distressed due to the questions asked in the study. Participants were compensated with course credits for their participation.

Approach to Analyses

All analyses were conducted using SPSS (Statistical Package for the Social Sciences) version 26. Participant characteristics were assessed using descriptive analyses. Additionally, bivariate analyses were conducted to examine the relationships between age, gender, student classification, marital status, race, COVID stress scores, DASS scores, self-stigma of seeking psychological help, alcohol use, and alcohol-related consequences. A series of linear regressions were conducted to examine the relationships between the predictor variables (i.e., DASS scores and self-stigma of seeking psychological help) and the outcome variables (i.e., alcohol use and alcohol-related consequences), as seen in Figure 1. After initial regression analyses, tests for mediation were conducted using PROCESS Macro for SPSS (Hayes, 2022). Using available models in PROCESS, ten thousand bootstrapped samples of 95% confidence intervals were tested to determine the significance region of each mediator. Similarly, the hypothesized moderated mediation model was tested using available models in PROCESS with ten thousand bootstrapped samples of 95% confidence intervals used to assess the significance of the indirect effects. More specifically, symptoms of mental illness were regressed on alcohol use, which in turn was regressed on alcohol-related consequences. Self-stigma of seeking psychological help served as the moderator for the relationship between alcohol use and alcohol-related consequences. Lastly, COVID-19 related stress was used as a covariate in all linear regressions, mediation models, and moderated mediation models.

Chapter 3: Results

Participants

Participants had a mean age of 21.49 ($SD = 4.61$; range: 18-51) and primarily identified as female (74.8%). Participants were fairly equally distributed among different student classifications (freshman: 22.4%; sophomore: 23.9%; junior: 29.8%; senior: 23.9%). Lastly, a majority of participants classified as Hispanic or Latino (90.3%; Table 1).

Table 1. Participant characteristics and descriptive statistics

Characteristic/Variable	Total participants ($n = 206$)	Time 1	Time 2
	Frequency/Mean (SD)	Mean (SD)	Mean (SD)
Age	$M = 21.49 (4.61)$	-	-
Female	74.8%%	-	-
Male	25.2%	-	-
Hispanic	90.3%	-	-
COVID Stress	-	-	41.67 (31.28)
Depression	-	5.58 (4.90)	7.09 (5.55)
Anxiety	-	5.57 (4.60)	6.74 (5.09)
Stress	-	7.28 (4.60)	8.52 (5.09)
Self-Stigma	-	2.77 (.52)	-
Alcohol Use	-	3.74 (5.06)	3.74 (5.33)
Alcohol Consequences	-	3.49 (4.90)	3.28 (5.34)

Note. Any sample size deviations are a result of missing data.

Almost half of the participants (49.5%) reported being within a normal range of symptoms of depression pre-COVID-19, as determined by the DASS21. That is, almost half the participants scored between 0-4 on the DASS21. Similarly, 42.2% of participants reported being within a normal range of symptoms of anxiety pre-COVID-19, as determined by the DASS21 (i.e., scores between 0-3). As for pre-COVID-19 stress, more than half the participants (55.3%) reported being within a normal range of symptoms, with scores ranging from 0-7 on the DASS21. When looking within a normal range of symptoms of mental illness during COVID-19, only 40.3% of participants reported being within a normal range of symptoms for depression,

29.6% of participants reported being within a normal range of symptoms for anxiety, and 43.7% of participants reported being within a normal range of symptoms of stress. Many participants (49.5%) identified as an abstainer, such that they did not drink alcohol prior to COVID-19. During COVID-19, however, only 40.3% identified as an abstainer. Notably, there was an 8.7% increase in participants' harmful alcohol consumption from pre-COVID-19 to during COVID-19. Most participants reported having minimum to no severity of alcohol-related consequences both pre-COVID-19 (85.9%) and during COVID-19 (86.6%). See Table 2 and Table 3.

Table 2. Severity of Symptoms of Mental Illness

Variable	Time 1	Time 2
	Frequency	Frequency
Depression		
1. Normal (0-4)	49.5%	40.3%
2. Mild (5-6)	15.1%	7.7%
3. Moderate (7-10)	17.0%	25.7%
4. Severe (11-13)	10.6%	8.8%
5. Extremely Severe (14+)	7.3%	17.5%
Anxiety		
1. Normal (0-3)	42.2%	29.6%
2. Mild (4-5)	15.1%	19.0%
3. Moderate (6-7)	16.5%	14.5%
4. Severe (8-9)	7.8%	7.7%
5. Extremely Severe (10+)	18.4%	29.1%
Stress		
1. Normal (0-7)	55.3%	43.7%
2. Mild (8-9)	16.5%	15.5%
3. Moderate (10-12)	17.4%	18.4%
4. Severe (13-16)	5.3%	15.6%
5. Extremely Severe (17+)	4.0%	6.8%

Note. Any sample size deviations are a result of missing data.

Table 3. Severity of Alcohol Use and Alcohol-Related Consequences

Variable	Time 1 Frequency	Time 2 Frequency
Alcohol Use		
1. Abstainer (0)	49.5%	40.3%
2. Low-Risk Consumption (1-7)	15.1%	7.7%
3. Harmful Consumption (8-14)	17.0%	25.7%
4. Alcohol Dependence (15+)	10.6%	8.8%
Alcohol-Related Consequences		
1. Low-Severity (0-8)	85.9%	86.6%
2. Medium Severity (9-16)	12.1%	10.9%
3. High Severity (17-24)	2.0%	2.5%

Note. Any sample size deviations are a result of missing data.

Bivariate Correlations

The strongest positive correlations were seen among symptoms of depression pre-COVID-19 and symptoms of anxiety pre-COVID-19 ($r = .769$). Similarly, greater symptoms of stress pre-COVID-19 were positively associated with greater symptoms of depression pre-COVID-19 ($r = .785$), and greater symptoms of anxiety pre-COVID-19 ($r = .813$). Alcohol consumption during COVID-19 was positively associated with alcohol use pre-COVID-19 ($r = .705$). Additionally, there were moderate associations between symptoms of depression during COVID-19 and symptoms of pre-COVID-19 depression ($r = .476$), anxiety ($r = .366$), and stress ($r = .389$). Symptoms during COVID-19 of both anxiety and stress were moderately and positively correlated with pre-COVID-19 symptoms of depression ($r = .367$ and $r = .318$, respectively), anxiety ($r = .557$ and $r = .440$, respectively), and stress ($r = .466$ and $r = .528$, respectively). There were small correlations between symptoms of anxiety pre-COVID-19 and COVID-19 stress ($r = .278$). Additionally, there were small correlations between self-stigma of seeking psychological help and greater symptoms of depression ($r = .221$), anxiety ($r = .177$), and stress ($r = .234$) during COVID-19. Lastly, alcohol consumption during COVID-19 was

positively associated with symptoms of depression ($r = .278$), anxiety ($r = .228$), and stress ($r = .199$) during COVID-19, as well as self-stigma of seeking psychological help ($r = .164$). See

Table 4.

Table 4. Zero-order correlations

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
<i>1. Age</i>	-																
<i>2. Gender</i>	.014	-															
<i>3. Hispanic</i>	-.013	-.111	-														
<i>4. Classification</i>	.419	.043	-.091	-													
<i>5. Marital Status</i>	.633	.085	.150	.188	-												
<i>6. COVID Stress</i>	.145	.208	-.111	.183	.097	-											
<i>Mental Illness- Time 1</i>																	
7. Depression	-.023	.003	-.110	-.020	-.049	.129	-										
8. Anxiety	.052	.131	-.112	.032	.019	.278	.769	-									
9. Stress	-.005	.147	-.123	.027	.006	.172	.785	.813	-								
<i>Mental Illness- Time 2</i>																	
10. Depression	-.159	.111	-.097	.058	-.169	.324	.476	.366	.389	-							
11. Anxiety	-.075	.175	-.125	.095	-.107	.418	.367	.557	.466	.694	-						
12. Stress	-.102	.255	-.059	.057	-.062	.365	.318	.440	.528	.742	.794	-					
<i>13. Self-Stigma</i>	.047	-.032	.054	.029	.010	.112	.068	.016	.097	.221	.177	.234	-				
<i>Alcohol – Time 1</i>																	
14. Use	.102	-.012	-.133	.152	-.060	.112	.189	.162	.105	.119	.034	.023	.122	-			
15. Consequences	.203	.068	-.173	.273	-.009	.068	.074	.023	.033	.037	.007	-.027	.118	.629	-		
<i>Alcohol – Time 2</i>																	
16. Use	.084	-.001	-.160	.194	-.075	.225	.197	.156	.120	.278	.228	.199	.164	.705	.487	-	
17. Consequences	.003	.093	-.083	.157	-.036	.212	.068	.073	.044	.164	.179	.160	.010	.329	.553	.402	-

Bold text indicates significance at $p < .05$.

Linear Regression Models

All three regression models using symptoms of depression ($F(7, 194) = .476$, Adjusted $R^2 = -.019$, $p = .851$; Figure 1), anxiety ($F(7, 194) = .314$, Adjusted $R^2 = -.024$, $p = .947$; Figure 2), and stress ($F(7, 194) = .657$, Adjusted $R^2 = -.012$, $p = .708$; Figure 3) pre-COVID-19 did not significantly predict self-stigma of seeking psychological help (Table 5).

