Risk And Protective Factors Associated With The Relationship Between Adverse Childhood Experiences And Alcohol Expectancies In Latina College Students

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RISK AND PROTECTIVE FACTORS ASSOCIATED WITH THE RELATIONSHIP
BETWEEN ADVERSE CHILDHOOD EXPERIENCES AND ALCOHOL
EXPECTANCIES IN LATINA COLLEGE STUDENTS

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Dedication

To my parents, Roberto Rodriguez and Marisela Rodriguez Crespo, my sister, Ximena Rodriguez Crespo, my partner Frankie Sanchez Jr., and all other invaluable pillars of support, I extend my deepest gratitude for your unwavering encouragement and boundless love.

I hope I have made you proud of all my successes.

Lastly, in loving memory of my grandparents, Armando Crespo, Yolanda Crespo, and Rebeca Robles whose enduring legacy of love and wisdom lives on in my heart and remains a guiding light in all that I do.
RISK AND PROTECTIVE FACTORS ASSOCIATED WITH THE RELATIONSHIP BETWEEN ADVERSE CHILDHOOD EXPERIENCES AND ALCOHOL EXPECTANCIES IN LATINA COLLEGE STUDENTS

by

ANDREA RODRIGUEZ CRESPO, B.S.

THESIS

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MASTER OF ARTS

Department of Psychology
THE UNIVERSITY OF TEXAS AT EL PASO
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First, I would like to express my most profound gratitude to my mentor Dr. Theodore V. Cooper whose guidance and unwavering support have been instrumental to my academic journey. Not only has he guided me academically but also supported me during personal hardships, offering reassurance and highlighting my strengths even when I doubted them. I am profoundly fortunate to have been mentored by someone so compassionate, whose wisdom and kindness have left an incredible mark on my character. I would also like to thank my committee members Dr. Eno Louden, Dr. Kirwan, and Dr. Frietze for all their invaluable thoughts and suggestions that strengthened my thesis. Furthermore, I would also like to thank my undergraduate mentor Dr. Laura O’Dell. Her mentorship played a pivotal role in shaping my academic aspirations and guiding me towards the next stage of my educational journey.

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May our bonds of mentorship, friendship and love continue to flourish as I embark my path ahead.
Abstract

Alcohol use among college students is a public health concern, with rates increasing in recent years. Several constructs have been studied in past research to assess alcohol use, alcohol consequences, and motives to drinking. However, to the author’s knowledge, no study has assessed risk and protective factors that may influence the relationship between alcohol expectancies and Adverse Childhood Experiences (ACEs) among Latina college students living on the U.S/Mexico border. The present study assessed the relationship between ACEs and positive and negative alcohol expectancies, as well as the impact of risk and protective moderating factors on the relationship. Latina college students (N = 341) were recruited from a Hispanic Serving Institution and completed an online survey which included: demographics, the Center for Youth Wellness Adverse Childhood Experience Questionnaire (CYW ACE-Q) Teen Self-Report, the Comprehensive Effects of Alcohol (CEOA) measure, the Children of Alcoholics Screening Test (CAST), the Depression, Anxiety, Stress Scale – 21 (DASS), The Family Health Scale -Long Form (FHS-LF), and the Brief-Resilience Scale (BRS). Descriptive analyses were conducted to yield participant characteristics. Hierarchal linear regressions were used to test for main and interactive effects. Results indicated a positive association between positive alcohol expectancies (β = .049, p < .001) and negative alcohol expectancies (β = .049, p < .001) with adverse childhood experiences. However, no moderators influenced the relationship between ACEs and positive and negative alcohol expectancies. Results of this study will inform alcohol prevention programs to target Latina college students, particularly those who have experienced childhood trauma.
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Chapter 1: Introduction

