Evaluating The Effectiveness Of A Resilience Intervention On College Students' Mental Illness And Subsequent Alcohol Use

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EVALUATING THE EFFECTIVENESS OF A RESILIENCE INTERVENTION
ON COLLEGE STUDENTS’ MENTAL ILLNESS AND
SUBSEQUENT ALCOHOL USE

AITIANA IVONNE SANCHEZ-GARCIAGUIRRE

Doctoral Program in Psychology

APPROVED:

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Stephen L. Crites, Jr., Ph.D.
Dean of the Graduate School
Dedication

This dissertation and the ongoing project are dedicated to everyone who faced moments of despair yet discovered their inner resilience and persevered. It is dedicated to my past self, whose dreams laid the foundation for the accomplishments I stand upon today. To my parents, Frank and Carmen Sanchez, whose unwavering sacrifices day in and day out opened doors to countless opportunities. To my daughter, whose presence became the guiding light that fueled my determination. And last, but certainly not least, to my husband, Walter Garciaguirre, who has been my world since the day our paths intertwined.
EVALUATING THE EFFECTIVENESS OF A RESILIENCE INTERVENTION
ON COLLEGE STUDENTS’ MENTAL ILLNESS AND
SUBSEQUENT ALCOHOL USE

by

AITIANA IVONNE SANCHEZ-GARCIAGUIRRE, M.A.

DISSERTATION

Presented to the Faculty of the Graduate School of
The University of Texas at El Paso
in Partial Fulfillment
of the Requirements
for the Degree of

DOCTOR OF PHILOSOPHY

Department of Psychology
THE UNIVERSITY OF TEXAS AT EL PASO
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Abstract

Mental illness and stigma surrounding mental illness are common among college-aged individuals. Alcohol use is also common among college-aged individuals, and often coexists with increased symptoms of mental illness, leading to unhealthy perpetual coping mechanisms. However, increased resilience and adaptive coping strategies may suppress the need to use alcohol as a coping mechanism when experiencing symptoms of mental illness and the stigma associated with it. The present study sought to utilize a resilience intervention to increase resilience and adaptive coping strategies among Hispanic college students to reduce their alcohol use and experiences of depression and/or anxiety. Additionally, the present study sought to establish the moderating effects that perceived and internalized stigma associated with mental illness has on the relationship between a resilience intervention and severity of alcohol use as well as symptoms of depression and/or anxiety. Lastly, the current study sought to evaluate the effect of the number of intervention sessions attended on the primary outcomes of interest (i.e., symptoms of mental illness and alcohol use). Participants (n=88; Mage= 21.86, SD = 6.08; 64.8% female; 78.9% Hispanic) completed a series of questionnaires at three different time points (baseline (Fall 2023), immediately post-intervention (Fall 2023), and 1-month post-intervention (Fall 2023 – Spring 2024)), that assessed their symptoms of mental illness, resilience, stigma towards mental illness, alcohol use, and alcohol use severity. Additionally, participants completed the Transforming Lives Through Resilience Education intervention. Results from the independent samples-tests suggested that there were no differences between participants who had completed the one-month follow-up and those who did not in sociodemographics. Additionally, most participants rated the resilience intervention as acceptable and feasible (M = 23.88, SD = 5.25 and M = 18.13, SD = 3.57, respectively). The
results of the repeated measures MANOVA suggested that the resilience intervention was effective at reducing anxiety symptoms, but not depression symptoms, alcohol use severity, or alcohol consumption. The mediation analyses showed that resilience mediated the relationship between a 4-module intervention and depression as well as anxiety. Additionally, maladaptive coping strategies mediated the relationship between a 2-module intervention and depression symptoms. Lastly, a 2-module intervention increased protective behavioral strategies, but not alcohol abstinence self-efficacy. Overall, the current study provides a foundation for future research and intervention efforts aimed at addressing health disparities experienced by underrepresented populations, such as Hispanic college students. The current research lays the groundwork for developing targeted interventions aimed at promoting resilience and adaptive coping strategies.
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Mental Illness Among Hispanic College Students

Mental health diagnoses and symptoms of mental illness are common among college-aged individuals and college students. One of the most prevalent class of disorders for college students is anxiety disorders, with a range of 11.4-14.7% of college students meeting criteria for an anxiety disorder defined by the DSM-5 (American Psychiatric Association, 2013; Auerbach et al., 2016; Blanco et al., 2008; Eisenberg et al., 2007; Hunt & Eisenberg, 2010). Following anxiety disorders are mood disorders, including major depression, with a range of 6-9.9% of college students meeting criteria for a mood disorder defined by the DSM-5 (American Psychiatric Association, 2013; Auerbach et al., 2016; Blanco et al., 2008; Eisenberg et al., 2007). However, previous studies have found that alcohol use disorder are among the most prevalent disorder among college students, with approximately 20.37% of college students meeting criteria for an alcohol use disorder (Blanco et al., 2008; McHugh & Weiss, 2019). However, most research surrounding mental illness among college students has been done on a primarily non-Hispanic White population, posing the necessity to evaluate the research surrounding underrepresented college students, such as Hispanic college students.

Past research has found support for poorer mental health outcomes, including suicidality, loneliness, and increased symptoms of both anxiety and depressive disorders among individuals who identify as belonging to a racial/ethnic minority group (Blume et al., 2012; Smith et al., 2014). Moreso, Hispanic college students may experience additional stressors, such as racial/ethnic discrimination and language barriers, which can negatively affect their mental health (Corona et al., 2017; Lee & Ahn, 2012). Notably, students who identify as Hispanic are less likely to receive treatment for their mental health (Eghaneyan & Murphy, 2020; Eisenberg et
al., 2011; Katiria Perez & Cruess, 2014). Overall, there is an overwhelming and disproportionate rate of mental illness and lack of mental health treatment among Hispanic college students which may, in part, be associated with increased alcohol use. Additionally, understanding that almost a quarter of college students may experience symptoms associated with alcohol use disorder as well as anxiety and/or depressive disorders, suggests the need to intervene to reduce unhealthy alcohol use and symptoms of depression and/or anxiety.

**Alcohol Use Among Hispanic College Students**

Unhealthy alcohol use remains a prominent issue among adolescents and young adults including college students. Symptoms of alcohol use disorder include when an individual continues to consume unhealthy amounts of alcohol despite negative and adverse consequences associated with drinking (Friedmann, 2013). According to 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), 50% of people aged 12 or older in 2020 consumed alcohol (SAMHSA, 2021). Notably, 29.1% of individuals 18 years and older meet criteria for alcohol use disorder defined by the DSM-5 (American Psychiatric Association, 2013; Grant et al., 2015). The second highest reported consumption was among college aged individuals (18-25) with more than half (54.6%) reporting alcohol consumption (SAMHSA, 2021). Additionally, binge drink and heavy drinking reports in 2020 were the highest among college aged individuals with 31.4% of individuals reporting binge drinking and 6.4% of individuals reporting heavy drinking (SAMHSA, 2021). Acknowledging that unhealthy alcohol use among college students leads to an increased risk for potential alcohol use disorder is necessary. However, examining unhealthy alcohol use among groups in which alcohol
consumption may be particularly encouraged, such as Hispanic college students, is valuable in examining the effectiveness of a resilience intervention on reducing alcohol use.

Individuals in the Hispanic community have been known to initiate alcohol use at younger ages, become intoxicated at a greater frequency, and are more likely to abuse alcohol than White, non-Hispanics (CDC, 2012; Miech et al., 2020). Subsequently, Hispanic adults are also more likely to develop alcohol use disorder (Grant et al., 2012). While harmful, alcohol is readily available and viewed as a social norm in cultures such as the Hispanic culture, where adults are encouraged to drink until intoxication (Connor et al., 2016). Providing resilience interventions that enhance resilience and adaptive coping strategies among Hispanic college students experiencing at-risk drinking could also help alleviate depression and anxiety.

Alcohol use disorder and depressive disorders commonly cooccur (Barrett et al., 2014; McHugh & Weiss, 2019; Quigley et al., 2018). That is, if individuals have a diagnosis of an alcohol use disorder, they are also 2.3 times more likely to be diagnosed with a depressive disorder (McHugh & Weiss, 2019). Individuals with anxiety disorder are also at an increased risk for developing alcohol use disorder (Berenz et al., 2016; Charles et al., 2021; Overstreet et al., 2017). Previous studies have indicated that college students are more prone to using alcohol as a coping strategy for managing their anxiety symptoms in contrast to individuals who are not attending college (Berenz et al., 2016). Nevertheless, limited research has been conducted to evaluate the potential benefits of a resilience intervention to reduce alcohol use as well as symptoms of depression and/or anxiety.

The theory of minority stress provides a distinctive lens through which to examine the disparities in mental health and alcohol use among Hispanic college students. Encountering minority stressors, such as acculturative stress, has been correlated with adverse health
outcomes, including heightened mental health symptoms and increased alcohol consumption (Flood et al., 2013; Pittman et al., 2019). Conversely, Hispanic college students may employ social resources, such as social support, to contend with stressors stemming from their minority status, potentially enhancing their resilience to cope with such challenges (Meyer, 2003). Consequently, in accordance with the minority stress theory, resilience—defined as the capacity to manage stressors—emerges as a prevalent trait among minorities, offering a protective mechanism against unhealthy alcohol use.

Previous research has explored interventions designed to enhance individuals' resilience and facilitate growth in response to stress. Notably, two studies have employed the Transforming Lives Through Resilience Education intervention, which focuses on the concept of "bouncing back" from stress and promoting growth beyond one's typical level of functioning (Dolbier et al., 2010; Steinhardt and Dolbier, 2008). Thus, drawing upon the insights and expectations of resilience derived from the minority stress theory, it is conceivable that a resilience intervention could yield positive outcomes for individuals experiencing symptoms of mental illness and problematic alcohol use. However, prior investigations have yet to delve into the augmentation of such interventions with specific strategies, such as protective behavioral techniques, which could potentially reduce the likelihood of experiencing adverse effects associated with alcohol consumption.

**Protective Behavioral Strategies**

Protective Behavioral Strategies (PBS) refer to specific methods that college students can employ while drinking to reduce their vulnerability to negative alcohol-related outcomes (Linden-Carmichael et al., 2018; Pearson et al., 2013; Tyler et al., 2018; Villarosa et al., 2018). There are four sub-types of PBS: strategies for limiting the amount of alcohol consumed (e.g.,
planning the number of drinks before going out), modifying how one drinks (e.g., avoiding
drinking games), reducing the likelihood of experiencing serious harm (e.g., using a designated
driver), and planning activities to avoid drinking completely (e.g., avoiding situations where
alcohol is available; Linden-Carmichael et al., 2018; Villarosa et al., 2018). Previous research
indicates that the utilization of PBS is linked to reduced alcohol consumption and a decrease in
alcohol-related issues (Linden-Carmichael et al., 2018; Pearson et al., 2013; Tyler et al., 2018).
Additionally, individuals who consistently employ PBS, in comparison to those who do not, tend
to experience fewer severe alcohol-related problems (Linden-Carmichael et al., 2018). However,
in order to understand college students’ alcohol-related behaviors, the exploration of the link
between protective behavioral strategies and alcohol abstinence self-efficacy is needed.

**Alcohol Abstinence Self-Efficacy**

Self-efficacy refers to the belief that an individual can effectively engage in necessary
actions to achieve a desired result (Bandura, 1977; DiBello et al., 2019). To be more exact, self-
efficacy represents an individual's confidence in their ability to successfully complete a task.
This concept is especially pertinent when examining alcohol consumption among college
students. Studies that have specifically focused on alcohol use have explored various aspects of
self-efficacy, including the ability to decline drinks (i.e., drink refusal self-efficacy) and the
confidence in employing strategies for self-control while drinking (i.e., PBS). Having confidence
in one's ability to decline alcohol has been demonstrated to function as a protective factor against
excessive alcohol consumption among college-aged students (DiBello et al., 2019; Young et al.,
2007). Furthermore, self-efficacy in limiting alcohol intake has been associated with reduced
alcohol consumption over time (Bober et al., 2012; DiBello et al., 2019; Gonzales & Skewes).
Given the potential protective factor of self-efficacy, its link to resilience should be further
examined.; However, previous studies have not investigated this relationship extensively. The few studies that have found a positive relationship between self-efficacy and resilience suggest that increased resilience predicts increased self-efficacy (Sagone et al., 2020; Skoch, 2003). Thus, investigating how a resilience intervention could increase both resilience and alcohol abstinence self-efficacy is warranted in research regarding college students.