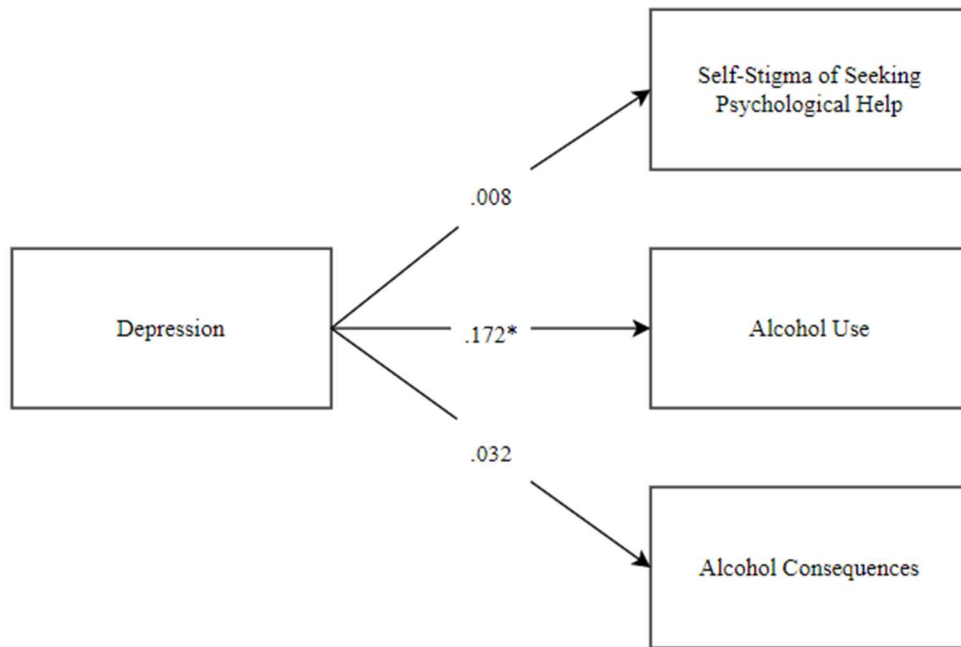


Figure 1. Model 1a: The effects of symptoms of depression on self-stigma of seeking psychological help, alcohol use, and alcohol consequences.

Note. ** = $p < .01$

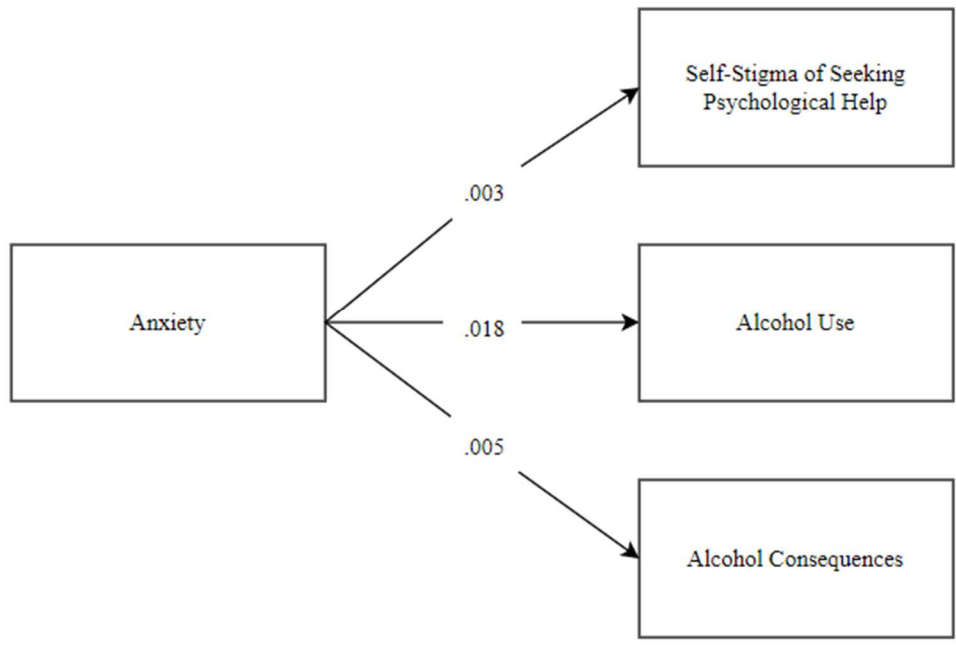


Figure 2. Model 1b: The effects of symptoms of anxiety on self-stigma of seeking psychological help, alcohol use, and alcohol consequences.
Note. No significant associations.

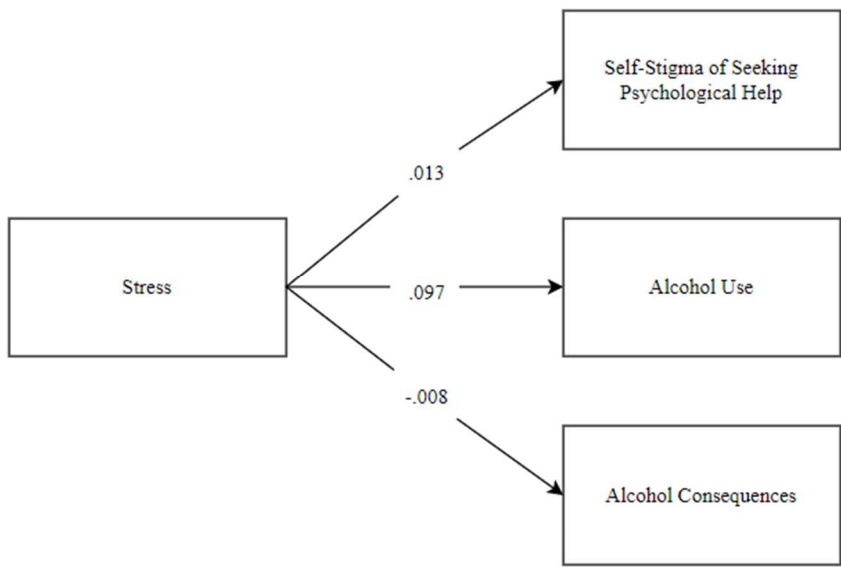


Figure 3. Model 1c: The effects of symptoms of stress on self-stigma of seeking psychological help, alcohol use, and alcohol consequences.
Note. No significant associations.

Table 5. Linear regression models predicting self-stigma of seeking psychological help

	Variables	<i>B</i>	<i>SE</i>	β
Stigma	Age	.008	.011	.073
	Gender	-.032	.086	-.027
	Classification	-.046	.051	-6.31
	Hispanic	.111	.128	.064
	Marital Status	-.074	.183	-.039
	Depression – Time 1	.008	.008	.080
	<i>R</i> ²		.017	
	<i>Adjusted R</i> ²		-.019	
Stigma	Age	.008	.011	.072
	Gender	-.037	.087	-.031
	Classification	-.041	-.051	-5.57
	Hispanic	.099	.128	.057
	Marital Status	-.079	.183	-.041
	Anxiety – Time 1	.003	.008	.023
	<i>R</i> ²		.011	
	<i>Adjusted R</i> ²		-.024	
Stigma	Age	.008	.011	.074
	Gender	-.050	.087	-.042
	Classification	-.043	-.051	-5.90
	Hispanic	.118	.127	.069
	Marital Status	-.085	.182	-.044
	Stress – Time 1	.013	.008	.114
	<i>R</i> ²		.023	
	<i>Adjusted R</i> ²		-.012	

Note. All variables were standardized, and all values shown are from the last step of each model. No significant associations.

Conversely, the linear model using symptoms of depression pre-COVID-19 to predict alcohol use during COVID-19 was statistically significant, $F(7, 169) = 3.426$, $\text{Adjusted } R^2 = .088$, $p = .002$ (Figure 1), as well as the model using symptoms of anxiety pre-COVID-19 ($F(7, 169) = 2.940$, $\text{Adjusted } R^2 = .072$, $p = .006$; Figure 2), and symptoms of stress pre-COVID-19 ($F(7, 169) = 2.892$, $\text{Adjusted } R^2 = .070$, $p = .007$; Figure 3). There was also a main effect of depression, where an increase in symptoms of depression pre-COVID-19 were associated with increased alcohol consumption during COVID-19 ($\beta = .172$, $p = .034$). Similarly, the linear model using

stigma to predict alcohol use during COVID-19 was statistically significant, $F(7, 166) = 3.233$, Adjusted $R^2 = .083$, $p = .003$ (Figure 4; Table 6).

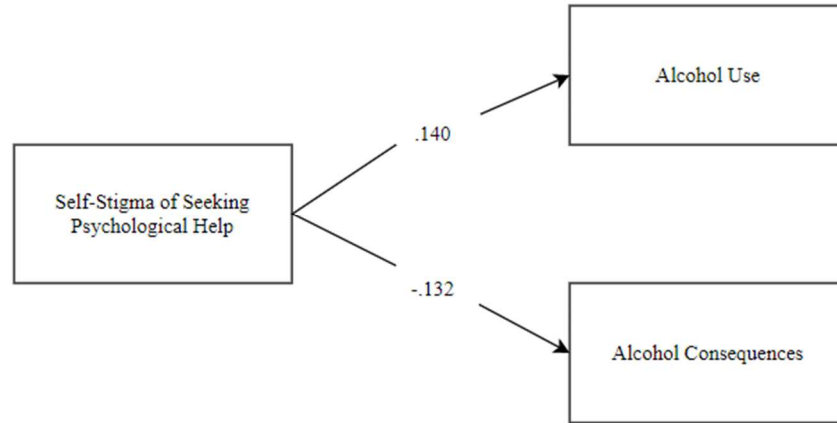


Figure 4. Model 2: The effects of self-stigma of seeking psychological help on alcohol use and alcohol consequences.

Note. No significant associations.