Prevalence

Excessive alcohol use among college students is a significant public health problem and has affected the lives of many students across the United States. According to the 2021 National Survey of Drug Use and Health (NSDUH), approximately 50% of full-time college students have consumed alcohol in the past month, with approximately 40% of students engaging in binge drinking (e.g., consuming five or more drinks on one occasion for men; four or more drinks for women); studies suggest college students drink more than their non-college young adult counterparts (Jang et al., 2019; Patrick & Terry-McElarthen, 2016; Quinn & Fromme, 2011). Likely in part due to the acceptance of alcohol being part of the college student culture, the effects of drinking are often downplayed (Gough et al., 2020). The acceptance of alcohol among a college student population is attributed to the idea that many students show natural reduction of general alcohol use after a typical peak of drinking, without specific interventions (Misch, 2007). These college drinking patterns often lead to poor academic performance (Duffy et al., 2020; Tembo et al., 2017), discontinuous enrollment, and reduced student engagement. Moreover, the risks of college drinking also include legal issues, driving under the influence, dissatisfaction with relationships, and intimate partner violence (Hultgren et al., 2022; Keith et al., 2015; Pearson et al., 2018; Subbaraman & Kerr, 2015). Consequences also extend beyond the college years, such that many students are at an increased risk of developing alcohol use disorder (AUD) later in adulthood (Prince et al., 2019). However, much of what has been studied regarding college student drinking is based on male students, given that male students are observed to drink more and experience greater alcohol consequences than female students (Harrell & Karim, 2008; Htet at al., 2020). Notably though, the rates of alcohol use among female students have risen
drastically in recent years (Karaye et al., 2023; Keyes et al., 2019; Kypri et al., 2009; White, 2020). Research has also shown that alcohol consequences reported by women are reaching similar levels as alcohol consequences reported by men (Erol & Karpyak 2015; White, 2020), suggesting that the gender gap is narrowing with regard to college student alcohol use (White, 2020). Thus, there is a need to identify factors that mitigate risk for alcohol use in order to develop optimal prevention programs among college students, specifically for female college students.

Despite the proliferation of research on college student drinking, most studies are comprised of predominantly European American samples, with few focusing on ethnic minorities, and even fewer addressing Latinx individuals. The rates of alcohol consumption vary by race/ethnicity within the United States (U.S.); 9.4% of Latinx report an AUD compared to the estimated 5.6% of the U.S. national population (SAMHSA, 2020). Studies have noted that Hispanic college students tend to consume less alcohol relative to their non-Hispanic white-counterparts (Hasin et al., 2007; Mulia et al., 2008; Villalobos & Bridges, 2018). However, close to 50% of Hispanic college students report heavy episodic drinking once a week, which is higher than national rates (Johnston et al., 2019; Venegas, 2012). Furthermore, evidence indicates that students attending school on the U.S./Mexico border may be more prone to alcohol use due to distinct border-related problems such as high prevalence of drug-related violence, drug trafficking, and ease of access given that the legal age of alcohol use in Mexico is 18 years (Almodovar et al., 2006; Caetano et al., 2023; Mills & Caetano 2016; Salerno Valdez et al., 2019). Moreover, among Latinx college students living on the U.S./Mexico border, 70% reported drinking in the past month (Cabriales et al., 2013) compared to 54% of college students living in the U.S. more generally (SAMHSA, 2017). That research on alcohol use among Latinx
individuals living on the U.S./Mexico border is limited is of concern not only given unique
drinking patterns but also given that the Latinx population is the most rapidly growing
ethnocultural minority group in the U.S. and attending college (Snyder et al., 2019).

**Alcohol Expectancies**

Alcohol expectancies are personal beliefs about how an individual anticipates or expects
that alcohol will impact their behavior, mood, and physiology (Dunn & Goldman, 1996;
Goldman et al., 1999; Smith et al., 1995). Alcohol expectancies are typically categorized as
either positive or negative which refer to types of effects that can result from drinking. Positive
expectancies (e.g., decreased stress, increased sociability, liquid courage) and negative
expectancies (e.g., having a hangover, increased aggressiveness) have been linked with
frequency, quantity, and consequences of alcohol use (Geisner et al., 2017; Patrick et al., 2016).