**Resilience**

Resilience may serve as a protective factor in coping with stressors and overcoming stressful situations. Resilience can be defined as a dynamic concept associated with the ability to withstand and recover from stressful situations (Bonanno, 2004; Hornor, 2017; Masten & Barnes, 2018; Richardson, 2002; Wu et al., 2013). To fully comprehend resilience, it is important to understand stress which has been defined as a threat to an individual’s physical, mental, or emotional state. Stress is a principal factor associated with resilience and various levels of stress could lead to increased or decreased levels of resilience (Hornor, 2017). Factors such as environment, self-esteem, psychological well-being, and social support all affect the level of resilience an individual has. Notably, resilience is malleable and can be strengthened or weakened depending on the situation the individual faces (Masten & Barnes, 2018; Richardson, 2002). Understanding resilience as a protective factor presents a unique perspective in understanding how college student’s mental health can be improved. Specifically, high resilience has previously been found to be associated with low levels of symptoms of mental health disorders (Brewer et al., 2019; Cano et al., 2020). Given the positive results of increased resilience in reducing unhealthy behaviors or symptoms, a resilience intervention should be evaluated to investigate its effectiveness in increasing resilience and subsequently reducing
alcohol use and symptoms of mental illness among those with at-risk drinking and heightened symptoms of depression and/or anxiety.

Understanding that resilience can be strengthened is a key factor associated with typical resilience interventions. In particular, the Transforming Lives Through Resilience Education intervention emphasizes the concept of "bouncing up" from stress, which involves recovering after a challenging situation. Additionally, it promotes growth beyond an individual's usual level of functioning, empowers individuals to respond effectively to stressors, and enhances awareness of taking responsibility for actions following a stressful event. (Dolbier et al., 2010; Steinhardt & Dolbier, 2008). Prior studies employing this intervention have documented increased resilience and the adoption of more adaptive coping mechanisms (Steinhardt & Dolbier, 2008), along with reductions in stress levels and symptoms of depression (Dolbier et al., 2010). Steinhardt & Dolbier (2008) sought to assess the effectiveness of the Transforming Lives Through Resilience Education intervention to enhance resilience, adaptive coping strategies, and other protective factors. The researchers recruited university students to participate in the study and answer measures regarding resilience, coping strategies, protective factors (e.g., self-esteem and positive affect), and symptomology (e.g., depressive symptoms and negative affect). Results found that participants in the experimental group had greater resilience scores, more effective coping strategies, and reduced psychological symptoms compared to the control group. Whether resilience interventions can be used among Hispanic college students who engage in at risk drinking as well as experience symptoms of depression and/or anxiety to enhance adaptive coping strategies is not known.
Acceptability and Feasibility

Evaluating an intervention necessitates evaluating acceptability and feasibility of the intervention, most importantly in contexts and situations where the intervention has yet to be explored. Acceptability can be defined as the perception that the implementation of an intervention is agreeable or satisfactory, while feasibility can be defined as the extent to which a new intervention can be successfully implemented or conducted (Proctor et al., 2011; Weiner et al., 2017). More specifically, acceptability and feasibility evaluate whether the intervention addresses the individual’s or community’s needs and whether the intervention can be performed easily (Proctor et al., 2011). Evaluating acceptability and feasibility within those participating in the intervention allow for a more thorough and effective evaluation and implementation of the intervention.

Coping Strategies

Resilience and coping strategies are highly interrelated. Previous studies have found significant relationships between various coping strategies and resilience (Mayordomo et al., 2016; Terpstra et al., 2022). More specifically, Steinhardt and Dolbier (2008), advantageously assessed the relationship that a resilience intervention would have on coping strategies which were measured with the Brief Coping Orientations to Problems Experienced scale. The group that received the resilience intervention showed more adaptive coping strategies specific to problem-solving coping (Steinhardt & Dolbier, 2008). These results suggest that increased adaptive coping strategies is related to increased resilience, which allows individuals to cope with a stressful situation (i.e., internalized or perceived stigma towards mental illness) and overcome them (i.e., resilience). Thus, a resilience-based intervention may enhance adaptive
coping strategies and reduce alcohol consumption and symptoms of depression and/or anxiety among Hispanic college students engaged in at risk drinking.

There has been limited research investigating how coping strategies may be enhanced among Hispanic college student with anxiety or depression and alcohol use disorder by way of a resilience intervention. Coping can be defined as the process of responding to a threat or stressor (Carver et al., 1989). Coping strategies are techniques used to manage and deal with stressful situations, emotions, or events (Baker & Berenbaum, 2007). Carver et al., (1989) suggested that certain coping mechanisms are considered a positive adjustment in response to the stressor, while others are a poor adjustment. That is, there are adaptive coping strategies and maladaptive coping strategies. Active coping, planning, positive reframing, and acceptance are adaptive coping strategies, while denial, substance use, self-blame, and behavioral disengagement are considered maladaptive coping strategies (Carver et al., 1989; Carver, 1997). Individuals who rely on maladaptive coping methods are more likely to engage in heavy alcohol use to cope with negative emotions or stressors (Carver et al., 1989; Corbin et al., 2013). Conversely, adaptive coping strategies protect against the risk of heavy drinking (Corbin et al., 2013). Past studies found that individuals with low levels of maladaptive coping strategies consumed more alcohol than those with adaptive coping styles suggesting that deficits in any coping strategies may be detrimental (Fromme & Rivet, 1994). Despite the benefits of a resilience intervention on coping and the role of coping in alcohol use, depression, and anxiety, research evaluating whether a resilience intervention affects alcohol use among those experiencing at-risk drinking and symptoms of depression and/or anxiety by increasing adaptive coping and reducing maladaptive coping has not been carried out to the best of our knowledge.
Stigma Towards Mental Illness

Addressing alcohol use and symptoms of depression or anxiety among Hispanics also requires considering the role of stigma. Stigma is the belief that some characteristic conveys a specific, negative social identity that is belittled in society (Link & Phelan, 2001; Vogel et al., 2017). Mental health stigma occurs when people have a negative belief of individuals who have been diagnosed with mental illness (DeFreitas et al., 2018). Stigma towards mental illness is particularly relevant within college students from the Hispanic community. College students have already been identified as a population that have increased symptoms of anxiety and depression associated with stigma towards mental illness (Cheng et al., 2015; Cheng et al., 2018), but this relationship is intensified if a student is Hispanic (DeFreitas et al., 2018; Mendoza et al., 2015). Past research has also found that college students of a racial/ethnic minority group who perceive stigma by others have significantly higher stigma about mental illness (Cheng et al., 2013). However, previous research conducted among Hispanic college students suggest that individuals who have, or believe they can have, a relationship with someone who has a diagnosed mental illness, typically have less stigma about mental illness (DeFreitas et al., 2018). Given the increased mental health stigma among Hispanics, it is important to consider it when evaluating a resilience intervention to address alcohol use disorder and symptoms of depression or anxiety. It may be that Hispanic college students with more perceived and internalized stigma are less likely to take full advantage of a resilience intervention because they are reluctant to talk about their experiences of mental health symptoms.

There are two unique types of stigmas that are associated with mental illness: perceived stigma and internalized stigma. Perceived stigma is the negative perception that the general population believes about mental health or seeking mental health services which is particularly
stigmatized (Vogel et al., 2013). In contrast, internalized stigma is defined as the negative perception of one’s self-worth due their stigmatized belief about mental health (Vogel et al., 2013). That is, perceived stigma is what the public does when they endorse stigmas about mental health and internalized stigma is what an individual may internalize regarding stigmas about mental health (Corrigan, 2004). Past research has found that increased perceived stigma has led to subsequent increases in internalized stigma (Vogel et al., 2013). Notably however, the more familiar an individual is with mental illness, the lower their perceptions of stigma, both perceived and internalized (Kosyluk et al., 2016; Kosyluk et al., 2021). Thus, perceived and internalized stigma may negatively moderate the effect of the resilience intervention on drinking and mental health outcomes.

**Present Study**

Overall, symptoms of mental health and increased rates of alcohol use disorders are common among college students, and this is particularly true among students who identify as Hispanic. However, there are factors that have the potential to lessen unhealthy alcohol use as well as symptoms of mental illness such as resilience and adaptive coping strategies. Past research has yet to evaluate the effect of a resilience intervention on reducing alcohol use and mental health outcomes by way of enhancing resilience and adaptive coping as well as reducing maladaptive coping. Additionally, among the Hispanic community, stigma associated with mental illness is persistent and Hispanic college students may be concerned they will be viewed as weak, or flawed, if they discuss symptoms of mental illness. Increased stigma towards mental illness has been associated with increased symptoms of mental illness and increased alcohol use. Despite the potential role of stigma, past research has yet to investigate the moderating effect of perceived and internalized stigma on the effect of a resilience intervention on drinking and
mental health outcomes. The present study seeks to utilize a resilience intervention among Hispanic college students with at risk drinking and symptoms depression and/or anxiety to reduce alcohol use and symptoms of mental illness by way of enhancing resilience and coping. Additionally, the present study seeks to establish the moderating effects that perceived and internalized stigma associated with mental illness has on the effectiveness of a resilience intervention in relation to alcohol use, depression, and anxiety. Lastly, the current study seeks to evaluate the effect of the number of intervention sessions attended on the primary outcomes of interest (i.e., symptoms of mental illness and alcohol use). Lastly, the current study will evaluate the feasibility and acceptability of the Transforming Lives Through Resilience Education intervention. Findings from the present study may inform future research to increase utilization of resilience interventions to target unhealthy stigmas or behaviors alongside unhealthy alcohol use.

**Study Aims & Hypotheses**

The primary aim of the present study is to evaluate a resilience intervention and its effects on alcohol use and symptoms of depression and anxiety among Hispanic college students by strengthening resilience and reducing maladaptive coping. The present study also aims to evaluate the moderating effect internalized and perceived stigma have on the effect of the resilience intervention on alcohol use and symptoms of mental illness. Additionally, the present study aims to increase engagement in protective behavioral drinking strategies and increase alcohol abstinence self-efficacy. Lastly, given that this is a pilot intervention, the present study aims to assess the feasibility and acceptability of the resilience intervention.

The hypotheses for the current study include: H1) Hispanic college students who engage in at risk drinking and experience symptoms of depression and anxiety will experience reduced
alcohol use and symptoms of depression and anxiety following the resilience intervention; H2) The effect of the resilience intervention on alcohol use, depression and anxiety will be negatively mediated by resilience and adaptive coping, and positively mediated by maladaptive coping; H3) Increased internalized and perceived stigma will moderate the relationship between the resilience intervention and alcohol use and symptoms of mental illness such that increased internalized and perceived stigma will reduce the potential benefit of the resilience intervention on alcohol use, depression, and anxiety; H4) Hispanic college students will report engaging in more protective behavioral strategies and increased alcohol abstinence self-efficacy following the resilience intervention; H5) Participants who completed the full intervention (i.e., four modules) will have greater resilience and utilize more adaptive coping strategies than participants who completed part of the intervention (i.e., less than four modules). If the hypotheses of the current study are supported, a better understanding of the relationship between resilience, alcohol use, symptoms of depression and anxiety, and stigmas towards mental illness in college students will be obtained.
Chapter 2: Methods

Participants

The current study has been reviewed and approved by the Institutional Review Board (IRB) at the University of Texas at El Paso (UTEP; 2030121). This pilot study utilized an experimental longitudinal design at 3 different timepoints (baseline (Fall 2023), one-week follow up (Fall 2023), and one-month follow-up (Fall 2023 – Spring 2024)). Baseline information was collected in the beginning of Fall 2023 semester and follow up information was collected during the Fall 2023 and Spring 2024 semester at two different time points: post-intervention and 1-month post-intervention. This longitudinal study contained a sample of 88 UTEP undergraduate students ($M_{age} = 21.86, SD = 6.08; 64.8\%$ female; $78.9\%$ Hispanic). The inclusion criteria included students at least 18 years old, a current student at UTEP, and reported at risk drinking and either depression or anxiety. The Patient Health Questionnaire-9 (Kroenke et al., 2001), Generalized Anxiety Disorder Screener (Spitzer et al., 2006), and Alcohol Use Disorders Identification Test (WHO, 2001) was used to verify symptoms of either depression or anxiety and alcohol use disorder. To reduce any additional stress on participants, they were asked mental check questions following each inclusion survey to assess their stress level and determine if they would like to continue with the survey. As recommended by the IRB, participants who reported severe symptoms of either depression, anxiety, or alcohol use were excluded from the study. The cutoffs for severe symptoms of either depression, anxiety, or alcohol use are reported in detail below. Additionally, these participants were immediately given a list of resources available to them to reduce any negative effects from completing the inclusion surveys. There were no additional inclusion or exclusion criteria.
Resources

Participants may have experienced some discomfort when answering alcohol-related questions and/or questions about their mental health. Within the informed consent, participants were notified they can withdraw from the study at any time. Additionally, they had the option to skip questions they did not feel comfortable answering. At the end of the survey, counseling and support services/resources were shown for participants' use. Additionally, if any participant reported thoughts of suicide, harming themselves, or unhealthy consumption of alcohol use, they were sent reminders of the resources below. The following resources were provided after the survey had been completed and to any participant who reported severe symptoms of either depression, anxiety, or alcohol use:

1. UTEP Counseling and Psychological Services (CAPS) (915) 747-5302
2. Collegiate Recovery (915) 747-8370
3. Alcoholics Anonymous of El Paso (915) 562-4081
4. The National Suicide Hotline (800) 273-8255 or 988

Recruitment

Participant recruitment took place on UTEP’s campus via SONA Systems. More specifically, a brief description of the study was posted onto SONA. Participants were given the option to choose their compensation prior to beginning the study. That is, participants were able to choose monetary compensation or compensation in SONA credits which is detailed below. Time commitment and completion of the study were emphasized for all participants. The screening survey included the following inclusion questions and measures: 1) Are you 18 years or older? 2) Are you a UTEP student? 3) Alcohol Use Disorders Identification Test, 4) Patient Health Questionnaire-9, 5) Generalized Anxiety Disorder Screener. That is, participants were
asked to take the measures above to determine if they met the cutoff scores for at risk drinking, depression and/or anxiety. Students were also asked to leave their UTEP student ID number, UTEP student email, and a personal email. A total of 179 participants began the baseline survey, however, 23 students did not meet the inclusion criteria to continue in the current study. Out of the 23 participants who were excluded from the study, 14 reported heightened symptoms of either alcohol severity, depression, or anxiety. These participants were given a list of resources available to them to reduce any negative effects from completing the inclusion surveys. The remaining 9 participants who were excluded from the study did not meet the inclusion criteria by reporting little to no symptoms of alcohol use and either depression or anxiety. Of the remaining 156 participants, 68 did not complete the one-week follow-up survey and thus were removed from the current study. Of the remaining 88 participants, 18 did not complete the resilience intervention, 13 completed one module, 5 completed two modules, 6 completed three modules, and 46 participants completed all four modules of the resilience intervention. See Figure 1 for the participants’ breakdown.
Figure 1. Recruitment and participant breakdown.