Table 6. Linear regression models predicting alcohol use at Time 2

	Variables	<i>B</i>	<i>SE</i>	β
Alcohol Use – Time 2	Age	.217	.110	.180
	Gender	-.647	.944	-.052
	Classification	-.005	.005	-.076
	Hispanic	-2.06	1.44	-.108
	Marital Status	-3.24	1.91	-.159
	COVID Stress	.037	.013	.207
	Depression – Time 1	.172	.080	.156
	R^2		.124	
	<i>Adjusted R²</i>		.088	
Alcohol Use – Time 2	Age	.213	.111	.177
	Gender	-.843	.950	-.067
	Classification	-.005	.005	-.077
	Hispanic	-.217	1.45	-.109
	Marital Status	-3.34	1.93	-.166
	COVID Stress	.036	.014	.2013
	Anxiety – Time 1	.018	.089	.093
	R^2		.109	
	<i>Adjusted R²</i>		.072	
Alcohol Use – Time 2	Age	.219	.111	.182

	Gender	-.885	.953	-.071
	Classification	-.005	.005	-.077
	Hispanic	-2.13	1.45	-.111
	Marital Status	-3.42	1.93	-.167
	COVID Stress	.038	.013	.216
	Stress – Time 1	.097	.089	.081
	<i>R</i> ²		.107	
	<i>Adjusted R</i> ²		.070	
Alcohol Use – Time 2	Age	.198	.112	.165
	Gender	-.728	.953	-.058
	Classification	-.006	.005	-.083
	Hispanic	-2.44	1.46	-.127
	Marital Status	-3.18	1.94	-.156
	COVID Stress	.038	.013	.215
	Stigma	.140	.766	.135
	<i>R</i> ²		.120	
	<i>Adjusted R</i> ²		.083	

Note. All variables were standardized, and all values shown are from the last step of each model. Bold text indicates $p < .05$.

Lastly, all four linear regression models using pre-COVID-19 symptoms of depression ($F(8, 191) = 1.420$, Adjusted $R^2 = .017$, $p = .190$; Figure 1), anxiety ($F(8, 191) = 1.398$, Adjusted $R^2 = .016$, $p = .199$; Figure 2), and stress ($F(8, 191) = 1.399$, Adjusted $R^2 = .016$, $p = .199$; Figure 3), as well as self-stigma towards seeking psychological help ($F(8, 188) = 1.405$, Adjusted $R^2 = .016$, $p = .197$; Figure 4) to predict alcohol-related consequences were not statistically significant (Table 7).

Table 7. Linear regression models predicting alcohol consequences at Time 2

	Variables	<i>B</i>	<i>SE</i>	β
Alcohol Consequences – Time 2	Age	-.027	.108	.024
	Gender	.531	.901	.043
	Classification	.200	.523	2.64
	Hispanic	-.773	1.30	-.044
	Marital Status	-1.34	1.85	-.068
	COVID Stress	.034	.013	.196
	Depression – Time 1	.032	.078	.029
	<i>R</i> ²		.056	
<i>Adjusted R</i> ²		.017		

Alcohol Consequences – Time 2	Age	.027	.108	.023
	Gender	.514	.902	.042
	Classification	.221	.520	2.92
	Hispanic	-.818	1.30	-.046
	Marital Status	-1.37	1.85	-.070
	COVID Stress	.034	.013	.199
	Anxiety – Time 1	.005	.087	.005
	R^2		.055	
	<i>Adjusted R²</i>		.016	
	Alcohol Consequences – Time 2	Age	.027	.108
Gender		.524	.904	.043
Classification		.225	.520	2.98
Hispanic		-.835	1.30	-.047
Marital Status		-1.37	1.85	-.070
COVID Stress		.034	.013	.201
Stress – Time 1		-.008	-.85	-.007
R^2			.055	
<i>Adjusted R²</i>			.016	
Alcohol Consequences – Time 2		Age	.026	.109
	Gender	.541	.910	.044
	Classification	.174	.529	2.30
	Hispanic	-.828	1.31	-.047
	Marital Status	-1.39	1.87	-.071
	COVID Stress	.035	.013	.203
	Stigma	-.132	.742	-.013
	R^2		.056	
	<i>Adjusted R²</i>		.016	

Note. All variables were standardized, and all values shown are from the last step of each model. Bold text indicates $p < .05$.

Mediation Analyses for Alcohol Use and Alcohol-Related Consequences

A constant was used to address the non-normal distribution of both the alcohol use and alcohol-related consequences scores where most participants scored 0, by adding 1 to the total scores and conducting a log10 transformation before running all models (Cheng et al., 2018). All mediation analyses predicting alcohol use were not statistically significant. That is, the

relationship between pre-COVID-19 symptoms of depression and alcohol use was not mediated by self-stigma of seeking psychological help ($\beta = -.001$, 95% CI: $-.015, .017$; Figure 5).

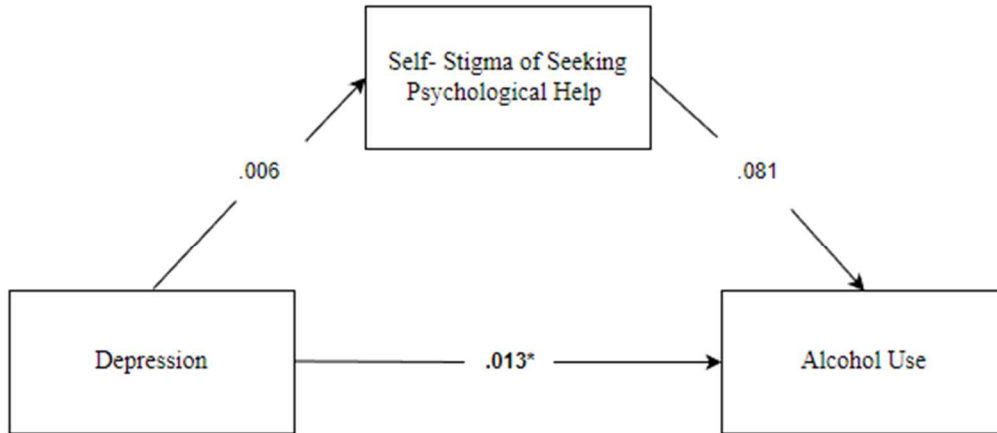


Figure 5. Model 3a.1: The indirect effects of symptoms of depression on alcohol use.
Note. * = $p < .05$

Similarly, the relationship between pre-COVID-19 symptoms of anxiety and alcohol use was not mediated by self-stigma of seeking psychological help ($\beta = -.002$, 95% CI: $-.033, .031$; Figure 6).

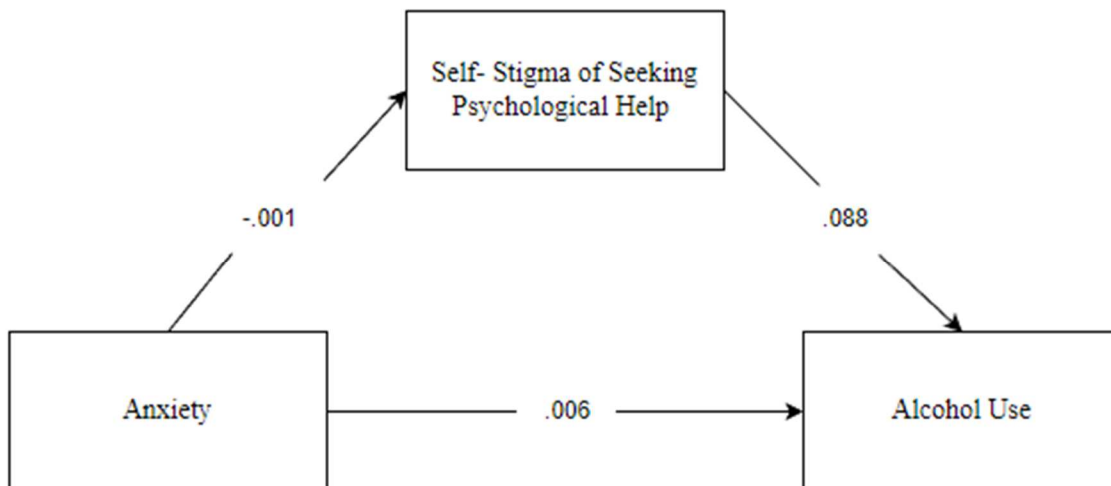


Figure 6. Model 3a.2: The indirect effects of symptoms of anxiety on alcohol use.

Note. No significant associations.

Lastly, the relationship between stress and alcohol use was not mediated by self-stigma of seeking psychological help ($\beta = .014$, 95% CI: $-.009, .056$; Figure 7).

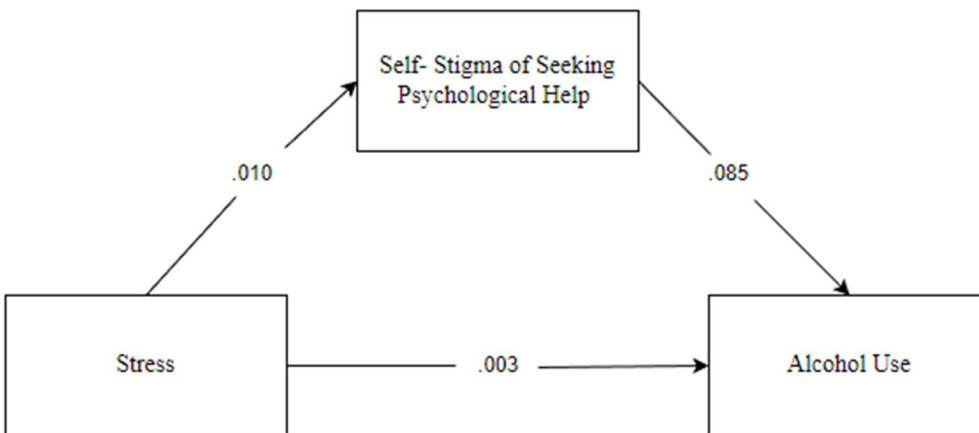


Figure 7. Model 3a.3: The indirect effects of symptoms of stress on alcohol use.

Note. No significant associations.