Positive expectancies are generally associated with increased alcohol use in cross-
sectional (Lac & Luk., 2019) and longitudinal studies (Stamates et al., 2016); negative
expectancies may motivate an individual to reduce drinking (Armeli et al., 2005; Jones et al.,
2001); however, findings regarding negative expectancies have been less consistent. Some
studies have observed negative expectancies are associated with less drinking among college
students (Nicolai et al, 2010); some have observed positive associations between negative
alcohol expectancies and hazardous drinking (Zamboanga et al., 2010), while still other studies
have found no relationship between negative expectancies and alcohol use (Neighbors et al.,
2007; Young et al., 2006). The contradictory findings regarding negative expectancies may be
due to a potential bidirectional relationship between alcohol use and expectancies. In other
words, alcohol expectancies can impact drinking patterns, while direct experiences can
subsequently influence and mold expectancies (Patrick & Maggs, 2007).
As noted, findings regarding positive expectancies are more consistent. Hasking and colleagues (2011) found that increased positive expectancies were associated with greater drinking. Additionally, another study documented daily positive and negative alcohol expectancies and also observed an association between daily levels of expectancies and drinking outcomes within a college student population (Lee et al., 2015). On days where students showed higher levels of positive alcohol expectancies, more drinks were consumed and more positive drinking consequences were reported (Lee et al., 2020). Furthermore, there are documented differences in greater levels of drinking expectancies when the individual is alone versus around others (Keough et al., 2018) as well as the environment where the drinking occurs (drinking at home versus drinking at a bar; Creswell, 2020). In a study of Mexican-American college students, positive expectancies (e.g., social and physical) were related to drinking in more social settings (Zamboanga, 2005). Therefore, much of the research regarding alcohol expectancies is based on contextual variables (Creswell, 2020; Krank & Wall, 2006; Kramer & Goldman, 2003). However, little is known regarding the relationship between alcohol expectancies and individual differences such as childhood trauma, family history, and mental health. Examining these individual differences as potential moderators of the relationship between adverse childhood experiences and alcohol expectancies may help to develop prevention strategies for alcohol initiation by modifying alcohol expectancies.

**Adverse Childhood Experiences**

Adverse Childhood Experiences (ACEs) originally studied by Felitti and colleagues (1998) encompass physical, emotional, sexual abuse, familial, and socio-environmental influences (e.g., parental drug use, poverty, domestic violence, and community stressors). Adversity during childhood that can induce stress and/or trauma has been linked to a host of
negative life outcomes such as chronic illness, depression and suicide, alcohol and drug use, academic problems, and socioeconomic challenges (Brown et al., 2010; Campbell et al., 2016; Hughes et al., 2017; Jones et al., 2019; Wade et al., 2016). Evidence suggests that nearly half of the adult population in the Unites States are exposed to at least one ACE, while 15.6% have experienced four or more ACEs (Merrick et al., 2019). Furthermore, individuals who have been exposed to four or more adverse experiences are twelve times more likely to experience negative life outcomes (Felitti et al., 1998). Additionally, graded dose-response has been observed between ACEs and negative health outcomes (Felitti et al., 1998; Hughes et al., 2017; Merrick et al., 2019). That is, as ACEs increased, the susceptibility to health and behavioral outcomes also increased.

Despite the growing academic research interest on ACEs, there is limited research on the prevalence of ACEs among Latinx individuals, as well as other minority groups. Importantly, there are racial, ethnic, and socioeconomic differences in the prevalence of and patterns related to ACEs (LaBrenz et al., 2019; Merrick et al., 2019; Narayan et al., 2021). Merrick and colleagues (2019) reported greater prevalence in ACEs with 29% of Latinx individuals having four or more ACEs, compared to the general U.S population (15.6%). However, one study showed that this high prevalence did not always impact mental and health problems (Jaffe et al., 2013) suggesting possible protective factors that need to be furthered explored within this population.