Procedure

All participants were provided electronic consent before beginning each survey. Specifically, at all three time points (baseline (Fall 2023), one-week post intervention (Fall 2023), and one-month post-intervention (Fall 2023 – Spring 2024)), participants were given the option to leave the study if they chose. The procedures and protocols of the study were outlined in detail before the participants gave their electronic consent. Participants were given the option to participate or decline to participate in the proposed research voluntarily at each time point.

Funding for the current study was provided by the University of Texas at El Paso Graduate
School, Dodson Research Grant. All participants received the resilience intervention

*Transforming Lives Through Resilience Education.*

**Baseline**

During the Fall of 2023, participants were given the option to voluntarily partake in the current study and receive either monetary compensation or SONA credits. All participants received a link to complete the baseline survey using Qualtrics where participants answered measures about various constructs. At the completion of the first survey, participants who chose monetary compensation were entered to win 1 of 25 10$ e-gift cards. The winners were notified and received their e-gift card to their UTEP student email which we had on file. However, participants who chose to receive SONA credit received 1 UTEP SONA Credit.

**One-Week Follow Up**

Once participants completed the intervention, they were sent a link to an online survey using Qualtrics where participants answered measures about various constructs for a second time. At the completion of the one-week follow up, participants who chose monetary compensation received a digital 10$ e-gift card. The participants were notified and received their 10$ e-gift card to their UTEP student email which we had on file. However, participants who chose to receive SONA credit received 1 UTEP SONA Credit.

**One-Month Follow Up**

One month after answering the second survey, all participants were sent a link to the last online survey using Qualtrics to complete the one-month follow up. At the completion of the last survey, participants who chose monetary compensation received a digital 20$ e-gift card. The participants were notified and received their 20$ e-gift card to their UTEP student email which
we had on file. However, participants who chose to receive SONA credit received 1 UTEP SONA Credit.

**Retention Plan**

With the current study having multiple timepoints, a participant retention plan was used to obtain the highest retention rate possible. Participants were sent weekly reminder emails to their UTEP emails which we had on file for a total of 4-weeks. Emails contained a brief overview of the study's information and the survey's hyperlink.

**Resilience Intervention**

The resilience intervention *Transforming Lives Through Resilience Education* was used as the intervention (Steinhardt & Dolbier, 2008). This resilience intervention is split up into four different topics: (1) Transforming Stress into Resilience, (2) Taking Responsibility, (3) Focusing on Empowering Interpretations, and (4) Creating Meaningful Connections (Steinhardt & Dolbier, 2008). The first session, Transforming Stress into Resilience, focuses on four different responses to stress: giving up (e.g., succumb), putting up (e.g., diminish), bouncing up (e.g., resilience), and stepping up (thrive). In this first session, participants are asked to identify two stressful situations, one personal and one professional. Some examples are given to participants to assist them in identifying the stressful situations (e.g., not having enough time to spend with kids, or not meeting supervisors' expectations). Additionally, the first session will focus on problem-focused and emotion-focused coping with are related to the four different response options to stress (Steinhardt & Dolbier, 2008). Problem-focused coping strategies, which include planning and acceptance, are encouraged to solve situations inside an individual social circle (i.e., friends) and emotion-focused coping strategies, which include denial and venting, are encouraged when
individuals face stressful situations outside of their social circle (Steinhardt & Dolbier, 2008). This first session took roughly 30 minutes to complete.

The second session, Taking Responsibility, presents a model of responsibility where the connection between taking responsibility and not taking responsibility is made by drawing a line between the two (Steinhardt & Dolbier, 2008). Taking responsibility is explained as having the power to choose and create, or presented as above the line, whereas not taking the responsibility is explained as blaming and making excuses or presented as below the line. Additionally, taking responsibility is connected to thriving beyond a stressful situation whereas not taking responsibility is connected to succumbing to a stressful situation (Steinhardt & Dolbier, 2008). This second session took roughly 20 minutes to complete.

The third session, Focusing on Empowering Interpretations, guides participants into using an ABCDE model to empower their interpretations. This ABCDE model includes Activating stressor, Belief, Consequences, Disputing, and Energy (Steinhardt & Dolbier, 2008). Using the ABCDE model, participants are encouraged to become aware of their negative interpretations of the stressful event and how they are linked to succumbing to, or not taking responsibility for, the stressor. Alternatively, participants are also encouraged to empower positive interpretations of the stressful event to thrive beyond it (Steinhardt & Dolbier, 2008). This third session took roughly 25 minutes to complete.

The last session, Creating Meaningful Connections, brings awareness to the connections between the participants and their family and friends (Steinhardt & Dolbier, 2008). That is, it shows participants that their well-being has a strong relationship to how connected they are with their support systems. Additionally, this final session focuses on self-leadership using the internal family systems model (Steinhardt & Dolbier, 2008). Specifically, participants are
encouraged to view themselves as a complex system with multiple subpersonalities where self-leadership can be activated as the leader of the subpersonalities (Steinhardt & Dolbier, 2008). Participants are directed and encouraged to view themselves as their own nurturing environment to bounce up beyond the stressor and turn stressful situations into meaningful opportunities (Steinhardt & Dolbier, 2008). This last session took roughly 30 minutes to complete.

Overall, participants took, on average, 90 minutes to complete the intervention in its entirety. To ensure that participants were participating in and completing the resilience intervention, the intervention was distributed via Qualtrics. Specifically, each module and its’ associated quiz were uploaded to Qualtrics where participants were asked for their unique identifiers. Each participant’s progress was monitored to ensure that each module of the intervention was completed. Participants did not have to complete the intervention in one sitting; however, they had one week to finish the intervention completely. That is, they had the opportunity to complete one module each day, as long as all modules were completed within 7 days. Moreover, participants were given quizzes following the completion of each module. Participants quiz scores were monitored to ensure participants were participating and completing the modules. To be included in the study, participants needed to answer 80% of questions correctly. That is, once completing a module, the participants needed to answer 80% of the questions correctly in that module associated quiz. Participants had an average passing rate of 89.73%.

Measures

Sociodemographics

This questionnaire collected demographic information including age, gender, student classification, marital status, race, and if the participant has a relationship with someone who has
experienced mental health problems. This information was utilized as control variables in the analyses (Appendix A).

**Inclusion Criteria and Primary Outcomes of Interest**

**Alcohol Use Disorders Identification Test (AUDIT).** Participants’ alcohol use was measured with the Alcohol Use Disorders Identification Test (AUDIT; WHO, 2001). The AUDIT is a brief tool commonly used to assess participants’ alcohol consumption and drinking behaviors. 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. The AUDIT has been validated in a wide range of racial and ethnic groups, as well as across genders (α = .60 - .85; WHO, 2001; Appendix B). In the present study, the AUDIT showed adequate reliability (α = .84). For inclusion on the present study, participants needed to score at least an 8, which is consistent with hazardous alcohol consumption (WHO, 2001). Any participant who scored 15 or greater were excluded from the study and were given the resources mentioned above. Participants totaled scores were used as outcome variables only for times 1 and 3 (Figures 1-6).

**Patient Health Questionnaire – 9.** Participants symptoms of depression and severity were assessed via the Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001). The PHQ-9 is a 9-item measure that uses a 4-point Likert-type scale ranging from 0 “not at all” to 3 “nearly every day.” Scores are totaled and can range from 0 to 27 to determine which severity participants may fall in, minimal symptoms (i.e., scores 5-9), mild depression (i.e., scores 10-14), major depression, moderately severe (i.e., scores 15-19), or major depression, severe (i.e., scores 20-27; Kroenke et al., 2001). The PHQ-9 has shown great reliability in previous studies (α = .89; Kroenke et al., 2001), as well as adequate convergent validity with other measures of depression.
(r = .55; Kroenke et al., 2001; Appendix C). In the present study, the PHQ-9 showed good reliability (α = .85). For inclusion on the present study, participants needed to score at least a 10, which is consistent with symptoms of minor depression (Kroenke et al., 2001). Any participant who scored 15 or greater were excluded from the study and were be given the resources mentioned above. Participants totaled scores were used as outcome variables only for times 1 and 3 (Figures 1-6).

**Generalized Anxiety Disorder Screener (GAD-7).** The GAD-7 is a 7-item scale designed to ask patients how often, during the last 2 weeks, they were bothered by symptoms of anxiety (Spitzer et al., 2006). The items are rated on a 4-point Likert-type scale from 0 (not at all) to 3 (nearly every day). Scores are totaled and can range from 0 to 21 to determine which severity participants may fall in, minimal (i.e., scores 0-4), mild (i.e., scores 5-9), moderate (i.e., scores 10-14), or severe (i.e., scores 15-21; Spitzer et al., 2006). The GAD-7 has shown excellent reliability in previous studies (α = .92; Spitzer et al., 2006), as well as great convergent validity with other scales of anxiety (r = .74) and discriminant validity with measures of depression (r = .16-.21; Spitzer et al., 2006; Appendix D). In the present study, the GAD-7 showed good reliability (α = .87). For inclusion on the present study, participants needed to score at least a 5, which is consistent with symptoms of mild anxiety. Any participant who scored 10 or greater were excluded from the study and were given the resources mentioned above. Participants totaled scores were used as outcome variables only for times 1 and 3 (Figures 1-6).

**Outcome Variables**

**Daily Drinking Questionnaire (DDQ).** The DDQ is a self-report instrument designed to measure weekly alcohol consumption (Collins et al., 1985). Participants were asked to indicate their average drinking on each day of a typical week, estimated over the past month. Previous
studies have demonstrated the DDQ highly correlated with other measures of self-reported alcohol consumption \( r = .78; \) Kivlahan et al., 1990; Appendix E). In the present study, the DDQ showed adequate reliability \( (\alpha = .74) \). Volume per week was calculated as average total drinks per week reported. Frequency was calculated based on how often the participants reported drinking in the past month. Heavy drinking was calculated based on how much participants reported drinking on a typical weekend (i.e., Friday or Saturday). Lastly, peak number of drinks was calculated based on how much participants reported drinking the day that drank the most. Volume per week, frequency, heavy drinking, and peak number of drinks were used as outcome variables only for times 1 and 3 (Figures 1-6).

**Protective Behavioral Strategies.** The Protective Behavioral Strategies Scale (PBSS) is a 15-item self-report measure assessing cognitive-behavioral strategies intended to reduce high risk drinking resulting in negative alcohol related problems (Martens et al., 2005). The measure is made of three subscales: limiting/stopping drinking, manner of drinking, and serious harm reduction. A sample item from limiting/stopping drinking is “Alternate alcoholic and nonalcoholic drinks.” This subscale has demonstrated good internal consistency of \( (\alpha = .81; \) Martens et al., 2005). A sample item from the manner of drinking subscale is “Avoid drinking games.” This subscale has also demonstrated good internal consistency of \( (\alpha = .73; \) Martens et al., 2005). Lastly, a sample item from serious harm reduction is “Use a designated driver.” This last subscale has demonstrated adequate internal consistency of \( (\alpha = .63; \) Martens et al., 2005). In the present study, the PBS total scale showed great reliability \( (\alpha = .91) \). Participants were asked to “indicate the degree to which you engage in the following behaviors when using alcohol or partying” using a 6-point Likert-type scale \( (1 = \text{never}, 6 = \text{always}) \). Scores are reported via summing items pertaining to each subscale (Martens et al., 2005; Martens et al., 2007).
Participants total scores were used as outcome variables only for the one-week follow up (Figure 7; Appendix F).