All mediation analyses predicting alcohol-related consequences were also not statistically significant. That is, pre-COVID symptoms of mental illness and alcohol-related consequences were not mediated by self-stigma of seeking psychological help (depression: $\beta = -.001$, 95% CI: $-.014, .016$, Figure 8; anxiety: $\beta = .000$, 95% CI: $-.010, .016$, Figure 9; stress: $\beta = -.002$, 95% CI: $-.020, .016$, Figure 10). See Tables 8, 9, and 10.

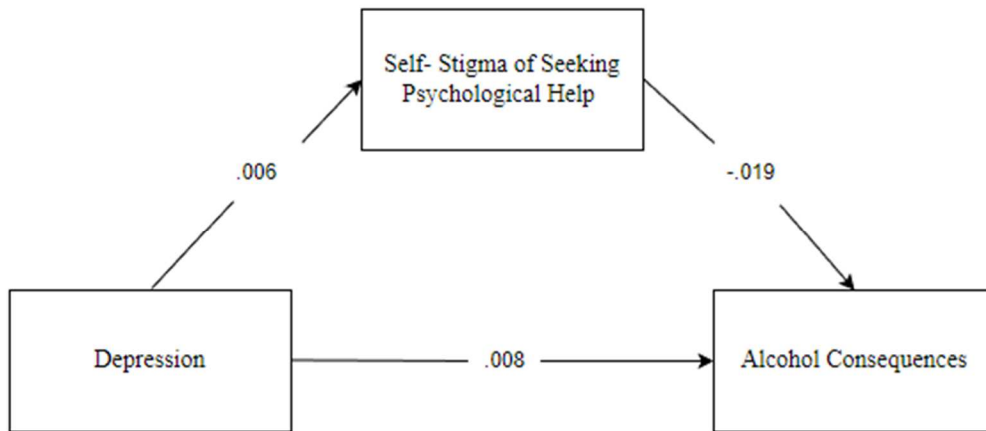


Figure 8. The indirect effects of symptoms of anxiety on alcohol consequences.
Note. No significant associations.

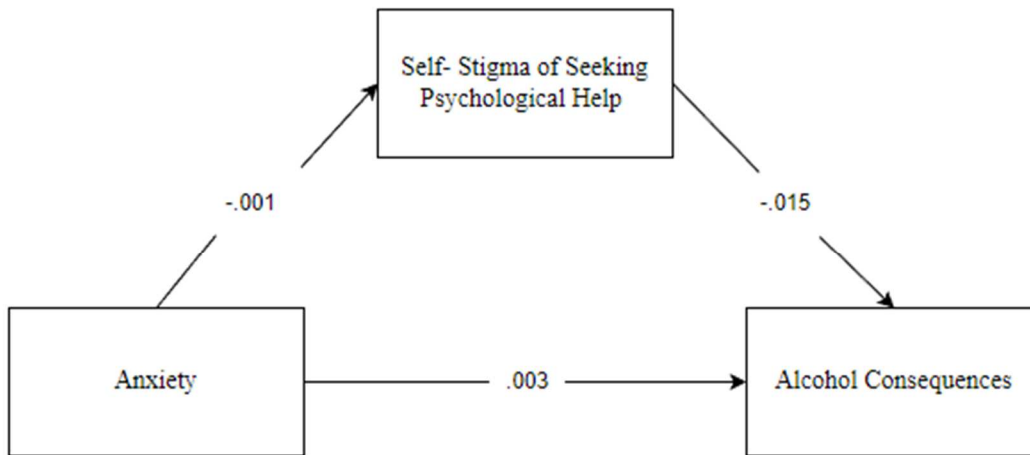


Figure 9. Model 3b.2: The indirect effects of symptoms of anxiety on alcohol consequences.
Note. No significant associations.

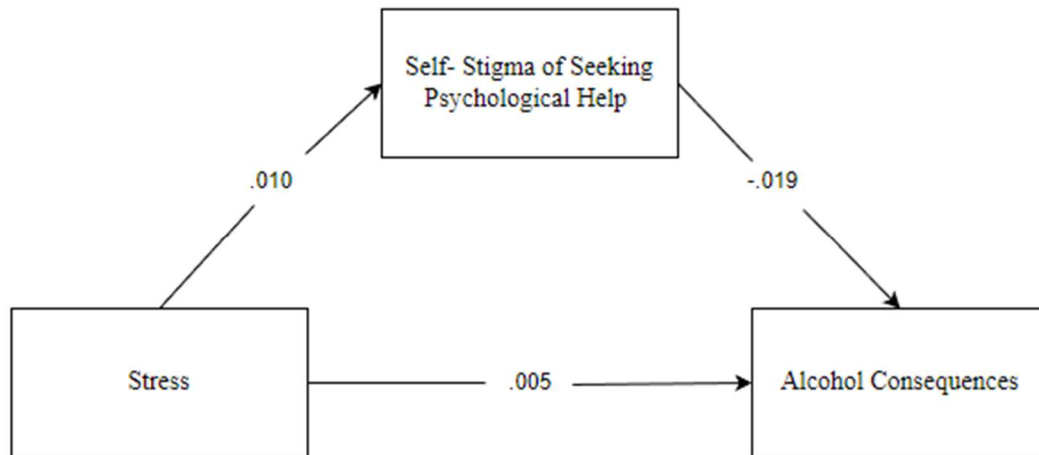


Figure 10. Model 3b.3: The indirect effects of symptoms of stress on alcohol consequences.

Note. No significant associations.

Table 8. Mediation analysis - Depression

	Effect	SE	LLCI	ULCI
<i>Total Effects</i>				
Depression on Alcohol Use	.013	.006	.001	.026
Depression on Alcohol Consequences	.008	.007	-.005	.021
<i>Direct Effects</i>				
Depression on Alcohol Use	.013	.006	.000	.026
Depression on Alcohol Consequences	.008	.007	-.005	.021
<i>Indirect Effects</i>				
Stigma on Alcohol Use	.000	.001	-.001	.003
Stigma on Alcohol Consequences	.000	.001	-.001	.001

Note. Bold text indicates $p < .05$.

Table 9. Mediation analysis - Anxiety

	Effect	SE	LLCI	ULCI
<i>Total Effects</i>				
Anxiety on Alcohol Use	.006	.007	-.008	.020
Anxiety on Alcohol Consequences	.003	.007	-.011	.018
<i>Direct Effects</i>				
Anxiety on Alcohol Use	.006	.007	-.008	.021
Anxiety on Alcohol Consequences	.003	.007	-.011	.018
<i>Indirect Effects</i>				
Stigma on Alcohol Use	.000	.001	-.002	.002
Stigma on Alcohol Consequences	.000	.001	-.001	.001

Note. No significant associations.

Table 10. Mediation analysis - Stress

	Effect	SE	LLCI	ULCI
<i>Total Effects</i>				
Stress on Alcohol Use	.004	.007	-.010	.018
Stress on Alcohol Consequences	.005	.007	-.009	.019
<i>Direct Effects</i>				
Stress on Alcohol Use	.003	.007	-.011	.018
Stress on Alcohol Consequences	.005	.007	-.009	.019
<i>Indirect Effects</i>				
Stigma on Alcohol Use	.001	.001	-.001	.004
Stigma on Alcohol Consequences	.000	.001	-.002	.002

Note. No significant associations.

Moderated Mediation Analyses

Similar to the mediation models, a constant was used to address the non-normal distribution of both the alcohol use and alcohol-related consequences scores by adding 1 to the total scores and conducting a log10 transformation before running all models (Cheng et al., 2018). Self-stigma of seeking psychological help was used as a moderator and alcohol use was used as a mediator for all three moderated mediation analyses. Depression significantly and positively predicted alcohol use ($B = .223$ $SE = .085$, $p = .009$), but not alcohol consequences (B

= -.001, $SE = .006$, $p = .808$). Similarly, anxiety significantly and positively predicted alcohol use ($B = .209$, $SE = .094$, $p = .026$), but not alcohol consequences ($B = -.005$, $SE = .007$, $p = .463$). Conversely, stress did not significantly predict alcohol use ($B = .160$, $SE = .095$, $p = .095$) or alcohol consequences ($B = -.001$, $SE = .007$, $p = .850$). Self-stigma of seeking psychological help was found to moderate the effect of alcohol use and alcohol consequences in all three analyses (depression interaction: $B = -.030$, $SE = .011$, $p = .008$, 95% CI: -.053, -.008; anxiety interaction: $B = -.031$, $SE = .011$, $p = .006$, 95% CI: -.053, -.009; stress interaction: $B = -.031$, $SE = .011$, $p = .008$, 95% CI: -.053, -.008).

The overall moderated mediation model for depression was supported with significant index of moderated mediation ($-.007$, 95% CI: $-.015$, $-.001$; Figure 11).