Among Latinx individuals, research has shown that household dysfunction is the most prominent type of ACE. Family dysfunction suggests an environment where there is frequent conflict, abuse (e.g., emotional, physical and/or sexual), neglect and exposure to trauma. Family dysfunction may be linked with intergenerational trauma. That is adversity experienced by a
parent, can lead to transmission of generational trauma, through the parent’s mental health problems, parenting practices, and parent-child relationships. Additionally, parents who have various ACEs, may have untreated trauma which in turn increases the risk of the intergenerational cycle of ACEs (Narayan et al., 2021). ACEs is important to examine not only due to their high prevalence among racial/ethnic minorities, but also because these experiences may lead to negative life consequences.

It is imperative to investigate ACEs among college students, as students are undergoing a significant life transition. Notably, research has remained consistent with studies showing the high prevalence of ACEs among college students, with 70% of students experiencing at least one ACE (Forster et al., 2018; Strand et al., 2017). Additionally, Forster and colleagues (2018) observed that individuals who are in a period of emerging adulthood and had a cumulative ACE had the highest probability of substance use. Thus, examining ACEs in this group can help identify risk and protective factors for alcohol initiation.

Given the prevalence between ACEs among the Latinx college student population and drug use, specifically alcohol, it is important to understand risk factors for alcohol initiation. In addition to trauma, other factors such as acculturative stress, low socioeconomic status, low familial support, and microaggressions (Cerdeña, et al., 2020; Villamil Grest et al., 2021) have been associated with negative mental health outcomes and alcohol initiation. One study conducted with female college students observed that attachment style, cultural factors (marianismo beliefs) and bicultural self-efficacy moderated the relationship between ACEs and early initiation of alcohol use and marijuana use frequency (Woloshchuk et al., 2022a). This study demonstrated the need to assess alcohol use from a life-course developmental perspective, as ACEs influenced insecure attachment style, which increase substance use including alcohol
use potentially in an attempt to cope with these emotions and potential trauma (Gidhagen et al., 2018; Murase et al., 2021; Woloshchuk et al., 2022a).

While a plethora of research has addressed ACEs and alcohol use among college students and its risk factors, less is known about the impact of alcohol expectancies among Latinx individuals. Studies have assessed the relationship between experience of childhood trauma and positive alcohol expectancies with these studies observing a positive relationship (Corbin et al., 2001; Pedersen et al., 2014). Childhood traumas often include parental drinking, parental violence, and sexual abuse (Bedard-Gilligan et al., 2011; Marx et al., 2000). Individuals with a history of childhood trauma exposure may use alcohol as a coping mechanism to reduce PTSD-related emotional distress. That is, individuals who hold the belief that consuming alcohol can alleviate negative affect are more likely to develop positive alcohol expectancies. Particularly, sexual abuse is associated with an increased risk of alcohol use likely due to an increase in positive alcohol expectancies (Corbin, et al., 2001; Monks, et al., 2010). For example, victims of child/adolescence sexual assault endorse greater positive expectancies (e.g., sexuality, liquid courage, sociability). Moreover, according to Pedersen and colleagues (2014) positive alcohol expectancies have been associated with drinking behavior in women who reported alcohol use. While there are many studies addressing ACEs and alcohol use, less is known about the relationship between ACEs and alcohol expectancies. Thus, it is key to understand these associations, as greater understanding will drive successful intervention to prevent individuals from using alcohol as a coping mechanism to alleviate trauma symptoms.

Alcohol use within the college student population is often impacted by newfound freedoms, more alcohol availability, peer influences, as well as alcohol expectancies. Risk and
protective factors that may heighten or ameliorate the impact of ACES on alcohol expectancies warrant continued study.

**Theoretical Framework**

In efforts to better understand drinking behavior among Latinx college students, it is essential to identify factors that contribute to alcohol expectancies and the initiation of alcohol use. Looking at potential risk and protective factors through a developmental lens, highlighting the importance of attitudes, beliefs, and expectancies, can better inform interventions to help prevent individuals from using alcohol as a coping mechanism.