**Alcohol Abstinence Self-Efficacy.** The Alcohol Abstinence Self-efficacy scale is a 20-item self-report survey that measures a person’s confidence in their own ability to abstain from drinking in specific situations (DiClemente et al., 1994). There are four subscales, negative affect ($\alpha = .99$), social/positive ($\alpha = .86$), physical and other concerns ($\alpha = .70$), withdrawal and urges ($\alpha = .60$). In the present study, the AASE total scale showed great reliability ($\alpha = .98$). This scale is rated on a 5-point Likert scale ranging from 0 (not at all) to 4 (extremely) with total scores ranging from 0 to 80. Higher scores indicated higher abstinence self-efficacy to abstain from alcohol use (DiClemente et al., 1994). Participants totaled scores were used as outcome variables only for the one-week follow up (Figure 7; Appendix G).

**Acceptability of Intervention.** The Acceptability of Intervention (AIM) scale was used to assess the acceptability of the resilience intervention. This scale includes 12-items rated on a 4-point Likert type scale ranging from 0 (strongly disagree) to 3 (strongly agree). The AIM was used to ask participants their thoughts of the intervention. Some example items include, “I welcome the use of the resilience intervention” and “The resilience intervention meets my needs.” The AIM has shown good reliability in past studies ($\alpha = .85$; Weiner et al., 2017). In the present study, the AIM showed great reliability ($\alpha = .93$). Total scores were used to indicate overall acceptability of the resilience intervention with higher scores indicating greater acceptability (Appendix H).

**Feasibility of Intervention.** The Feasibility of Intervention (FIM) scale was used to assess the feasibility of the resilience intervention. This scale includes 9-items rated on a 4-point Likert type scale ranging from 0 (strongly disagree) to 3 (strongly agree). The FIM was used to
ask participants their thoughts of the intervention. Some example items include, “The resilience intervention seems realistic” and “The resilience intervention seems easy to use.” FIM has shown good reliability in past studies ($\alpha = .89$; Weiner et al., 2017). In the present study, the FIM showed good reliability ($\alpha = .86$). Total scores were used to indicate overall feasibility of the resilience intervention with higher scores indicating greater feasibility (Appendix I).

**Mediators**

**Brief Resilience Scale (BRS).** The Brief Resilience Scale (BRS; Smith et al., 2008) was used to measure respondent’s ability to recover from stressful situations. The BRS is a 6-item scale that uses a 5-point Likert scale with 1 being “strongly disagree” to 5 being “strongly agree.” Three of the six items are reverse coded and the average of all six items is computed to attain a total score in which higher values indicate greater resilience. The BRS has demonstrated adequate internal consistency in past studies ($\alpha = .74$; Sanchez et al., 2022). Additionally, the BRS has good convergent and discriminant validity by positively correlating with other resilience measures ($r = .59$) and negatively correlating with measures of measures of alexithymia ($r = -.47$; Smith et al., 2008). In the present study, the BRS showed adequate reliability ($\alpha = .72$; Appendix J).

**Brief Coping Orientations to Problems Experienced Scale (Brief COPE).** The 28-item Brief Coping Orientations to Problems Experienced Scale (Brief COPE; Carver, 1997) was used to measure participants behavioral and cognitive responses to stressful situations. The Brief COPE uses a 4-point Likert-type scale with 1 being “not at all” and 4 being “a lot.” Brief COPE uses 14 various coping strategies such as problem-solving, emotion-focused, approach, and avoidance (Carver, 1997). Each of the 14 coping strategies has shown adequate reliability in past studies ($\alpha = .50-.90$; Carver 1997). Based on previous research conducted by Carver et al.,
(1989) the subscales of active coping (α = .68), planning (α = .73), positive reframing (α = .64), and acceptance (α = .57) were used as adaptive coping methods. Similarly, the subscales of denial (α = .54), substance use (α = .90), self-blame (α = .69), and behavioral disengagement (α = .65) were used as maladaptive coping methods (Carver et al., 1989; Carver, 1997). In the present study, the adaptive coping method subscales and maladaptive coping method subscale showed good reliability (respectively, α = .92 and α = .76; Appendix K).

**Moderators**

**Internalized Stigma of Mental Illness Inventory (ISMI-9).** Participants internalized stigma towards mental illness was assessed with the Internalized Stigma of Mental Illness Inventory (ISMI-9; Hammer & Toland, 2017). The ISMI-9 is a 9-item scale to assess internal perceptions of stigma on mental illnesses. Each item is rated on a 4-point Likert-type scale ranging from 1 (strongly disagree) to 4 (strongly agree). Scores are totaled, with items 2 and 9 reverse coded before totaling, and then divided by the number of items the participants answered. Scores can be interpreted into four separate categories, minimal to no internalized stigma (i.e., scores 1-2), mild internalized stigma (i.e., scores 2.01-2.50), moderate internalized stigma (i.e., scores 2.51-3), and severe internalized stigma (i.e., scores 3.01-4; Hammer & Toland, 2017). The ISMI-9 has shown great reliability in previous studies (α = .86; Hammer & Toland, 2017), as well as good convergent validity with other measures of stigma (r = .88; Hammer & Toland, 2017). In the present study, the ISMI-9 showed adequate reliability (α = .71; Appendix L).

**The Stigma-9 Questionnaire.** The Stigma-9 Questionnaire is a self-report measure that was used to assess participants perception of mental illness stigma and the extent to which participants have stigma against those with a mental illness (Gierk et al., 2018). The Stigma-9 is a 9-item measure that uses a 4-point Likert type scale ranging from "0" disagree to "3" agree.
Scores are totaled and can range from 0-27 with higher scores indicating greater perceived stigma (Gierk et al., 2018). The Stigma-9 has shown great reliability in previous studies ($\alpha = .88$; Gierk et al., 2018). In the present study, the STIG-9 showed good reliability ($\alpha = .89$; Appendix M).

**Table 1.** List of measures and timepoint administered.

<table>
<thead>
<tr>
<th>Measure Name</th>
<th>Baseline</th>
<th>One Week Follow-Up</th>
<th>One Month Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Use Disorders Identification Test</td>
<td>✔️</td>
<td>X</td>
<td>✔️</td>
</tr>
<tr>
<td>Patient Health Questionnaire – 9</td>
<td>✔️</td>
<td>X</td>
<td>✔️</td>
</tr>
<tr>
<td>Generalized Anxiety Disorder – 7</td>
<td>✔️</td>
<td>X</td>
<td>✔️</td>
</tr>
<tr>
<td>Daily Drinking Questionnaire</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Protective Behavioral Strategies</td>
<td>X</td>
<td>✔️</td>
<td>X</td>
</tr>
<tr>
<td>Alcohol Abstinence Self-Efficacy</td>
<td>X</td>
<td>✔️</td>
<td>X</td>
</tr>
<tr>
<td>Acceptability of Intervention</td>
<td>X</td>
<td>✔️</td>
<td>X</td>
</tr>
<tr>
<td>Feasibility of Intervention</td>
<td>X</td>
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<td>X</td>
</tr>
<tr>
<td>Brief Resilience Scale</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Brief Coping Orientations to Problems Experienced Scale</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Internalized Stigma of Mental Illness Inventory</td>
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<td>✔️</td>
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<tr>
<td>Stigma-9 Questionnaire</td>
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<td>✔️</td>
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</tr>
</tbody>
</table>

*Note:* “✔️” = measure was administered at this time point. “X” measure was not administered at this time point.

**Approach to Analyses**

All analyses were conducted using SPSS (Statistical Package for the Social Sciences) statistical software version 26. The categorical variable of number of modules completed was dummy coded with no modules completed serving as the referent condition. Descriptive statistics were used to explore participants’ characteristics obtained from a sociodemographic questionnaire. Bivariate correlations were conducted between all sociodemographic questions (i.e., age, biological sex, marital status, race) and dependent variables. Independent samples t-tests were used to compare the characteristics and inclusion criteria scores of participants who complete the follow-up and those who did not. Total scores were gathered and reviewed to determine relative outcomes of acceptability and feasibility of the resilience intervention.
Additionally, a one-way ANOVA was conducted to determine if there were any differences within participants who completed the full intervention (i.e., four modules) and those who completed part of the intervention (i.e., less than four modules) and their respective scores of acceptability and feasibility. A one-way ANOVA was conducted to assess the difference between resilience and adaptive coping strategies of participants who completed the full intervention (i.e., four modules) and those who completed part of the intervention (i.e., less than four modules). Several repeated measures Multivariate Analysis of Variance (MANOVA) were conducted to assess the outcomes of the resilience intervention at the different time points (pre-intervention, immediately post-intervention, 1-month post intervention). Specifically, repeated measures MANOVA’s were used to assess the effect the resilience intervention had on the primary outcomes of interest (i.e., symptoms of mental illness and alcohol use) at times 1 and 3. Additionally, repeated measures MANOVA’s were used to assess the outcomes of the resilience intervention between participants who completed the entire intervention (i.e., all four modules) and those who completed part of the intervention (i.e., no modules, one module, two modules, or three modules). Tests for mediation and moderation were conducted using PROCESS Macro for SPSS (Hayes, 2022). Using available models in PROCESS, ten thousand bootstrapped samples of 95% confidence intervals were assessed to determine the significance region of each mediator and moderator.

**Missing Data**

A missing data pattern was observed where some primary outcomes at baseline and the primary outcome variables, moderators, and mediators at the one-month follow up had over 5% of missing data (Enders, 2017). Using SPSS 26.0 and multiple imputation procedures according to the criteria defined by von Hippel (2018) to impute for the missing data variables. Given that
the variables had 39% of missing data or less, we needed to conduct ten imputations using the appropriate means and standard deviations.

Power Analysis

A post-hoc power analysis was conducted to determine the power for investigating a medium effect. The amount of variance explained via the eta squared obtained from the repeated measures MANOVA was used to determine the effect size appropriate to use, which resulted in a medium effect of .32. This is similar to previous analyses involving the same resilience intervention (Dolbier et al., 2010; Steinhardt and Dolbier, 2008). With an α of .05 and an effect size of .32, and the current sample size of 88, the power for the proposed analyses would be .89, which is sufficient for the current study.
Chapter 3: Results

Descriptive Statistics

Participants had a mean age of 21.86 (SD = 6.08; range: 18-47) and primarily identified as female (64.8%). Participants were fairly equally distributed among different student classifications (freshman: 28.9%; sophomore: 34.2%; junior: 17.1%; senior: 17.1%). Lastly, most participants classified as Hispanic or Latino (78.9%; Table 1).

Table 2. Participant characteristics and descriptive statistics

<table>
<thead>
<tr>
<th>Characteristic/Variable</th>
<th>Total participants (n = 88)</th>
<th>Baseline</th>
<th>One Week Follow up</th>
<th>One Month Follow up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency/Mean (SD) (Range)</td>
<td>Mean (SD) (Range)</td>
<td>Mean (SD) (Range)</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>M = 21.86 (6.08) (18-47)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Female</td>
<td>64.8%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Male</td>
<td>21.6%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hispanic</td>
<td>68.2%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Alcohol Severity</td>
<td>9.35 (2.06) (8-14)</td>
<td>8.58 (4.79) (2.91-28)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>10.15 (3.39) (1-14)</td>
<td>7.69 (4.64) (0-20)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>8.72 (2.45) (0-9)</td>
<td>6.42 (4.58) (0-21)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol Consumption</td>
<td>0.58 (0.31) (.25-1.75)</td>
<td>0.63 (0.32) (.25-1.75)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protective Behavioral Strategies</td>
<td>-</td>
<td>63.20 (15.23) -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol Abstinence Self-Efficacy</td>
<td>-</td>
<td>37.78 (6.82) (0-80)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessibility</td>
<td>-</td>
<td>24.77 (5.35) (0-36)</td>
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<td>Feasibility</td>
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<td>23.67 (5.98) (8-32)</td>
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Note. Any sample size deviations are a result of missing data.
Bivariate Correlations

Alcohol consumption had a positive relationship with age (r = .307), depression (r = .251), and anxiety (r = .432). Resilience had a positive correlation with adaptive coping strategies (r = .436), and negative correlations with depression (r = -.448) and anxiety (r = -.589).

Similarly, adaptive coping strategies had a positive correlation with ethnicity (r = .233), and negative correlations with depression (r = -.242) and alcohol consumption (r = -.231).

Maladaptive coping strategies had positive correlations with internalized stigma (r = .597), alcohol use severity (r = .421), depression (r = .350), anxiety (r = .324), alcohol consumption (r = .423), and perceived stigma (r = .311). Internalized stigma had positive correlations with gender (r = .248), alcohol use severity (r = .263), adaptive coping strategies (r = .215), and perceived stigma (r = .308), and alcohol consumption (r = .371). See Table for all correlations.