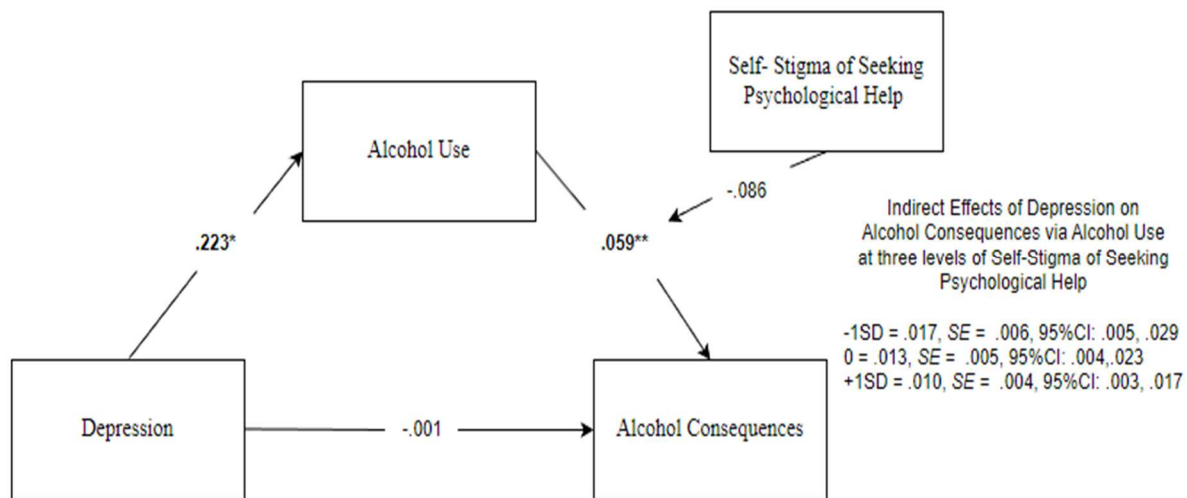


Figure 11. Model 4a: The moderated mediation model illustrating the effects of conditions on alcohol consequences via alcohol use moderated by self-stigma of seeking psychological help.

Note. * = $p < .05$; ** = $p < .01$

The index of moderated mediation was not significant for the anxiety ($-.007$, 95% CI: $-.018$, $.000$; Figure 12) and stress ($-.005$, 95% CI: $-.012$, $.000$; Figure 13).

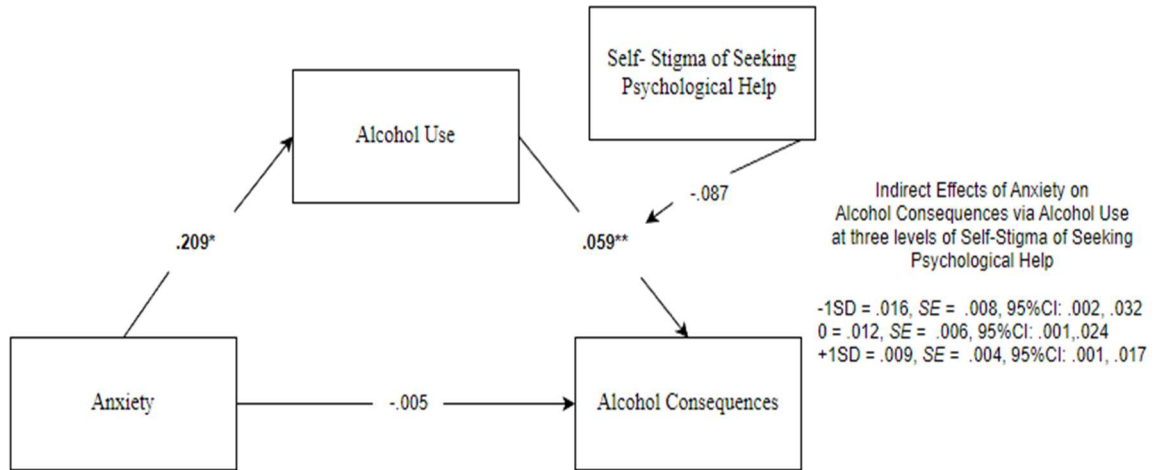


Figure 12. Model 4b: The moderated mediation model illustrating the effects of conditions on alcohol consequences via alcohol use moderated by self-stigma of seeking psychological help.

Note. * = $p < .05$; ** = $p < .01$

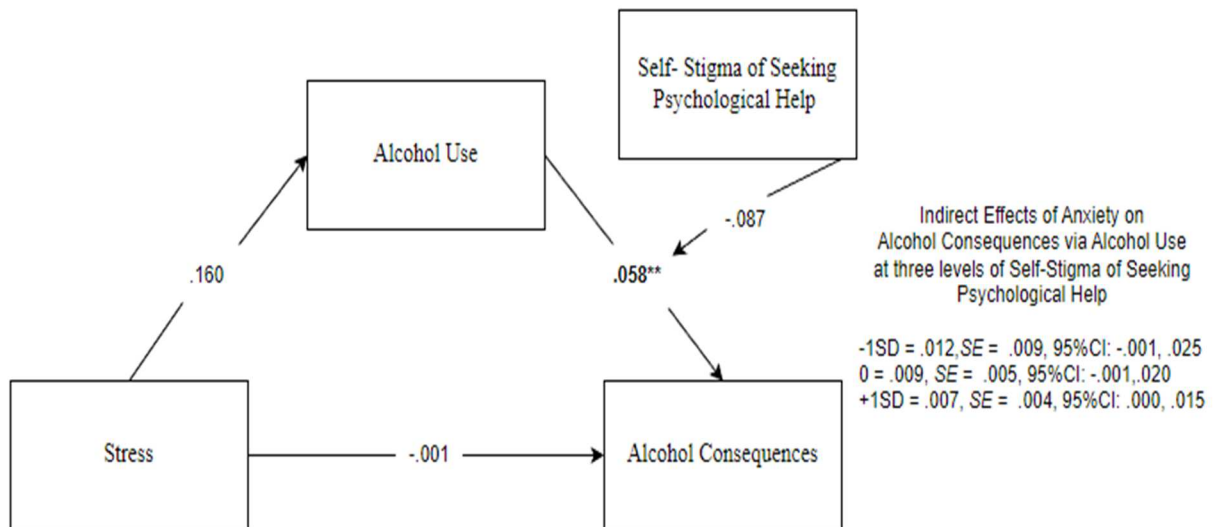


Figure 13. Model 4c: The moderated mediation model illustrating the effects of conditions on alcohol consequences via alcohol use moderated by self-stigma of seeking psychological help.

Note. * = $p < .05$; ** = $p < .01$

The conditional indirect effect was strongest in those with low self-stigma of seeking psychological in all models (depression: 1 SD below the mean of self-stigma; $B = .017$, $SE =$

.006, 95% CI: .005, .029; anxiety: 1 SD below the mean of self-stigma; $B = .016$, $SE = .008$, 95% CI: .002, .032; stress: 1 SD below the mean of self-stigma; $B = .012$, $SE = .007$, 95% CI: -.001, .025). The conditional indirect effect was weakest in those with high self-stigma of seeking psychological help in all models (depression: 1 SD above the mean of self-stigma; $B = .010$, $SE = .004$, 95% CI: .003, .017; anxiety: 1 SD above the mean of self-stigma; $B = .009$, $SE = .004$, 95% CI: .001, .017; stress: 1 SD above the mean of self-stigma; $B = .007$, $SE = .004$, 95% CI: .000, .015). See Figure 14.

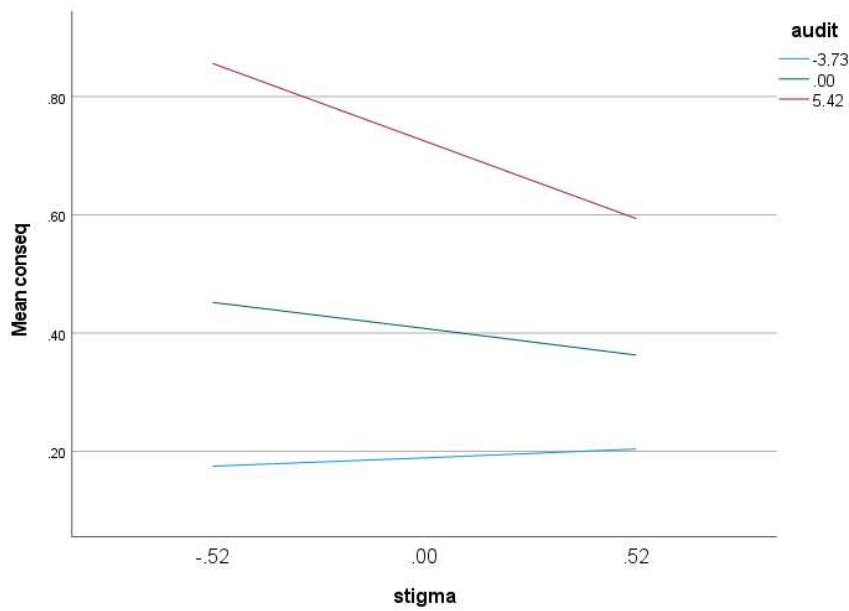


Figure 14. Stigma as a moderator between alcohol use and alcohol consequences at three levels of alcohol use.

Chapter 4: Discussion

The present study aimed to assess the relationships between symptoms of mental illness, self-stigma of seeking help, alcohol use, and alcohol-related consequences. The results of the present study suggest that in the Hispanic community, symptoms of mental illness and self-stigma of seeking psychological help pre-COVID-19 are predictors of alcohol use, but not alcohol-related consequences during COVID-19. Additionally, self-stigma of seeking psychological help pre-COVID-19 serves as a moderator for the relationship between alcohol use and alcohol-related consequences during COVID-19. Thus, symptoms of mental health in combination with stigma of help seeking may contribute to heavy drinking.

Symptoms of Mental Illness

The first part of the first hypothesis, which investigated the relationship between symptoms of mental illness and self-stigma of seeking help, was not fully supported. Specifically, the present study demonstrated that symptoms of mental illness pre-COVID-19 did not significantly predict self-stigma towards seeking psychology help. This is not consistent with past research which has found psychological distress (i.e., depression and social anxiety) to be a significant predictor of self-stigma of seeking psychological help (Cheng et al., 2013; Eisenberg et al., 2009). Additionally, the second part of the first hypothesis which investigated the influence symptoms of mental illness have on alcohol use and alcohol-related consequences was partially supported. That is, the models of symptoms of depression, anxiety, and stress pre-COVID-19 did significantly predict alcohol use, but not alcohol-related consequences during COVID-19. These results are somewhat consistent with past research where depression, anxiety, and stress have been significantly associated with alcohol use and alcohol-related consequences (Overstreet et al., 2017). However, when looking at the individual predictors, only depression

had a main effect on alcohol use. Stress did not have a main effect on alcohol use which contradicts past research suggesting stress is a significant predictor of alcohol use (Charles et al., 2021), especially in a Hispanic population (Goldbach et al., 2015). However, depression and alcohol use are the more common comorbidities, where individuals are 2.3 times more likely to have a major depressive disorder if they are already diagnosed with an alcohol use disorder (McHugh & Weiss, 2019), which may explain why only symptoms of depression, and not symptoms of stress or anxiety, had a main effect on alcohol use. That is, because stress is less frequently co-diagnosed with alcohol use, the effect may not be as prominent as depression among Hispanics.