This interplay may be observed through the lens of maladaptive schemas. Originated by Beck (1964, 1995) in the context of cognitive therapy, schemas can be seen as the development of mental frameworks (i.e., memories, beliefs, emotions, and thoughts) about oneself, the world, and the future that impacts how information is encoded. Moreover, schemas help individuals understand their roles to predict outcomes and make decisions (Sims & Loreonzi, 1992). Expanding on Beck’s ideas, Young and colleagues introduced Schema Theory, specifically Early Maladaptive Schemas (EMSs; Young et al., 2006). According to this theory, EMSs develop in childhood as a result of adverse experiences and can be reinforced through lived experiences. That is, EMSs develop when the core emotional needs in childhood/adolescence are not met due to abuse (e.g., emotional, physical, psychological, sexual and/or neglect). Due to this early formation and reinforcement, EMSs may be more resistant to change and are believed to be central in the development of mental health and cognitive and behavioral problems (Ostovar et al., 2021). Research has also shown that EMSs are positively correlated with drug and alcohol use, illicit drug use, sexual activity, and aggression in college student samples (Marengo et al., 2019; Roemmele & Messman-Moore 2011; Şenkal et al., 2018). However, EMSs are not
determinative; the role of alcohol expectancies to either increase or reduce their impact on drinking behavior is critical.

Expectancy Theory, derived from Social Learning Theory (Bandura 1986), posits that behaviors are explained by an individual’s belief that a particular effect will occur as a result of performing a certain behavior (Jones et al., 2001). It does not matter if such expectations are valid or validly derived, but rather these expectations being held over time can reinforce behaviors such as the initiation and consumption of alcohol (Jones et al., 2001). According to Expectancy Theory, alcohol expectancies are presumed to be impacted by memories, environmental impacts, and personality attributes that shape cognitions of the effects of alcohol and may add as a contributor to the potential initiation and maintenance of alcohol use (Jones et al., 2001). Moreover, studies have shown that adults may adopt alcohol expectancies in accordance with their observation of their parents’ behaviors (Jayne & Valentine, 2016). Parents tend to particularly highlight the positive expectancies of alcohol use rather than the negative expectancies (Jayne & Valentine, 2017). As a result, children may model those positive cognitions resulting in alcohol use. Indeed, one study showed that exposure to parents’ alcohol use has impact on alcohol expectancies that aligns with parental behavior (Smit et al., 2019). However, few studies have explored the role of trauma, familial, and personality traits in the development and reinforcement of alcohol expectancies. Integrating Early Maladaptive Schema Theory and Alcohol Expectancy Theory in the present study will potentially help better explicate the relationship between ACEs and alcohol expectancies.

**Adult Children of Alcoholics (ACOAs)**

Family history of alcohol use appears to be a risk factor for alcohol use in adulthood (Yuen et al., 2020). Adult Children of Alcoholics (ACOAs) are individuals raised in a home
where their parent/s or caregiver have an alcohol use disorder (AUD). Being an adult child of an alcoholic is considered one of the many ACEs; however, compared to the general population, ACOAs are at a higher risk of experiencing more than one ACE (Anda et al., 2002). Furthermore, this particular ACE endures through childhood into adulthood if the individual is still living with the parent/caregiver with AUD (Anda et al., 2002). As with the other ACEs, negative health outcomes such as chronic illness, mental illness, and socioeconomic challenges (Anda et al., 2002; Brown et al., 2010; Merrick et al., 2019) have been associated with ACOAs. Studies have even shown the biological effects of individuals with a family history of AUD. Specifically, there is a decrease in activity in the limbic regions of the brain, regions that control emotional processing and response (Cacciaglia et al., 2013). Given this finding, the constant activation of stress response leads to an inhibition of emotion regulation (Acosta, 2021; Anda et al., 2002; Chassin et al., 1999; Klostermann et al., 2011). This impairment in emotion regulation may lead to alcohol use (Berking et al., 2011; Kopera et al., 2018).