Table 3. Zero-order Correlations at Baseline

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*Note.* Bold text indicates \( p < .05 \).
Comparison Analyses

To determine any potential bias in follow up data, comparisons using independent samples t-tests and chi-square tests between those who were lost to follow up versus those who were not were conducted. These analyses compared baseline covariates (i.e., age, sex, and identified as Hispanic) and baseline inclusion criteria (i.e., depressive symptoms, anxiety symptoms, and alcohol severity). There was not a significant difference between the age of participants who had completed the one-month follow up and participants who did not complete the one-month follow up, t(74) = .149, p = .88. Additionally, there were no significant differences between the sex of participants and whether they identified as Hispanic, $\chi^2(1) = .702$, $p = .40$ and $\chi^2(1) = 2.15$, $p = .14$, respectively. Similarly, there were no statistically significant differences between participants who completed the follow up and those who did not complete the follow up in their inclusion depression scores (t(86) = -1.28, $p = .21$) and inclusion alcohol severity scores (t(86) = -0.14, $p = .89$). There was a significant difference between participants who completed the follow up and those who did not complete the follow up in their inclusion anxiety scores, t(84) = -2.08, $p = .04$. See Figure 2 for independent samples t-tests means.
To determine any potential bias in analyses, comparisons using one-way analysis of variance between participants who completed the full intervention (i.e., four modules) and those who completed part of the intervention (i.e., less than four modules) were conducted. These analyses compared baseline covariates (i.e., age, sex, and identified as Hispanic) and baseline inclusion criteria (i.e., depressive symptoms, anxiety symptoms, and alcohol severity). There were no significant differences between the age ($F(4, 71) = .441, p = .78$), sex ($F(4, 71) = .206, p = .93$), and Hispanic status ($F(4, 71) = .716, p = .58$) between participants who had completed the full intervention and those who completed part of the intervention. Additionally, there were no significant differences between depressive symptoms ($F(4, 83) = .255, p = .91$), anxiety symptoms ($F(4, 81) = 1.17, p = .32$) and alcohol severity ($F(4, 83) = 1.28, p = .28$) between

**Figure 2.** The differences between age, sex, ethnicity, and the inclusion criteria scores for participants who completed the one-month follow up and participants who did not.

*Note.* * = $p < .05$
participants who had completed the full intervention and those who completed part of the intervention. See Figure 3 for one-way ANOVA means.

![Figure 3. Means Comparing Intervention Data](image)

**Figure 3.** The differences between age, sex, ethnicity, and the inclusion criteria scores for participants who completed the full intervention (i.e., four modules) and those who completed part of the intervention (i.e., less than four modules).

*Note.* * = p < .05

**Hypothesis 1**

Hispanic college students who engage in at risk drinking and experience symptoms of depression and anxiety will experience reduced alcohol use and symptoms of depression and anxiety following the resilience intervention.

**Repeated Measures Multivariate Analysis of Variance**

The repeated measures MANOVA for depression symptoms between baseline and the one-month follow up revealed a significant effect of time, $F(1, 81) = 8.11$, $p = .006$. Specifically,
depression symptoms at baseline ($M = 10.15, SD = 3.39$) were significantly higher than depression symptoms at the one-month follow up ($M = 7.69, SD = 4.64$). Additionally, this significant of time had a medium effect size, $\eta^2 = .09$. Similarly, there was a significant effect on anxiety symptoms between baseline and the one-month follow up, $F(1, 81) = 9.29, p = .01$, with higher anxiety symptoms at baseline ($M = 8.72, SD = 2.45$) when compared to anxiety symptoms at one-month follow up ($M = 6.42, SD = 4.58$). This significant effect on anxiety symptoms had a medium effect size, $\eta^2 = .09$. Additionally, the intervention had a significant effect on the difference between anxiety symptoms at Time 1 and Time 3, $F(4, 81) = 2.81, p = .03$, with a large effect size, $\eta^2 = .12$. Alternatively, there was no significant effects on alcohol use severity or alcohol consumption between baseline and the one-month follow up ($F(1, 81) = 0.03, p = .959$ and $F(1, 81) = 1.52, p = .22$, respectively). There were no additional significant differences or interactions. See Table 3 and Figures 4-8 for repeated measures MANOVA results.

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<th>Table 4. Repeated Measures Multivariate Analysis of Variance</th>
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<td><strong>Depression Symptoms</strong></td>
</tr>
<tr>
<td>Baseline vs One-month follow up (Time)</td>
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<tr>
<td>Time vs. Intervention (Interaction)</td>
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<tr>
<td><strong>Anxiety Symptoms</strong></td>
</tr>
<tr>
<td>Baseline vs One-month follow up (Time)</td>
</tr>
<tr>
<td>Time vs. Intervention (Interaction)</td>
</tr>
<tr>
<td><strong>Alcohol Severity</strong></td>
</tr>
<tr>
<td>Baseline vs One-month follow up (Time)</td>
</tr>
<tr>
<td>Time vs. Intervention (Interaction)</td>
</tr>
<tr>
<td><strong>Alcohol Consumption</strong></td>
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<tr>
<td>Baseline vs One-month follow up (Time)</td>
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<td>Time vs. Intervention (Interaction)</td>
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<table>
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</table>
Note. Bold text indicates $p < .05$.

Figure 4. Scores of depression, anxiety, alcohol severity, and alcohol consumption at baseline and the one-month follow up. 

Note. * = $p < .05$
Figure 5. Depression symptoms at baseline and the one-month follow up at different levels of intervention completion.  
*Note.* There were no significant differences.

Figure 6. Anxiety symptoms at baseline and the one-month follow up at different levels of intervention completion.  
*Note.* There were no significant differences.

Figure 7. Alcohol Severity
**Figure 7.** Alcohol Use Severity at baseline and the one-month follow up at different levels of intervention completion.

*Note.* There were no significant differences.

**Figure 8.** Alcohol Consumption at baseline and the one-month follow up at different levels of intervention completion.

*Note.* There were no significant differences.

**Hypothesis 2**

The effect of the resilience intervention on alcohol use, depression and anxiety will be negatively mediated by resilience and adaptive coping, and positively mediated by maladaptive coping.

**Mediation Analyses**

There was a direct effect of a 3-module intervention on symptoms of depression ($\beta = 5.00, p = .001$; Figure 9). Additionally, there was a significant mediating effect of resilience on the relationship between a 4-module intervention and symptoms of depression ($\beta = -1.69$, 95% CI: -2.87, -0.56; Figure 10). There was also a significant mediating effect of resilience on the relationship between a 4-module intervention and symptoms of anxiety ($\beta = -1.55$, 95% CI: -
There was a direct effect of a 3-module intervention on symptoms of depression with adaptive coping strategies as a mediator ($\beta = 4.83, p = .001$; Figure 12). There was a significant mediating effect of maladaptive coping strategies on the relationship between a 2-module intervention and symptoms of depression ($\beta = -1.02, 95\% \text{ CI: } -2.15, -0.020$; Figure 13). Lastly, there was a direct effect of a 3-module intervention on symptoms of depression with maladaptive coping strategies as a mediator ($\beta = 5.08, p = .003$; Figure 14). See Tables 4, 5, and 6 for mediation results.

**Figure 9.** The mediating effect of resilience at the one-week follow up on the effect a 3-module resilience intervention has on symptoms of depression at the one-month follow up.

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

**Figure 10.** The mediating effect of resilience at the one-week follow up on the effect a 4-module resilience intervention has on symptoms of depression at the one-month follow up.

*Note.* $* = p < .05$
Figure 11. The mediating effect of resilience at the one-week follow up on the effect a 4-module resilience intervention has on symptoms of anxiety at the one-month follow up.

Note. * = p < .05

Table 5. Mediation analysis with resilience as a mediator

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Direct Effects

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**Indirect Effects**

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*Note.* Bold text indicates *p < .05.*
Figure 12. The mediating effect of adaptive coping strategies at the one-week follow up on the effect a 3-module resilience intervention has on symptoms of depression at the one-month follow up.

* = $p < .05$

### Table 6. Mediation analysis with adaptive coping strategies as a mediator

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*Note. Bold text indicates p < .05.*
Figure 13. The mediating effect of maladaptive coping strategies at the one-week follow up on the effect a 2-module resilience intervention has on symptoms of depression at the one-month follow up.  
*Note. * = $p < .05$

Figure 14. The mediating effect of maladaptive coping strategies at the one-week follow up on the effect a 3-module resilience intervention has on symptoms of depression at the one-month follow up.  
*Note. * = $p < .05$

Table 7. Mediation analysis with maladaptive coping strategies as a mediator

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**Direct Effects**

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</tr>
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Maladaptive Coping on Alcohol Consumption:

<table>
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<td>-0.04</td>
</tr>
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<td>4 Modules</td>
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<td>0.01</td>
<td>-0.03</td>
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</table>

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

**Hypothesis 3**

Increased internalized and perceived stigma will moderate the relationship between the resilience intervention and alcohol use and symptoms of mental illness such that increased internalized and perceived stigma will reduce the potential benefit of the resilience intervention on alcohol use, depression, and anxiety.

**Moderation Analyses**

There were no moderating effects of internalized stigma on the relationship between the resilience intervention and depression, anxiety, or alcohol severity, or alcohol use. However, there were main effects of gender on anxiety and age on alcohol use severity and alcohol consumption. Specifically, in the model with internalized stigma, there was a main effect of age on alcohol use severity ($\beta = 0.27, p = .01$; Table 7). There were no moderating effects of perceived stigma on the relationship between the resilience intervention and either depression, anxiety, alcohol use severity, or alcohol use. However, in the model with perceived stigma, there was a main effect of age on alcohol use severity ($\beta = .28, p = .01$) and alcohol consumption ($\beta = 0.01, p = .01$), as well as a main effect of gender on alcohol use severity ($\beta = .283, p = .02$; Table 8). There were no additional significant effects.

**Table 8. Internalized stigma moderating the relationship between resilience intervention and depression, anxiety, alcohol use severity, and alcohol use at the one-month follow up**

<table>
<thead>
<tr>
<th>Variables</th>
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<th>p</th>
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</thead>
<tbody>
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<tr>
<td></td>
<td>Gender</td>
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</tr>
<tr>
<td></td>
<td>Age</td>
<td>Gender</td>
<td>R²</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>One Module</td>
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<td>.14</td>
</tr>
<tr>
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<tr>
<td><strong>R²</strong></td>
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<td>.516</td>
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### Anxiety – Time 3

<table>
<thead>
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<tbody>
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### Alcohol Severity – Time 3

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<tbody>
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### Alcohol Consumption – Time 3

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</tr>
</thead>
<tbody>
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<td>0.01</td>
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</tr>
<tr>
<td><strong>R²</strong></td>
<td></td>
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<td>.33</td>
</tr>
</tbody>
</table>

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

Hypothesis 4

Hispanic college students will report engaging in more protective behavioral strategies and increased abstinence self-efficacy following the resilience intervention.
**Linear Regression Models**

The linear models using the resilience intervention to predict protective behavioral strategies ($F(7, 67) = .1.13$, Adjusted $R^2 = .012$, $p = .35$; Figure 15) and alcohol abstinence self-efficacy at the one-week follow up ($F(7, 67) = .711$, Adjusted $R^2 = -.028$, $p = .66$; Figure 16) were not statistically significant. However, there was a main effect of the resilience intervention, specifically where two modules completed was associated with increased protective behavioral strategies at the one-week follow up ($\beta = .28$, $p = .03$). There were no other significant main effects in the linear models predicting protective behavioral strategies or alcohol self-efficacy. See Table 9 linear regression models.

![Diagram](image.png)

**Figure 15.** The effect a resilience intervention has on protective behavioral strategies (PBS) at the one-week follow up.

*Note.* $* = p < .05.$
Figure 16. The effect a resilience intervention has on alcohol abstinence self-efficacy at the one-week follow up.

Note. No significant associations.

Table 10. Linear regression models predicting protective behavioral strategies and alcohol abstinence self-efficacy at the one-week follow up.

<table>
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<th>β</th>
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</thead>
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<td></td>
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<td>Four Modules</td>
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</tr>
<tr>
<td><strong>R^2</strong></td>
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<tr>
<td><strong>Adjusted R^2</strong></td>
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<td></td>
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Hypothesis 5

Participants who completed the full intervention (i.e., four modules) will have greater resilience and utilize more adaptive coping strategies than participants who completed part of the intervention (i.e., less than four modules).

Univariate Analysis of Variance

The results of the ANOVA to assess the difference of resilience in participants who completed the full intervention (i.e., four modules) and those who completed part of the intervention (i.e., less than four modules) was not significant, $F(3,66) = 0.14, p = .94$. Similarly, there were no significant differences in adaptive coping strategies in participants who completed the full intervention (i.e., four modules) and those who completed part of the intervention (i.e., less than four modules), $F(3,66) = 0.24, p = .86$. See Table 10 and Figure 17 for ANOVA results.

<table>
<thead>
<tr>
<th>Between Groups</th>
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<th>$F$</th>
<th>$df$</th>
<th>$p$</th>
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</thead>
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<td>.94</td>
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<td>0.24</td>
<td>3</td>
<td>.86</td>
</tr>
</tbody>
</table>

Note. All values shown are from the last step of each model. Bold text indicates $p < .05$.