A potential explanation for both of the above inconsistencies could be that most participants in the present study reported normal to mild range of symptoms of mental illness as compared to past studies where moderate to severe range of symptoms were reported (Cheng et al., 2013; Jennings et al., 2015). If participants are not experiencing heightened symptoms of mental illness, they may be less likely to internalize stigma associated with seeking help because they do not feel required to seek help. Similarly, if participants are not experiencing moderate to severe symptoms of mental illness, there would be no reliance on unhealthy coping mechanisms such as alcohol use, and thus individuals would not experience alcohol-related consequences. Thus, while the results are different than anticipated, they are consistent with the notion that increased symptoms of mental illness are a common precursor to alcohol use.

Self-Stigma of Seeking Psychological Help

The second hypothesis which investigated the effects of self-stigma of seeking psychological help pre-COVID-19 on alcohol use and alcohol-related consequences during COVID-19 was also partially supported. That is, self-stigma of seeking psychological help pre-

COVID-19 predicted alcohol use but not alcohol-related consequences. This is consistent with prior research that sought to examine the relationships between stigma and attitudes towards help seeking and their influence on alcohol use (Gutierrez et al., 2020). However, previous studies investigating how stigma has affected alcohol use and related consequences has been primarily conducted in White non-Hispanic population. In the present study, the population is primarily Hispanic which may have varying effects on stigma associated with seeking psychological help and alcohol-related consequences. Specifically, Hispanic individuals prefer not to share personal issues, which is known as forbearance, and thus may be turning to alcohol as a coping mechanism in lieu of talking with their family and friends and seeking professional help (Constantine et al., 2004; Yue, 2001). Thus, these results are in line with past research that suggests Hispanic individuals may have increased stigma associated with mental health because of their forbearance.

Lastly, hypotheses 3a and 3b were not supported. That is, self-stigma of seeking psychological help did not serve as a mediator between symptoms of mental illness pre-COVID-19 and either alcohol use or alcohol-related consequences during COVID-19. However, increased symptoms of depression pre-COVID-19 did significantly predict increased alcohol use during COVID-19. Thus, participants' self-stigma towards seeking psychological help may not be strong enough to explain the relationship between symptoms of depression pre-COVID-19 and alcohol use during COVID-19. However, similar studies that investigated self-stigma of seeking help had similar means of the SSOSH scale (Cheng et al., 2015; Gutierrez et al., 2020) as in the present study. One explanation for the discrepancy between the present study and past studies could be that participants during COVID-19 had recall bias wherein they under-reported their self-stigma associated with seeking help (Schmier & Halpern, 2004). That is, because

participants were asked to think back a year to their behaviors and lifestyle, they may not have accurately recalled their stigma. Alternatively, given that this sample is primarily Hispanic, forbearance could again be a factor preventing these individuals from disclosing belief about mental illness. That is, participants may not have wanted to share their personal issues or beliefs about mental illness in fear of being viewed as unable to cope (Mendoza et al., 2015).

When assessing the indirect effects of symptoms of depression pre-COVID-19 on alcohol-related consequences via alcohol use at three distinct levels of self-stigma of seeking psychological help, we observed a significant moderation. That is, self-stigma pre-COVID-19 served as a moderator between alcohol use and alcohol consequences during COVID-19. Specifically, the effect of alcohol use on alcohol consequences via self-stigma was strongest in participants who had low self-stigma. In contrast, the effects of alcohol use on alcohol consequences via self-stigma was weakest in participants who had high self-stigma. These effects suggest that self-stigma significantly influences the relationship between alcohol use and alcohol-related consequences, such that if an individual has lower self-stigma of seeking psychological help, they are more likely to experience, or report, alcohol-related consequences after unhealthy alcohol use. That is, self-stigma of help-seeking does not influence individuals' likelihood of coping through alcohol use, but it may influence whether alcohol use leads to alcohol-related consequences. Notably, symptoms of mental illness pre-COVID-19 did not significantly predict alcohol-related consequences during COVID-19. This is inconsistent with past research that found symptoms of mental illness (e.g., depressive symptoms, anxiety symptoms) increase an individual's risk for experiencing negative alcohol-related consequences (Foster et al., 2013; Labrie et al., 2010; Linden et al., 2013; Mallett et al., 2013; Martens et al., 2008). Overall, the results of the present study suggest that self-stigma may serve a significant

role in alcohol-related consequences rather than in unhealthy alcohol use as previously expected, but symptoms of mental illness may not serve a distinct role in alcohol-related consequences among Hispanic college students.

COVID-19

In the examination of the above findings, COVID-19 related stress was taken into account. COVID-19 related stress appeared to influence both alcohol use and alcohol-related consequences. That is, the more COVID-19 stress a participant experienced, the more alcohol use and alcohol-related consequences they reported. This was inconsistent with past research which has shown a decrease in alcohol use and alcohol-related consequences in college samples during COVID-19 (Graupensperger et al., 2021; Jaffe et al., 2021; White et al., 2020). However, these past studies were conducted in a primarily White non-Hispanic college sample, thus there could be ethnic differences that cause an increase in alcohol use and related consequences as one study conducted by Lancaster and Arango (2021) found. More specifically, Hispanics are at an increased risk for unhealthy alcohol use when compared to non-Hispanic individuals (CDC, 2012; Miech et al., 2020). Thus, a potential explanation for these discrepancies in reported alcohol consumption could be due to the current study having a predominantly Hispanic sample. Additionally, past research has suggested that Hispanic college students are at a greater risk for experiencing increased symptoms of mental illness, especially during COVID-19, because of their collectivistic orientation (Lancaster and Arango, 2021). That is, participants could be utilizing alcohol as their coping mechanism due to their isolation from their typical support systems during a time of heightened distress, such as COVID-19.

Overall, the present study found support for symptoms of mental illness and self-stigma of seeking psychological help pre-COVID-19 to serve as predictors of alcohol use during

COVID-19. Additionally, the current study suggests that self-stigma of seeking psychological help can serve as a moderator for the relationship between alcohol use and alcohol-related consequences. Lastly, each of these findings are independent of COVID-19 related stress.

Limitations and Strengths

The present study is not without limitations. First, the present study uses a half-longitudinal design, which is where two of the three variables in a mediation are collected concurrently. That is, in the present study, both the independent variable (i.e., symptoms of mental illness pre-COVID-19) and the mediator (i.e., self-stigma of seeking psychology help) were collected at the same time). Half-longitudinal designs may assess prospective relationships between the mediators and the outcome variables, but these designs may not accurately assess the relationship between the predictor variables and the mediators (Cole & Maxwell, 2003). Additionally, because the predictor variables and mediators were collected simultaneously (pre-COVID-19), the relationship between them may be biased because the mediator was not previously controlled for (Cole & Maxwell, 2003; Maxwell & Cole, 2007). Additionally, the retrospective nature of collecting data was not ideal. Specifically, participants could be either under- or over exaggerating their reports of pre-COVID symptoms of mental illness and alcohol use. However, retrospective studies have been previously practiced after times of significant distress. Specifically, previous studies have utilized retrospective surveys to assess alcohol use, symptoms of mental illness, and religiosity pre- and post-9/11 attacks (Brackbill et al., 2009; Farfel et al., 2008; Seirmarco et al., 2012; Simons et al., 2005). Similarly, previous studies used retrospective surveys to assess alcohol consumption, psychosocial burdens, and social media use pre- and post-COVID-19 (Hering et al., 2022; Luo et al., 2021; Wang et al., 2020). Moreso, while alcohol use was conceptualized as a coping mechanism in the present study, there was no

data collected on drinking motives to define a coping motive for alcohol consumption. Lastly, the current study had a large power (.99) which increases the chances of a Type I error. That is, with a power of .99, there is a high chance that the current study could have produced false positive results.

Despite these limitations, the present study also had several strengths. First, this study extends the literature surrounding underrepresented populations, such as Hispanic college students, and their increased use of alcohol as a potential coping mechanism for their mental illnesses. Potential contributions to the literature of this study include identifying various levels of self-stigma of seeking psychological help associated with various levels of alcohol use and alcohol-related consequences. Secondly, this study addresses health disparities and treatment inequities among Hispanics. Lastly, the key strength in this study is how self-stigma among those with depression, anxiety, or stress may contribute to the development of alcohol problems.

Implications and Future Directions

The present study establishes an under-studied relationship between mental illness and stigma that is commonly observed in the Hispanic community, where discussion of mental illness and treatment are avoided, and alcohol-related consequences seem to be the result. Moreover, this study has the potential to introduce interventions targeting Hispanic college students to seek psychological help in lieu of coping with alcohol misuse and avoid any alcohol-related consequences resulting from alcohol misuse.