Living with a parent with an AUD generates an environment characterized by chaos, where the individual is at higher risk for experiencing other ACEs (physical abuse, emotional abuse, and neglect; Acosta, 2021). Due to this, ACOAs are more vulnerable to developing depression, anxiety, and low self-esteem (Acosta, 2021; Anda et al., 2002; Brown-Rice et al., 2018). ACOAs may develop negative or passive coping mechanisms and partake in avoidant behaviors (Drapkin et al., 2015; Klosterman et al., 2011). These unhealthy coping mechanisms may be used by individuals to adjust to the toxic environment (Drapkin et al., 2015).

There are limited findings regarding the prevalence of Latinx college students who are ACOAs. College student ACOAs report the use of drugs and alcohol to cope with chronic stress, as well as increased symptoms of anxiety, stress, and PTSD symptoms (Brown-Rice et al., 2018;
Klostermann et al., 2011). One study found that alcohol use was associated with parental AUD within a predominantly Latinx college student sample (Woloshchuk et al., 2022b). Additionally, a positive association has been observed between lower GPA, increased anxiety, depression, and alcohol use in college student ACOAs compared to non-ACOAs (Brown-Rice et al., 2017).

In terms of alcohol initiation, ACOAs are more likely to initiate alcohol at an earlier age compared to non-ACOAs (Brook et al., 2010; Johnson et al., 2019). Thus, it is important to investigate alcohol expectancies given that these expectancies are a powerful predictor of initiation and later alcohol use in adulthood. For example, past literature has shown that individuals who live with parents who engage in alcohol use held higher positive expectancies and an earlier onset of problematic drinking (Jester et al., 2014). Moreover, researchers have hypothesized that ACOAs report stronger positive expectancies compared to non-ACOAs (Donovan et al., 2009; Epstein et al., 2008; Martino et al., 2006). ACOAs may have developed positive expectancies through direct and indirect experiences by a parent/caregiver’s drinking habits (Boyd et al., 2018; Smit et al., 2019). Indeed, socialization agents may play a crucial role in shaping behaviors during development which then are internalized as children or in adulthood. Therefore, parents who engage in alcohol use provide indirect experiences, through which expectancies may be formed. Research has shown that forming relationships with individuals who drink may predict maladaptive alcohol expectancies and influence drinking behavior (Boyd et al., 2018; Samek et al., 2013).

In the realm of parenting literature, studies have shown an association between positive alcohol expectancies and high levels of parental drinking among children (Donovan et al., 2009; Epstein et al., 2008). One study revealed that exposure to parental alcohol use predicted fewer negative expectancies among boys, and greater positive expectancies among girls (Smit et al.,
However, in the adolescent population, exposure to parental drinking mediated the effects of positive alcohol expectancies but not negative expectancies (Smit et al., 2019). However, Wiers and colleagues (1998), found that children with parents with an AUD had stronger negative expectancies compared to those children of parents without an AUD. Thus, children who are exposed to parental drinking may observe the adverse consequences, which lead to the formation of negative alcohol expectancies. In turn, during the later stages of growth, adolescents who are exposed to parental and peer drinking are more likely to shift from negative to positive alcohol expectancies. This interplay highlights the need for further research to assess the potential risk factor ACOAs have on alcohol expectancies among Latinx college students.

**Depression, Anxiety, and Stress**

Mental health has played a pivotal role between ACEs and substance use. However, it was not until the landmark study of Fetlitti and colleagues (1998) that the associations of ACEs and poor health outcomes including depression and anxiety emerged. Since then, a plethora of research has investigated these associations among various populations. Given this body of literature, the most prominent mental health challenges include depression, anxiety, and stress.