Table 11. Univariate Analysis of Variance

Note. No significant associations.
Acceptability and Feasibility of Resilience Intervention

The acceptability and feasibility of the resilience intervention was evaluated based on total scale scores. Participants reported relatively high acceptability and feasibility with average total scores of 23.88 (SD=5.25; range: 0-36) and 18.13 (SD=3.57; range: 0-27), respectively. Additionally, there were no significant differences between participants who completed the entire intervention and those who completed part of the intervention for either acceptability ($F(3, 64) = 1.59, p = .20$) and feasibility ($F(3, 64) = 1.34, p = .27$). See Figures 18 and 19 for acceptability and feasibility results.
Figure 18. Acceptability means of resilience intervention.

Figure 19. Feasibility means of resilience intervention.
Chapter 4: Discussion

The present study sought to utilize a resilience intervention among a predominately Hispanic college student sample with at risk drinking and symptoms of depression and/or anxiety to reduce alcohol use and symptoms of mental illness by way of enhancing resilience and coping. Additionally, the present study aimed to establish the moderating effects that perceived and internalized stigma associated with mental illness has on the effectiveness of a resilience intervention in relation to alcohol use, depression, and anxiety. Furthermore, the current study sought to evaluate the effect of the number of intervention sessions attended on the primary outcomes of interest (i.e., symptoms of mental illness and alcohol use). Moreover, the present study aimed to assess the resilience interventions effects on protective behavioral strategies and alcohol abstinence self-efficacy. Lastly, the current study evaluated the feasibility and acceptability of the Transforming Lives Through Resilience Education intervention.

The Effect of the Resilience Intervention on Alcohol Use, Depression and Anxiety

The primary aim of the current study was to evaluate the effectiveness of a resilience intervention in reducing alcohol use, symptoms of depression, and symptoms of anxiety. Hypothesis 1, which anticipated that Hispanic college students who engage in at risk drinking, and experience symptoms of depression and anxiety will experience reduced alcohol use and symptoms of depression and/or anxiety following the resilience intervention, was partially supported. Specifically, the present study demonstrated that the resilience intervention was effective at reducing anxiety symptoms. This is consistent with past research utilizing the same resilience intervention, where results showed a reduction in negative affect, which they defined as anger, anxiety, disappointment, discouraged, sad, and tired (Steinhardt & Dolbier, 2008). However, the present study did not see reductions in depressive symptoms by means of the
resilience intervention. This is inconsistent with past research utilizing the same resilience intervention, where researchers saw a decrease in depression symptoms (Steinhardt & Doliber, 2008). One possible explanation for this discrepancy could be participants of the current study reported comorbidity with at risk drinking and either depression or anxiety, as per the inclusion criteria, while participants of prior studies reported no comorbid mental illness. That is, previous studies lacked any investigation of how alcohol severity may impact symptoms of mental illness and how these outcome variables might be alleviated by a resilience intervention. Therefore, these results suggest that the online resilience intervention may need to be adapted to address mental health problems with comorbid at-risk drinking which is not currently addressed as part of the intervention.

To the best of our knowledge, this is the first study to evaluate how increasing resilience may reduce alcohol consumption and severity of alcohol use. Previous studies utilizing the Transforming Lives Through Resilience Education intervention have not looked at how the intervention could be utilized to reduce alcohol use and alcohol use severity. While past research has found support for reducing alcohol use by way of increasing resilience (Johnson et al., 2011; Lyvers et al., 202; Sanchez et al., 2022), participants of the current study reported more severe alcohol use than prior studies. These prior studies were conducted among college students; however, they were not intervention studies. Additionally, one criterion for inclusion in the study is at risk drinking, thus, participants were scoring at a hazardous drinking level and not a low risk drinking level. Moreover, participants of the current study reported comorbidity with depression, anxiety, and heavy drinking while participants of prior studies reported no comorbid mental illness. These findings suggest that the resilience intervention may need to be modified to
address alcohol use more specifically, as well as any comorbidity that may exist between depression, anxiety, and alcohol consumption or severity.

**The Mediating Effect of Resilience, Adaptive Coping, and Maladaptive Coping**

The second hypothesis, which anticipated that the effect of the resilience intervention on alcohol use, depression and anxiety will be negatively mediated by resilience and adaptive coping, and positively mediated by maladaptive coping, was partially supported. That is, we anticipated that the intervention would increase adaptive coping strategies which will in turn, decrease depression, anxiety and alcohol use. Specifically, resilience mediated the effect of a 4-module intervention on both depressive symptoms and anxiety symptoms. That is, although there are not direct effects of the intervention on depression, if the intervention increases resilience, then it will reduce depression and anxiety. This is consistent with past research where increased resilience is associated with decreased symptoms of mental illness (Brewer et al., 2019; Cano et al., 2020). Moreso, the past study evaluating the same resilience intervention on students’ mental health found a positive impact of the resilience intervention on mental illness (Steinhardt & Dolbier, 2008). These results suggest that the full intervention (i.e., four modules) is most effective at reducing symptoms of mental illness among those with comorbid at-risk drinking.

Additionally, there was a mediating effect of maladaptive coping strategies on a 2-module resilience intervention on depressive symptoms. The results showed a negative relationship between the intervention and maladaptive coping strategies as well as a negative relationship between maladaptive coping strategies and depression. Specifically, decreases in maladaptive coping strategies led to increases in symptoms of depression. This is the first study to evaluate how maladaptive coping strategies may affect the relationship between the effectiveness of a resilience intervention and symptoms of mental illness. Past research has not
shown an effect of intervention on maladaptive coping strategies, as seen in the current study. However, this relationship is only seen in a 2-module intervention. Past research has yet to evaluate the number of modules on any outcome variable discussed thus far. These results suggest that if the 2-module intervention may decrease maladaptive coping strategies, it will in turn, increase depressive symptoms. More specifically, these results may suggest that there is a temporary and intermediate reduction in use of maladaptive coping strategies which temporarily worsens symptoms of depression. In the current study, maladaptive coping strategies were defined by denial, self-blame, substance use, and behavioral disengagement The resilience intervention may be influencing participants to be less likely to engage in maladaptive coping strategies, however, in the absence of increased adaptive coping this temporary loss of maladaptive coping strategy may increase depressive symptoms. Thus, because participants had temporarily lost their typical coping strategies, this negatively impacted their symptoms of depression. This conclusion is further supported by the finding that there were no significant effects of the resilience intervention on adaptive coping. Taken together, these results suggest that while the resilience intervention may have reduced the likelihood of engaging in maladaptive coping strategies, it was not as effective in influencing participants engagement in adaptive coping strategies which may have led to increased symptoms of depression. Future research should focus on modifying the resilience intervention to continue reducing engagement in maladaptive coping strategies and encourage engagement in adaptive coping strategies. 

In contrast, there were no mediating effects on either alcohol use severity or alcohol consumption by either resilience, adaptive coping, or maladaptive coping. This is the first study to examine this resilience intervention in reducing alcohol use severity or alcohol consumption, thus laying the groundwork for adjusting the intervention to address alcohol directly. Participants
of the current study were reporting hazardous drinking suggesting that an online module may not be substantial enough at reducing alcohol severity or hazardous consumption. While it remains to be empirically tested, a face-to-face resilience intervention may have greater impact on alcohol use and alcohol severity than an online intervention. Alternatively, a resilience intervention with greater emphasis on at risk drinking as a maladaptive coping strategy in the face of stressors may lead to significant changes in alcohol consumption and/or alcohol use severity. The current study made no changes to the intervention to evaluate how the intervention may function at reducing alcohol use severity or consumption among a predominately Hispanic college student sample. These results suggest that an intervention that introduces alcohol use as a maladaptive coping strategy along with alternative, adaptive coping strategies may be more effective. Thus, the current results suggest that the intervention needs adjustments in module content to effectively reduce alcohol use severity or alcohol consumption (Steinhardt & Dolbier, 2008).

**The Moderating Effect of Internalized and Perceived Stigma**

Hypothesis 3, which anticipated that increased internalized and perceived stigma will moderate the relationship between the resilience intervention, alcohol use and symptoms of mental illness, was not supported. Specifically, neither internalized nor perceived stigma moderated the relationship between the intervention and alcohol use or symptoms of mental illness. Additionally, the current study showed minimal internalized stigma, yet relatively high perceived stigma. That is, participants were not internalizing any negative perceptions about mental illness, however, they believed the public had negative endorsements about mental illness. This may suggest that between the two forms of stigma, perceived stigma may potentially be more common among a predominately Hispanic college student sample who engage in at risk drinking and experience comorbid symptoms of depression and anxiety. This is consistent with
past research regarding perceived stigma among the Hispanic community (DeFreitas et al., 2018; Mendoza et al., 2015), where individuals in the Hispanic community typically report more perceived stigma. The potential impact of perceived stigma should continue to be an important characteristic to consider when evaluating interventions with this population. It may be helpful for future resilience interventions to address the role of perceived stigma.

To the best of our knowledge, this is the first study to investigate how stigma might impact the effectiveness of a resilience-based intervention. Taken together, these results suggest the need to further investigate the relationship either internalized or perceived stigma may have on a resilience intervention. That is, as the results currently stand, the effect of the resilience intervention is not dependent upon either internalized or perceived stigma. Given that this is the first study to investigate how stigma might impact the effectiveness of the intervention, future studies would benefit from investigating how the intervention would affect and potentially reduce internalized and perceived stigma. This is especially true in a Hispanic population, given the prevalence of stigma associated with mental illness commonly seen in the Hispanic community (Cheng et al, 2013). Overall, these results suggest the need for further investigation into a resilience intervention and its relationship with internalized and perceived stigma among Hispanic college students.

The Effect of the Resilience Intervention on Protective Behavioral Strategies and Alcohol Abstinence Self-Efficacy

The fourth hypothesis, which anticipated that a predominately Hispanic college student sample with at risk drinking and depression and/or anxiety will report engaging in more protective behavioral strategies and increased alcohol abstinence self-efficacy following the resilience intervention, was partially supported. Specifically, participants that completed a 2-
module intervention reported engaging in more protective behavioral strategies. This is somewhat consistent with past research, as previous studies have found protective behavioral strategies to serve as a mechanism for resilience (Greń et al., 2023; Rudzinski et al., 2017). That is, increased engagement in protective behavioral strategies may contribute to increased resilience. However, this is the first study to investigate whether a resilience intervention may increase protective behavioral strategies among students engaged in at-risk drinking. The results suggest that a resilience intervention may increase protective behavioral strategies, but this increase in protective behavioral strategies may not be sustained throughout the whole intervention. Nevertheless, a 2-module intervention is effective at increasing the likelihood of Hispanic college students engaging in specific methods to reduce their vulnerability to negative alcohol-related consequences. One reason for this unique relationship may be due to participants reporting engagement in protective behavioral strategies at baseline. Participants reported already engaging in methods to reduce negative alcohol-related consequences, so the resilience intervention maximized the engagement in protective behavioral strategies. However, this also may in part be due to temporary or intermediate effects of a 2-module intervention. Thus, a modified full resilience intervention (i.e., four modules) that would address behavioral changes more specifically may be beneficial in participants who already report engagement in protective behavioral strategies based on the results of the current study.

In contrast, the resilience intervention had no effect on alcohol abstinence self-efficacy. While this is the first study to investigate how a resilience intervention may influence alcohol abstinence self-efficacy, past resilience research has found the resilience has served as a promotive factor for alcohol abstinence (Lee et al., 2019; Rathinam and Ezhumalai). Specifically, increased resilience has been found to be associated with increased alcohol
abstinence. Additionally, previous studies have found a positive relationship between resilience and self-efficacy (Sagone et al., 2020; Skoch, 2003). However, these previous studies were primarily cross-sectional and included adults beyond their college-aged years (Lee et al., 2019; Rathinam and Ezhumalai) or high school students (Sagone et al., 2020; Skoch, 2003), thus not accounting for the added stressors of a predominately Hispanic college student sample or investigating any longitudinal effects. Furthermore, participants in the current study reported hazardous drinking and low to mild alcohol abstinence self-efficacy scores. This suggests that participants may not have been motivated to engage in alcohol abstinence and thus the resilience intervention may not have been as effective in increasing abstinence self-efficacy. Given that previous studies have not investigated how a resilience intervention may influence alcohol abstinence self-efficacy and previous research has outlined resilience as a promotive factor for alcohol abstinence (Lee et al., 2019; Rathinam and Ezhumalai), the current study lays the ground for investigating how drink refusal self-efficacy as an outcome is mediated by changes in resilience.

Taken together, these results suggest that the current sample may have already been using protective behavioral strategies so the intervention may have helped them build upon those practices. On the other hand, however, the sample may not have been motivated to engage in alcohol abstinence, thus the intervention did not build upon these practices. Additionally, it is worth nothing that these results may depend on participants motivation to change drinking behavior. Individuals who are considering engaging in protective behavioral strategies are trying to manage their drinking behaviors, not necessarily abstain from drinking. This notable difference may explain why the current study sees an effect on protective behavioral strategies but not alcohol abstinence self-efficacy. In conclusion, these results suggest the need for further
investigation into a resilience intervention more targeted at increasing protective behavioral strategies among populations engaging in these practices.