Future studies examining these phenomena would benefit from utilizing a multi-group approach to assess the added value that symptom severity of mental illnesses might place on self-stigma towards seeking psychological help as well as alcohol use and related consequences. Additionally, future research should investigate how Hispanic individuals cope with symptoms

of mental illness and stigma associated with mental illness, while examining how forbearance would influence these relationships. Specifically, future studies would benefit from investigating alcohol use as a coping mechanism. Furthermore, past research has suggested that increased perceived social support in the Hispanic community acts as a buffer for negative consequences, such as microaggressions (Hernández & Villodas, 2018), thus further research would benefit from exploring how social support may buffer effects of forbearance. While COVID-19 began over two years ago, it is still a concern among many individuals. Future research should further expand on how COVID-19 has affected, and will continue to affect, symptoms of mental illness, self-stigma towards seeking help, alcohol use, and alcohol-related consequences. Moreover, future research would benefit from investigating the impact of COVID-19 on collectivistic cultures compared to individualistic cultures to examine the coping mechanisms used to decrease stress associated with COVID-19. That is, future studies should investigate how support from significant individuals influence symptoms of mental illness throughout COVID-19. Lastly, while COVID-19 was examined in the present study, these results may generalize to the experience of other stressors (i.e., death of a loved one or loss of a job) should also be examined.

As previously mentioned, minority stress theory offers a unique insights into Hispanic students' mental health and alcohol use that may shed light on translating and applying the findings to potential intervention development. Utilizing factors from the minority stress theory, such as resilience, to mitigate symptoms of mental illness and unhealthy alcohol use allows for the opportunity to address health disparities in the Hispanic community. Past research has used an intervention to strengthen an individual's resilience and target stress-related growth. Specifically, two studies have utilized the *Transforming Lives Through Resilience Education* intervention that focuses on "bouncing up," or recovering from stress after a stressful situation,

encourages growth beyond the individual's typical level of functioning, empowers the individuals into responding appropriately to stressors, and increases awareness on taking responsibility for actions following a stressor (Dolbier et al., 2010; Steinhardt and Dolbier, 2008). These studies reported greater resilience and more effective coping strategies (Steinhardt and Dolbier, 2008), as well as decreased stress and symptoms of depression (Dolbier et al., 2010). Thus, utilizing the minority stress theory's understanding and expectations of resilience, or coping with a stressor, a resilience intervention may have positive effects on an individual's self-stigma of seeking psychological help and lead to increased help seeking behaviors.

Future studies may include resilience interventions to decrease alcohol use and stigma associated with seeking psychological help. Additionally, future studies would benefit from exploring how various positive psychology interventions could be utilized to target and decrease stigma associated with seeking psychology help. Lastly, investigating positive psychology interventions to promote seeking psychological help and reduce alcohol use and alcohol-related consequences should be further investigated in a Hispanic college student population.

Conclusion

The current findings suggest that the relationship between symptoms of mental illness prior to a stressful event and their relationship with self-stigma of seeking psychological help prior to a stressful event need to be further investigated. While the present study found support for symptoms of mental illness and stigma to serve as predictors of alcohol use and alcohol-related consequences, these relationships need to be further investigated. Moreover, the present study adds support for evaluating stigma as a moderator for the relationship between alcohol use and alcohol-related consequences. However, stigma should be assessed as a factor associated with various collectivistic coping strategies (i.e., social support). Investigating these relationships

in a Hispanic population is imperative to reach a full understanding of how stigma influences alcohol use and alcohol-related consequences. Furthermore, evaluating how a resilience intervention could potentially lower an individual's self-stigma towards seeking psychological help is needed to address the health disparities present among a Hispanic population.

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Appendices

Appendix A: Sociodemographics

1. What is your age?
2. What sex were you assigned at birth?
 - Male
 - Female
 - Other
3. What is your gender identity? Note: Cis Gender terms Cis Man and Cis Woman denote individuals whose gender identity corresponds with the sex assigned to them at birth.
 - Cis Man
 - Cis Woman
 - Trans Man
 - Trans Woman
 - Another Identity
4. What is your current year in school?
 - Freshman
 - Sophomore
 - Junior
 - Senior
 - Graduate
5. What is your current marital status?
 - Single (never married)
 - Married
 - Separated
 - Divorced
 - Widowed
6. What is your race?
 - American Indian or Alaska Native
 - Asian
 - Black or African American
 - Native Hawaiian or Pacific Islander
7. Do you consider yourself Hispanic or Latino or a person of Spanish Origin?

- Yes
- No

8. Families of origin or background in the United States come from many different countries. From which country do you trace your Latino heritage?

- Argentina
- Bolivia
- Chile
- Colombia
- Costa Rica
- Cuba
- Dominican Republic
- Ecuador
- El Salvador
- Guatemala
- Honduras
- Mexico
- Nicaragua
- Panama
- Paraguay
- Peru
- Puerto Rico
- Spain
- Uruguay
- Venezuela
- Do not know
- Prefer not to answer
- Other (specify) _____

9. Were you born in the United States, Puerto Rico, or another country?

- United States
- Puerto Rico
- Other

10. Where were you born?

- Argentina
- Bolivia
- Chile
- Colombia
- Costa Rica
- Cuba
- Dominican Republic
- Ecuador
- El Salvador

- Guatemala
- Honduras
- Mexico
- Nicaragua
- Panama
- Paraguay
- Peru
- Puerto Rico
- Spain
- Uruguay
- Venezuela
- Do not know
- Prefer not to answer
- Other (specify) _____

11. Where were your parents born?

- One parent born in the U.S
- Both parents born in the U.S
- Neither parent born in the U.S
- Do not know
- Prefer not to answer

Appendix B: Covid-19 Stress Scale (CSS)

The following asks about various kinds of worries that you might have experienced *over the past seven days*. In the following statements, we refer to COVID-19 as "the virus." Each item is scored on a 5-point scale: 0 = Not at all, 1 = Slightly, 2 = Moderately, 3 = Very, and 4 = Extremely.

1. I am worried about catching the virus.
2. I am worried that I can't keep my family safe from the virus.
3. I am worried that our healthcare system won't be able to protect my loved ones.
4. I am worried our healthcare system is unable to keep me safe from the virus.
5. I am worried that basic hygiene (e.g., handwashing) is not enough to keep me safe from the virus.
6. I am worried that social distancing is not enough to keep me safe from the virus.
7. I am worried about grocery stores running out of food.
8. I am worried that grocery stores will close down.
9. I am worried about grocery stores running out of cleaning or disinfectant supplies.
10. I am worried about grocery stores running out of cold or flu remedies.
11. I am worried about grocery stores running out of water.
12. I am worried about pharmacies running out of prescription medicines.
13. I am worried that foreigners are spreading the virus in my country.
14. If I went to a restaurant that specialized in foreign foods, I'd be worried about catching the virus.
15. I am worried about coming into contact with foreigners because they might have the virus.
16. If I met a person from a foreign country, I'd be worried that they might have the virus.

17. If I was in an elevator with a group of foreigners, I'd be worried that they're infected with the virus.
18. I am worried that foreigners are spreading the virus because they're not as clean as we are.
19. I am worried if I touched something in a public space (e.g., handrail, door handle), I would catch the virus.
20. I am worried that if someone coughed or sneezed near me, I would catch the virus.
21. I am worried that people around me will infect me with the virus.
22. I am worried about taking change in cash transactions.
23. I am worried that I might catch the virus from handling money or using a debit machine.
24. I am worried that mail has been contaminated by mail handlers.

Please read each statement and indicate how frequently you have experienced each problem **during the past seven days**. Each item is scored on a 5-point scale: 0 = Never, 1 = Rarely, 2 = Sometimes, 3 = Often, and 4 = Almost always.

1. I had trouble concentrating because I kept thinking about the virus.
2. Disturbing mental images about the virus popped into my mind against my will.
3. I had trouble sleeping because I worried about the virus.
4. I thought about the virus when I didn't mean to.
5. Reminders of the virus caused me to have physical reactions, such as sweating or a pounding heart.
6. I had bad dreams about the virus.

The following items ask about checking behaviors. **During the past seven days**, how much have you done the following because of concerns about COVID-19? Each item is scored on a 5-point scale: 0 = Never, 1 = Rarely, 2 = Sometimes, 3 = Often, and 4 = Almost always.

1. Searched the internet for treatments for COVID-19.

2. Asked health professionals (e.g., doctors or pharmacists) for advice about COVID-19.
3. Checked YouTube videos about COVID-19.
4. Checked your own body for signs of infections (e.g., taking your temperature).
5. Sought reassurance from friends or family about COVID-19.
6. Checked social media posts concerning COVID-19.

Appendix C: Depression, Anxiety, and Stress Scale – Short Version (DASS-21)

Time 1: Please read each statement and indicate how much the statement applied to you prior to COVID-19. There are no right or wrong answers. Do not spend too much time on any statement. Note that Texas was under a state-wide emergency due to COVID-19 on March 13, 2020.

1. I found it hard to wind down.
2. I was aware of dryness of my mouth.
3. I could not seem to experience any positive feeling at all.
4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion).
5. I found it difficult to work up the initiative to do things.
6. I tended to overreact to situations.
7. I experienced trembling (e.g., in the hands).
8. I felt that I was using a lot of nervous energy.
9. I was worried about situations in which I might panic and make a fool of myself.
10. I felt I had nothing to look forward to.
11. I found myself getting agitated.
12. I found it difficult to relax.
13. I felt downhearted and blue.
14. I was intolerant of anything that kept me from getting on with what I was doing.
15. I felt I was close to panic.
16. I was unable to become enthusiastic about anything.
17. I felt I was not worth much as a person.
18. I felt that I was rather touchy.

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).
20. I felt scared without any good reason.
21. I felt that life was meaningless.

Time 2: Please read each statement and indicate 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.

Each item is scored on a 4-point scale: 0 = Never, 1 = Sometimes, 2 = Often, and 3 = Almost always.

1. I found it hard to wind down.
2. I was aware of dryness of my mouth.
3. I could not seem to experience any positive feeling at all.
4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion).
5. I found it difficult to work up the initiative to do things.
6. I tended to overreact to situations.
7. I experienced trembling (e.g., in the hands).
8. I felt that I was using a lot of nervous energy.
9. I was worried about situations in which I might panic and make a fool of myself.
10. I felt I had nothing to look forward to.
11. I found myself getting agitated.
12. I found it difficult to relax.
13. I felt downhearted and blue.
14. I was intolerant of anything that kept me from getting on with what I was doing.

15. I felt I was close to panic.
16. I was unable to become enthusiastic about anything.
17. I felt I was not worth much as a person.
18. I felt that I was rather touchy.
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).
20. I felt scared without any good reason.
21. I felt that life was meaningless.

Appendix D: Self-Stigma of Seeking Psychological Help Scale (SSOSH)

People at times find that they face problems that they consider seeking help for. This can bring up reactions about what seeking help would mean. Please use the 5-point scale to rate the degree to which each item describes how you might react in this situation. Each item is scored on a 5-point scale: 0 = Strongly Disagree, 2 = Disagree, 3 = Agree & Disagree Equally, 4 = Agree, and 5 = Strongly Agree.

1. I would feel inadequate if I went to a therapist for psychological help.
2. My self-confidence would NOT be threatened if I sought professional help.
3. Seeking psychological help would make me feel less intelligent.
4. My self-esteem would increase if I talked to a therapist.
5. My view of myself would not change just because I made the choice to see a therapist.
6. It would make me feel inferior to ask a therapist for help.
7. I would feel okay about myself if I made the choice to seek professional help.
8. If I went to a therapist, I would be less satisfied with myself.
9. My self-confidence would remain the same if I sought professional help for a problem I could not solve.
10. I would feel worse about myself if I could not solve my own problems.

Appendix E: Alcohol Use Disorders Identification Test (AUDIT)

Time 1: Using the chart above, please respond to each item below by marking one bubble per row and answering based on your alcohol intake prior to COVID-19. Note that Texas was under a state-wide emergency due to COVID-19 on March 13, 2020.

1. How often did you have a drink containing alcohol, prior to COVID-19?
 - Never
 - Monthly or less
 - 2-4 times a month
 - 2-3 times a week
 - 4 or more times a week

2. How many drinks containing alcohol did you have on a typical day when you are drinking, prior to COVID-19?
 - 1 or 2
 - 3 or 4
 - 5 or 6
 - 7 to 9
 - 10 or more

3. How often did you have six or more drinks on one occasion, prior to COVID-19?
 - Never
 - Less than monthly
 - Monthly
 - Weekly
 - Daily or almost daily

4. How often prior to COVID-19 have you found that you were not able to stop drinking once you had started?
 - Never
 - Less than monthly
 - Monthly
 - Weekly
 - Daily or almost daily

5. How often prior to COVID-19 have you failed to do what was normally expected of you because of drinking?
 - Never
 - Less than monthly
 - Monthly
 - Weekly
 - Daily or almost daily

6. How often prior to COVID-19 have you needed a first drink in the morning to get yourself going after a heavy drinking session?

- Never
 - Less than monthly
 - Monthly
 - Weekly
 - Daily or almost daily
7. How often prior to COVID-19 have you had a feeling of guilt or remorse after drinking?
- Never
 - Less than monthly
 - Monthly
 - Weekly
 - Daily or almost daily
8. How often prior to COVID-19 have you been unable to remember what happened the night before because of your drinking?
- Never
 - Less than monthly
 - Monthly
 - Weekly
 - Daily or almost daily
9. Have you or someone else been injured because of your drinking, prior to COVID-19?
- No
 - Yes, but not in the last year
 - Yes, during the least year
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down, prior to COVID-19?
- No
 - Yes, but not prior to COVID-19
 - Yes, prior to COVID-19

Time 2: Using the chart above, please respond to each item below by marking one bubble per row and answering based on your alcohol intake during the past year, during COVID-19.

1. How often do you have a drink containing alcohol?
- Never
 - Monthly or less
 - 2-4 times a month
 - 2-3 times a week
 - 4 or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?

- 1 or 2
 - 3 or 4
 - 5 or 6
 - 7 to 9
 - 10 or more
3. How often do you have six or more drinks on one occasion?
- Never
 - Less than monthly
 - Monthly
 - Weekly
 - Daily or almost daily
4. How often during the last year have you found that you were not able to stop drinking once you had started?
- Never
 - Less than monthly
 - Monthly
 - Weekly
 - Daily or almost daily
5. How often during the last year have you failed to do what was normally expected of you because of drinking?
- Never
 - Less than monthly
 - Monthly
 - Weekly
 - Daily or almost daily
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?
- Never
 - Less than monthly
 - Monthly
 - Weekly
 - Daily or almost daily
7. How often during the last year have you had a feeling of guilt or remorse after drinking?
- Never
 - Less than monthly
 - Monthly
 - Weekly
 - Daily or almost daily
8. How often during the last year have you been unable to remember what happened the night before because of your drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

9. Have you or someone else been injured because of your drinking?

- No
- Yes, but not in the last year
- Yes, during the least year

10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?

- No
- Yes, but not in the last year
- Yes, during the least year

Appendix F: Brief Young Adult Alcohol Consequences Questionnaire (BYAACQ).

Time 1: Below is a list of things that sometimes happen to people either during, or after they have been drinking alcohol. Next to each item below, please select either the YES or NO choice to indicate whether that item describes something that has happened to you **prior to COVID-19**. Note that Texas was under a state-wide emergency due to COVID-19 on March 13, 2020.

1. While drinking, I had said or done embarrassing things.
2. I have had a hangover (headache, sick stomach) the morning after I had been drinking.
3. I had felt very sick to my stomach or thrown up after drinking.
4. I often had ended up drinking on nights when I had planned not to drink.
5. I had taken foolish risks when I have been drinking.
6. I had passed out from drinking.
7. I had found that I needed larger amounts of alcohol to feel any effect, or that I could no longer get high or drunk on the amount that used to get me high or drunk.
8. When drinking, I had done impulsive things that I regretted later.
9. I had not been able to remember large stretches of time while drinking heavily.
10. I had driven a car when I knew I had too much to drink to drive safely.
11. I had not gone to work or missed classes at school because of drinking, a hangover, or illness caused by drinking.
12. My drinking had gotten me into sexual situations I later regretted.
13. I had become very rude, obnoxious, or insulting after drinking.
14. I had often found it difficult to limit how much I drink.
15. I had woken up in an unexpected place after heavy drinking.
16. I had felt badly about myself because of my drinking.
17. I had had less energy or felt tired because of my drinking.

18. The quality of my work or schoolwork had suffered because of my drinking.
19. I had spent too much time drinking.
20. I had neglected my obligations to family, work, or school because of drinking.
21. My drinking had created problems between myself and my boyfriend/girlfriend/spouse, parents, or other near relatives.
22. I had been overweight because of drinking.
23. My physical appearance had been harmed by my drinking.
24. I had felt like I needed a drink after I had gotten up (that is, before breakfast).

Time 2: Below is a list of things that sometimes happen to people either during, or after they have been drinking alcohol. Next to each item below, please select either the YES or NO choice to indicate whether that item describes something that has happened to you in the **past 3 months**.

1. While drinking, I have said or done embarrassing things.
2. I have had a hangover (headache, sick stomach) the morning after I had been drinking.
3. I have felt very sick to my stomach or thrown up after drinking.
4. I often have ended up drinking on nights when I had planned not to drink.
5. I have taken foolish risks when I have been drinking.
6. I have passed out from drinking.
7. I have found that I needed larger amounts of alcohol to feel any effect, or that I could no longer get high or drunk on the amount that used to get me high or drunk.
8. When drinking, I have done impulsive things that I regretted later.
9. I have not been able to remember large stretches of time while drinking heavily.
10. I have driven a car when I knew I had too much to drink to drive safely.

11. I have not gone to work or missed classes at school because of drinking, a hangover, or illness caused by drinking.
12. My drinking has gotten me into sexual situations I later regretted.
13. I have become very rude, obnoxious, or insulting after drinking.
14. I have often found it difficult to limit how much I drink.
15. I have woken up in an unexpected place after heavy drinking.
16. I have felt badly about myself because of my drinking.
17. I have had less energy or felt tired because of my drinking.
18. The quality of my work or schoolwork has suffered because of my drinking.
19. I have spent too much time drinking.
20. I have neglected my obligations to family, work, or school because of drinking.
21. My drinking has created problems between myself and my boyfriend/girlfriend/spouse, parents, or other near relatives.
22. I have been overweight because of drinking.
23. My physical appearance has been harmed by my drinking.
24. I have felt like I needed a drink after I had gotten up (that is, before breakfast).

Vita

Aitiana Ivonne Sanchez was born and raised in El Paso, Texas to Frank and Carmen Sanchez. Aitiana earned her bachelor's in Psychology from Texas State University in San Marcos Texas in 2018 along with a minor in Anthropology. In the fall of 2019, Aitiana enrolled in the Master of Arts program in Experimental Psychology at the University of Texas at El Paso under the mentorship of Dr. Craig Field in the Latino Alcohol Health Disparities Research (LAHDR) and Training Center. Her first graduate study investigated the effects of resilience on drinking motives and drinking behaviors. While in the program, Aitiana has first authored one publication in the peer-reviewed journal *The American Journal of Drug and Alcohol Abuse* and has submitted one first-author publication to *Alcoholism: Clinical and Experimental Research*, a second-author publication to *Addiction Research & Theory*, and a third-author publication to *Cultural Diversity & Ethnic Minority Psychology*. She has also presented at the annual *Research Society on Alcoholism* meeting and serves as lab manager for the LAHDR Center. Aitiana plans to continue her graduate career at the University of Texas at El Paso under the mentorship of Dr. Craig Field in the LAHDR Center to pursue her Ph.D in Health Psychology.

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