**The Effect of the Resilience Intervention on Resilience and Adaptive Coping Strategies**

The last hypothesis, which anticipated participants who completed the full intervention (i.e., four modules) will have greater resilience and utilize more adaptive coping strategies than participants who completed part of the intervention (i.e., less than four modules), was not supported. Specifically, there were no differences in either resilience or adaptive coping strategies for participants who completed the full intervention in comparison with those who completed part of the intervention. Previous studies utilizing the same resilience intervention have not evaluated the impact of the number of modules completed. These results suggest that regardless of the amount of intervention that participants received, the participants levels of resilience or use of adaptive coping strategies remains unchanged. However, this lack of change may be a function of the current sample as participants of the current study reported comorbidity with depression, anxiety, and heavy drinking. In conjunction with other results of this current study suggesting that a 2-module or 3-module intervention may be effective as well, this lays the foundation for exploring the way the resilience intervention has its effect on resilience independent of outcomes of interest. That is, continuous investigation into the overall intervention, as well as independent modules, and their effects on resilience or adaptive coping strategies should be the basis for future research given the results of the current study.

**Acceptability and Feasibility**

Overall, participants rated the resilience intervention relatively acceptable and feasible. Acceptability and feasibility evaluate whether the intervention addresses the individual’s or community’s needs and whether the intervention can be performed easily (Proctor et al., 2011).
This suggests that participants who completed any number of modules of the resilience intervention perceived the online intervention to address their needs and that the intervention could be performed easily. Additionally, there were no significant differences between participants who completed the entire intervention and those who completed part of the intervention. This suggests that all participants, regardless of the number of modules completed, rated the intervention as acceptable and feasible. Future studies evaluating this resilience intervention would benefit from conducting a long-term evaluation plan to gain deeper insights into the acceptability and feasibility of this intervention.

**Limitations and Strengths**

While the present study addresses necessary research questions and gaps, it is not without limitations. First, there was not a designated control group. That is, participants were allowed to complete as many or as few modules of the intervention as they wanted which may contribute bias to the analyses and not being able to draw definitive conclusions about the effectiveness of the intervention. Relatedly, there was a low sample size for modules 2 and 3, when compared to the remaining modules. This lower sample size may contribute to bias in the analyses. Additionally, the reliance on self-report measures for assessing symptoms of depression, anxiety, alcohol use severity, and alcohol consumption may have introduced bias. That is, because participants were allowed to self-report, this may have introduced a social desirability effect in which participants were not entirely truthful with their answers for fear of being negatively evaluated. This can be especially seen with mental illness screeners, such as those used within the current study (Thombs et al., 2018; van de Mortel, 2008). This is supported by the higher reports of perceived stigma seen in the current study. Relatedly, however, participants were not asked whether they believed they had a mental illness which may have contributed to the low
internalized stigma seen in the current study. Furthermore, the use of the PHQ-9 and GAD-7 may not have been sufficiently refined enough to detect changes in anxiety or depression, respectively. Specifically, using a more thorough assessment of depression and anxiety may be beneficial in shedding light on the intervention’s effectiveness. Moreover, the attrition rate observed in the present study (36.36%) raises concerns about potential bias in the data and may affect the validity of the longitudinal analyses. More specifically, this attrition rate may influence acceptability and feasibility of the intervention. That is, participants may have refrained from completing the study due to the intervention itself or the outcomes being measured, which would overall affect whether they perceive the intervention as acceptable or feasible. One meta-analysis shows that most health behavior change studies have about an 18% attrition rate, whereas randomized control trials have about a 13% attrition rate (Crutzen et al., 2015). However, the results of the comparison analyses showed there were no differences between those who completed the follow-up and those who were lost to follow-up. Additionally, past studies evaluating the effectiveness of the Transforming Lives Through Resilience Education intervention had utilized an in-person intervention (Dolbier et al., 2010; Steinhardt and Dolbier, 2008), whereas the current study utilized the online intervention. While participant’s progress was monitored to ensure that each module of the intervention was completed, the effort and attention given to each module was not measured, thus introducing potential bias to the results. However, while an in-person intervention may be more effective, it may also contribute to higher attrition rates. An additional limitation was the relatively brief follow-up which may contribute to null findings. That is, there may not have been sufficient time for the intervention to have its effect on the outcomes of interest. For example, this may partially explain why no effects of the intervention on alcohol use severity were observed. There may not have been adequate time for
the changes in PBS to lead to changes in alcohol consumption or alcohol use severity. Likewise, increased rates of PBS may be leading indicators of these future potential changes which should be evaluated by incorporating longer follow-up timeframes. Lastly, the study’s primary focus on a predominately Hispanic college student sample from a single Hispanic serving institution on the U.S/Mexico border may limit generalizability to other Hispanic communities in a different educational setting. That is, it may be beneficial to evaluate the effectiveness of the resilience intervention in universities where Hispanics are not the majority or a university that is not located on the U.S/Mexico border.

Despite the current limitations, this pilot study also has various strengths. First, the present study addresses a critical gap in the literature by examining the effectiveness of a resilience intervention in reducing symptoms of mental illness and alcohol use among a predominately Hispanic college student sample. The current study also contributes to understanding the relationship between symptoms of mental illness, alcohol use, resilience, coping strategies, stigma against mental illnesses, and engagement in protective behavioral strategies particularly within underrepresented populations. By focusing on a predominately Hispanic college student sample, the present study sheds light on unique factors influencing symptoms of mental illness and alcohol use. Additionally, the experimental longitudinal design incorporates multiple time points which allows for the assessment of the resilience intervention effects over time. This experimental study also provides valuable insight into the acceptability and feasibility of resilience interventions among an underrepresented population. This study is the first step in addressing health disparities among Hispanic college students by way of enhancing resilience and adaptive coping strategies. Overall, the current study provides a
foundation for future research and intervention efforts aimed at addressing health disparities experienced by underrepresented populations, such as Hispanic college students.

**Implications and Future Directions**

The findings of this study carry significant implications for both research and practice within the realms of mental health, substance use, and health disparities. Firstly, the observed effectiveness of the resilience intervention in alleviating anxiety symptoms and bolstering protective behavioral strategies underscores the necessity of integrating resilience-based approaches into interventions targeting mental health and substance use. Furthermore, the impact of adaptive and maladaptive coping strategies on intervention effectiveness emphasizes the importance of tailoring interventions to address coping strategies within the Hispanic community. By focusing on enhancing adaptive coping strategies and reducing maladaptive ones among Hispanic college students, interventions can potentially enhance their effectiveness. Moreover, this study lays the groundwork for future research aimed at fostering engagement in protective behavioral strategies and bolstering drinking refusal self-efficacy among participants already employing these strategies. Future research should also take into account motivation to change drinking behavior and incorporate specific intervention elements targeting alcohol use and its related outcomes.

The minority stress theory provides a valuable framework for comprehending the disparities in mental health and alcohol use among Hispanic college students. According to this theory, Hispanic students may encounter stressors stemming from discrimination based on their ethnicity (Meyer, 2003). Nevertheless, the minority stress theory also indicates that resilience is often prevalent among minority groups, serving as a protective factor that could potentially diminish stigmatization related to symptoms of mental illness, unhealthy alcohol use, and
alcohol-related issues, particularly within predominantly Hispanic communities. This is particularly relevant in a predominately Hispanic-serving university as social support and social influence is a significant contributor to increased resilience (Wu et al., 2013). That is, students in a predominately Hispanic-serving institute may have heightened resilience due to the ethnic similarities they hold with their peers. Moving forward, it is imperative for interventions to further explore how resilience contributes to coping mechanisms and alleviates symptoms of mental illness and alcohol use, with a specific focus on cultural sensitivity.

While this study presents promising results regarding the effectiveness of the resilience intervention, its observed limitations underscore the need for further research. Methodologically, future studies should address issues such as attrition rates, incorporate control conditions, utilize online modules, extend follow-up periods, and expand assessments of depression and anxiety. Longitudinal studies with larger, more diverse samples, employing in-person interventions with designated wait-list control conditions, are essential. Additionally, exploring how the resilience intervention affects various subgroups within the Hispanic population (e.g., first-generation students, bilingual students) can refine intervention strategies and ensure their effectiveness across diverse cultural contexts. Lastly, there is a crucial need to develop or enhance resilience interventions designed to address alcohol consumption as a coping strategy, build alternative coping strategies, and tackle stigma as a barrier to effective coping. Addressing these limitations may offer deeper insights into the intricate relationship between mental illness symptoms, alcohol use, resilience, and coping strategies, with stigma surrounding mental illness serving as moderators and engagement in protective behavioral strategies and alcohol abstinence self-efficacy as outcomes.
Conclusion

The key findings of the current study are that the resilience intervention effectively reduced anxiety among Hispanic college students, resilience served as a mediator of the effectiveness of the intervention for both anxiety and depression, the effects of the intervention were not negatively influenced by stigma, and that the resilience intervention increased engagement in protective behavioral strategies. Overall, the current study provides a foundation for future research and intervention efforts aimed at addressing health disparities experienced by underrepresented populations, such as Hispanic college students. The current research lays the groundwork for developing targeted interventions aimed at promoting resilience and adaptive coping strategies and reducing alcohol consumption and severity. By continuing to explore the interplay between symptoms of mental illness, alcohol use, resilience, coping strategies, and stigma surrounding mental illness within culturally diverse populations, researchers can work towards more effective and equitable approaches to promoting overall well-being.
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Appendices

Appendix A: Sociodemographics

Please read each question carefully and select the most accurate response.

1. How old are you? __________

2. What sex were you assigned at birth?
   ____ Male
   ____ Female

3. 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.
   {Choose one}
   () Cis Man () Cis Woman () Trans Man () Trans Woman () Another Identity

4. Are you Hispanic or Latino?
   ____ Yes
   ____ No

5. Please indicate which of the following categories best describes your race:
   ____ White
   ____ African American
   ____ Asian American
   ____ Native American / Alaskan Native
   ____ Native Hawaiian / other Pacific Islander
   ____ Other (please specify) _______

6. I am:
   ____ Single (never married)
7. Current Class Standing:
   __ Freshman
   __ Sophomore
   __ Junior
   __ Senior

8. Student Status:
   __ Part-time (1-11 credits)
   __ Full-time (12+ credits)

9. What is your total annual household/family income from all sources? (Check one)
   _____ Less than $15,000
   _____ Between $15,000 and $30,000
   _____ Between $30,000 and $50,000
   _____ More than $50,000

10. What is the size of your household, including yourself? __________ Members

11. What is your work status?
   __ I do not work
   __ Working part-time.
   __ Working full-time.
12. What is your religious affiliation?
   __ Roman Catholic
   __ Christian
   __ Jewish
   __ Hindu
   __ Buddhist
   __ Muslim/Islam
   __ Agnostic
   __ Atheist
   __ Non-religious/secular
   __ Other (specify)______________

13. Have you ever received mental health services?
   __ Yes
   __ No

14. (If “yes” to previous item) What was your experience of these mental health services?
   __ They were helpful.
   __ I am not sure.
   __ They were not helpful.

15. Has anyone in your family been diagnosed with a mental illness?
   __ Yes
   __ No

16. Do you have a relationship with someone who has experienced mental health problems?
   __ Yes
   __ No

Appendix B: Alcohol Use Disorders Identification Test (AUDIT)
Please answer the following questions regarding your alcohol use and consequences.

1. How often do you have a drink containing alcohol?
   o Never
   o Monthly or less
   o 2-4 times a month
   o 2-3 times a week
   o 4 or more times a week

2. How many drinks containing alcohol do you have on a typical day when you are drinking?
   o 1 or 2
   o 3 or 4
   o 5 or 6
   o 7 to 9
   o 10 or more

3. How often do you have six or more drinks on one occasion?
   o Never
   o Less than monthly
   o Monthly
   o Weekly
   o 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?
   o Never
   o Less than monthly
   o Monthly
   o Weekly
   o 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?
   o Never
   o Less than monthly
   o Monthly
   o Weekly
   o 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?
   o Never
   o Less than monthly
7. How often during the last year have you had a feeling of guilt or remorse after drinking?
   - Never
   - Less than monthly
   - Monthly
   - Weekly
   - Daily or almost daily

8. How often during the last year have you been unable to remember what happened the night before because of your drinking?
   - Never
   - Less than monthly
   - Monthly
   - Weekly
   - Daily or almost daily

9. Have you or someone else been injured because of your drinking?
   - No
   - Yes, but not in the last year.
   - Yes, during the last year.

10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?
    - No
    - Yes, but not in the last year.
    - Yes, during the last year.
Appendix C: Patient Health Questionnaire-9

Over the last 2 weeks, how often have you been bothered by any of the following problems?

0 = Not at all
1 = Several days
2 = More than half the days
3 = Nearly every day

1. Little interest or pleasure in doing things.
2. Feeling down, depressed, or hopeless
3. Trouble falling or staying asleep or sleeping too much.
4. Feeling tired or having little energy
5. Poor appetite or overeating
6. Feeling bad about yourself - that you are a failure or have let yourself or your family down.
7. Trouble concentrating on things, such as reading the newspaper or watching television.
8. Moving or speaking so slowly that other people could have noticed? Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual.
9. Thoughts that you would be better off dead or hurting yourself in some way.

10. If you have checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?
   a. Not difficult at all
   b. Somewhat difficult
   c. Very difficult
   d. Extremely difficult
Appendix D: Generalized Anxiety Disorder Screener (GAD-7)

Over the last 2 weeks, how often have you been bothered by the following problems?

0 = Not at all
1 = Several Days
2 = More than half the days
3 = Nearly every day

1. Feeling nervous, anxious or on edge
2. Not being able to stop or control worrying.
3. Worrying too much about different things
4. Trouble relaxing
5. Being so restless that it is hard to sit still.
6. Becoming easily annoyed or irritated
7. Feeling afraid as if something awful might happen.

8. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?
   a. Not difficult at all
   b. Somewhat difficult
   c. Very difficult
   d. Extremely difficult
Appendix E: The Daily Drinking Questionnaire

When asked how much you drink in the following questions use this chart.

ONE STANDARD DRINK IS EQUAL TO:

**Standard American BEER** (3-5% alcohol) 12 oz. Can, Bottle or Glass

**Microbrew or European BEER** (8%-12% alcohol) 1/2 of a 12 oz. Can or Bottle

**WINE** (12 – 17% alcohol) 4 oz. Glass

**WINE Cooler** 10 oz. Bottle

**HARD LIQUOR** (80-proof, 40% alcohol) 1-1/2 oz. or One Standard Shot

**HARD LIQUOR** (100-proof, 50% alcohol) 1 oz.

**WINE: 1 Bottle**

25 oz. (12 – 17% alcohol) = 5 standard drinks

40 oz. (12 – 17% alcohol) = 8 standard drinks

**HARD LIQUOR: 1 Bottle**

12 oz. = 8 standard drinks

25 oz. = 17 standard drinks

40 oz. = 27 standard drinks

**INSTRUCTIONS FOR RECORDING DRINKING DURING A TYPICAL WEEK**

IN THE CALENDAR BELOW, PLEASE FILL-IN YOUR DRINKING RATE AND TIME DRINKING DURING A TYPICAL WEEK IN THE LAST 30 DAYS.
First, think of a *typical week* in the last 30 days you. (Where did you live? What were your regular weekly activities? Were you working or going to school? Etc.) Try to remember as accurately as you can *how much* and *for how long* you *typically drank* in a week during that one-month period?

For each day of the week in the calendar below, fill in the **number of standard drinks typically consumed on that day** in the upper box and the **typical number of hours you drank** that day in the lower box.

<table>
<thead>
<tr>
<th>Day of Week</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
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<tbody>
<tr>
<td>Number of Drinks</td>
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<tr>
<td>Number of Hours Drinking</td>
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</table>

**INSTRUCTIONS FOR RECORDING DRINKING FOR YOUR HEAVIEST DRINKING WEEK**

In the calendar below, please fill-in your drinking rate and time drinking during your **heaviest drinking week** in the last 30 days.

First, think of your *heaviest drinking week* in the last 30 days. (Where did you live? What were your regular weekly activities? Were you working or going to school? Etc.)

Try to remember as accurately as you can, *how much* and *for how long* did you drink during your *heaviest drinking week* in that one-month period?
For each day of the week in the calendar below, fill in the number of standard drinks consumed on that day in the upper box and the number of hours you drank that day in the lower box.

<table>
<thead>
<tr>
<th>Day of Week</th>
<th>Monday</th>
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<td>Number of Drinks</td>
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<td>Number of Hours Drinking</td>
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</tbody>
</table>

1. **How often did you drink during the last month?** (Check one)
   a. I did not drink at all.
   b. About once a month.
   c. Two to three times a month.
   d. Once or twice a week.
   e. Three to four times a week.
   f. Nearly every day.
   g. Once a day or more.

2. **Think of a typical weekend evening** (Friday or Saturday) during the last month. How much did you drink that evening? (Check one)

<table>
<thead>
<tr>
<th>1 drink</th>
<th>9 drinks</th>
<th>17 drinks</th>
<th>25 drinks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 drinks</td>
<td>10 drinks</td>
<td>18 drinks</td>
<td>26 drinks</td>
</tr>
<tr>
<td>3 drinks</td>
<td>11 drinks</td>
<td>19 drinks</td>
<td>27 drinks</td>
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<tr>
<td>4 drinks</td>
<td>12 drinks</td>
<td>20 drinks</td>
<td>28 drinks</td>
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<tr>
<td>5 drinks</td>
<td>13 drinks</td>
<td>21 drinks</td>
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<td>6 drinks</td>
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<tr>
<td>7</td>
<td>15</td>
<td>23</td>
<td>More than 30</td>
</tr>
<tr>
<td>8</td>
<td>16</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

3. **Think of the occasion** (any day of the week) **you drank the most** during the last *month*.

How much did you drink? (Check one)

<table>
<thead>
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<th>Drinks</th>
<th>Drinks</th>
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<td>1</td>
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<td>23</td>
<td>More than 30</td>
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<tr>
<td>8</td>
<td>16</td>
<td>24</td>
<td></td>
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</tbody>
</table>
Appendix F: Protective Behavioral Strategies Scale-20

Instructions: Please indicate the degree to which you engage in the following behaviors when using alcohol or “partying.”

1 = Never
2 = Rarely
3 = Occasionally
4 = Sometimes
5 = Usually
6 = Always

1. Use a designated driver
2. Determine not to exceed a set number of drinks
3. Alternate alcoholic and nonalcoholic drinks
4. Have a friend let you know when you have had enough to drink
5. Avoid drinking games
6. Leave the bar/party at a predetermined time
7. Make sure that you go home with a friend
8. Know where your drink has been at all times
9. Stop drinking at a predetermined time
10. Drink water while drinking alcohol
11. Put extra ice in your drink
12. Avoid mixing different types of alcohol
13. Drink slowly, rather than gulp or chug
14. Avoid trying to “keep up” or “out-drink” others
15. Refuse to ride in a car with someone who has been drinking
16. Only go out with people you know and trust
17. Avoid combining alcohol with marijuana
18. Avoid “pre-gaming” (i.e., drinking before going out)
19. Make sure you drink with people who can take care of you if you drink too much
20. Eat before or during drinking
Appendix G: Alcohol Abstinence Self-Efficacy

Listed below are a number of situations that lead some people to drink. We would like to know how CONFIDENT are you that you WOULD NOT drink in each situation. Check the answer that best describes the feelings of confidence in each situation at the present time.

0 = Not at all
1 = Not very
2 = Moderately
3 = Very
4 = Extremely

1. When I am in agony because of stopping or withdrawing from alcohol use
2. When I have a headache
3. When I am feeling depressed
4. When I am on vacation and want to relax
5. When I am concerned about someone
6. When I am very worried
7. When I have the urge to try just one drink to see what happens
8. When I am being offered a drink in a social situation
9. When I dream about taking a drink
10. When I want to test my willpower over drinking
11. When I am feeling a physical need or craving for alcohol
12. When I am physically tired
13. When I am experiencing some physical pain or injury
14. When I feel like blowing up because of frustration
15. When I see others drinking at a bar or at a party
16. When I sense everything is going wrong for me
17. When people I used to drink with encourage me to drink
18. When I am feeling angry inside
19. When I experience an urge or impulse to take a drink that catches me unprepared
20. When I am excited or celebrating with others
Appendix H: Acceptability of Intervention

Please answer the following questions based on what you think of the resilience intervention you participated in.

0 = Strongly disagree
1 = Disagree
2 = Agree
3 = Strongly agree

1. The resilience intervention seems fine.
2. The resilience intervention seems good enough.
3. The resilience intervention will do.
4. The resilience intervention meets my approval.
5. The resilience intervention meets my needs.
6. The resilience intervention is okay.
7. The resilience intervention is satisfactory.
8. The resilience intervention is pretty good
9. The resilience intervention is appealing
10. I have no objection to the resilience intervention.
11. I like the resilience intervention.
12. I welcome the use of the resilience intervention.
Appendix I: Feasibility of Intervention

Please answer the following questions based on what you think of the resilience intervention you participated in.

0 = Strongly disagree
1 = Disagree
2 = Agree
3 = Strongly agree

1. The resilience intervention seems practical.
2. The resilience intervention seems realistic
3. The resilience intervention seems workable.
4. The resilience intervention seems implementable.
5. The resilience intervention seems possible
6. The resilience intervention seems viable
7. The resilience intervention seems doable
8. The resilience intervention seems challenging.
9. The resilience intervention seems easy to use.
Appendix J: Brief Resilience Scale (BRS)

Instructions: Please indicate the extent to which you agree with the following statements.

1 = Strongly disagree
2 = Disagree
3 = Neither agree nor disagree
4 = Agree
5 = Strongly agree

1. I tend to bounce back quickly after hard times.
2. I have a hard time making it through stressful events. (R)
3. It does not take me long to recover from a stressful event.
4. It is hard for me to snap back when something bad happens. (R)
5. I usually come through difficult times with little trouble.
6. I tend to take a long time to get over setbacks in my life. (R)
Appendix K: Brief Coping Orientations to Problems Experienced Scale (Brief COPE)

Instructions: The following questions ask how you have sought to cope with hardships in your life. Read the statements and indicate how much you have been using each coping style.

1 = I did not do this at all
2 = I did this sometimes
3 = I did this a lot
4 = I did this always

1. I have been concentrating my efforts on doing something about the situation I am in.
2. I have been taking action to try to make the situation better.
3. I have been trying to come up with a strategy about what to do.
4. I have been thinking hard about what steps to take.
5. I have been trying to see it in a different light, to make it seem more positive.
6. I have been looking for something good in what is happening.
7. I have been accepting the reality of the fact that it has happened.
8. I have been learning to live with it.
9. I have been making jokes about it.
10. I have been making fun of the situation.
11. I have been trying to find comfort in my religion or spiritual beliefs.
12. I have been praying or meditating.
13. I have been getting emotional support from others.
14. I have been getting comfort and understanding from someone.
15. I have been trying to get advice or help from other people about what to do.
16. I have been getting help and advice from other people.
17. I have been turning to work or other activities to take my mind off things.
18. I have been doing something to think about it less such as going to the movies, watching TV, reading, daydreaming, sleeping, or shopping.
19. I have been saying to myself “this isn’t real.”
20. I have been refusing to believe that it has happened.
21. I have been saying things to let my unpleasant feelings escape.
22. I have been expressing my negative feelings.
23. I have been using alcohol or other drugs to make myself feel better.
24. I have been using alcohol or other drugs to help me get through it.
25. I have been giving up trying to deal with it.
26. I have been giving up the attempt to cope.
27. I have been criticizing myself.
28. I have been blaming myself for things that happened.
Appendix L: Internalized Stigma of Mental Illness Inventory (ISMI-9)

We are going to use the term “mental illness” in the rest of this questionnaire, but please think of it as whatever you feel is the best term for it. For each question, please mark whether you strongly disagree (1), disagree (2), agree (3), or strongly agree (4).

1 = Strongly disagree
2 = Disagree
3 = Agree
4 = Strongly agree

1. Stereotypes about mentally ill apply to me.
2. In general, I am able to live life the way I want to (R)
3. Negative stereotypes about mental illness keep me isolated from the normal world.
4. I feel out of place in the world because I have a mental illness.
5. Being around people who do not have a mental illness makes me feel out of place or inadequate.
6. People without illness could not possibly understand me.
7. Nobody would be interested in getting close to me because I have a mental illness.
8. I cannot contribute anything to society because I have a mental illness.
9. I can have a good, fulfilling life, despite my mental illness (R)
Appendix M: The Stigma-9 Questionnaire

Please rate how much you agree with the following statements.

1 = Strongly disagree
2 = Disagree
3 = Agree
4 = Strongly agree

I think that most people…

1. Take the opinion of someone who has been treated for a mental illness less seriously.
2. Consider someone who has been treated for a mental illness to be dangerous.
3. Hesitate to do business with someone who has been treated for a mental illness.
4. Think badly of someone who has been treated for a mental illness.
5. Consider mental illness to be a sign of personal weakness.
6. Hesitate to entrust their child with someone who has been treated for a mental illness.
7. Do not even take a look at an application from someone who has been treated for a mental illness.
8. Do not enter into a relationship with someone who has been treated for a mental illness.
9. Feel uneasy when someone who has been treated for a mental illness moves into the neighborhood.
Vita

Aitiana Ivonne Sanchez-Garciaguirre 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 two publications in the peer-reviewed journals The American Journal of Drug and Alcohol Abuse and Alcoholism: Clinical and Experimental Research. Additionally, Aitiana has a publication in the peer-reviewed journal Cultural Diversity & Ethnic Minority Psychology and has submitted a second-author publication to Addiction Research & Theory. She has also presented at the annual Research Society on Alcoholism meeting, the Collaborative Perspectives on Addiction annual meeting, and the American Psychological Association annual meeting.

Aitiana served as the lab manager for the LAHDR Center from 2020-2023. Aitiana has accepted a tenure-track Assistant Professor position in the Department of Health and Human Performance at Texas State University, where she will continue her research investigating a resilience intervention.

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