Depression is characterized by a diminished sense of interest or pleasure and feelings of hopelessness and is comorbid with other mental disorders such as anxiety (Essau, 2008). Anxiety encompasses the anticipation of future threat and excessive worry (Lambert et al., 2022). Prior research has investigated the associations between a cumulative score of ACEs, or a type of ACE with depression and anxiety (Lew & Xian et al., 2019). Hunt and colleagues found that an individual with an ACE score greater than four was at heightened risk of depression and anxiety compared to individuals who had fewer than four ACEs (Hunt et al., 2017). Additionally, one cross-sectional study (Elmore & Crouch, 2020) observed the prevalence of depression and
anxiety with ACEs in children and adolescence between 8-17 years old. Results indicated that 4% of children reported depression, while 9% reported anxiety (Elmore & Crouch, 2020). Moreover, children exposed to four or more ACEs had higher odds of depression (OR= 2.2) and anxiety (OR= 1.7) relative to children with less ACEs exposure (Elmore & Crouch, 2020). Thus, a dose-response pattern can be seen with individuals who are exposed to more than four ACEs, as evidenced by higher prevalence mental of health problems compared to those with one or no ACEs (Hughes et al., 2017; Mersky et al., 2013). Though there is a high comorbidity between depression and anxiety, the symptoms and causes of each can differ according to the type of ACE exposure (Schalinski et al., 2016).

One crucial factor in understanding the impact of ACEs on health outcomes is stress. Stress involves a state of tension, which activates the human stress response from a situation that one may perceive as a stressor (Sanderson, 2019). Research regarding chronic stress posits that during sensitive periods of life, stress can have long term effects on the stress response system, which results in the individual later in life being more vulnerable to negative life stressors and mental health problems (Kendall-Tackett, 2002; Russell & Lightman, 2019). High levels of stress is observed in college students for various reasons such as change in sleeping patterns, class workload, paying for tuition, and change in social activities. Interestingly, a survey of over 80,000 students in the U. S, showed that the top impediment to academic achievement and mental health is stress (American College Health Association, n.d.; Frazier et al., 2018). Moreover, a study showed that ACEs predicted worsening mental health problems at the end of the semester, in addition to all other college-related stressors (Karatekin, 2018).

In addition, research has demonstrated a co-occurrence between depression, anxiety, and stress and substance use. Studies in the USA and Europe have revealed a high prevalence of
alcohol use and depression, anxiety, and stress among college students (Auerbach et al., 2018; Tavolacci et al., 2013). The findings of another study indicated a significant association between alcohol consumption, high psychological distress, and lower academic performance (Tembo et al., 2017).

Though there is a plethora of research regarding mental health and alcohol use, less is known on how depression, anxiety, and stress are related to alcohol expectancies. However, these alcohol related cognitions may play a role in the relationship between mental health and alcohol expectancies. As mentioned, individuals with childhood trauma, have been shown to struggle with mental health, impulsivity, as well as low self-esteem, and may have unstable relationships throughout life (Acosta, 2021; Anda et al., 2002; Klostermann et al., 2011). Due to this, individuals with trauma related symptoms and depression, anxiety and stress may develop positive alcohol expectancies (e.g., tension reduction, relaxation) to mitigate symptoms. More research is needed to address the gap between the potential mental health risk factors, specifically depression, anxiety, and stress and how these may moderate the relationship between childhood trauma and alcohol expectancies.

**Family Health**

Much of the research discussed above has investigated how ACEs can lead to negative health outcomes including positive alcohol expectancies that can later lead to alcohol initiation and maintenance of alcohol use. Yet, it is important to identify protective factors that may modify alcohol expectancies in a manner that reduces maladaptive drinking patterns. A growing body of literature has suggested that family health is associated with enhanced mental health, higher levels of school success, and lower levels of alcohol use (Annunciata et al., 2006; Chen & Harris 2019; Daines et al., 2021; Habib et al., 2010).
Family health is comprised of a variety of factors, such as familial communication, problem solving, family functioning, emotional support, internal coping skills, healthy behaviors, and access to resources (Weiss-Laxer et al., 2020). Four noteworthy domains that promote positive family health include: 1) social and emotional factors such as nurturing relationships, strong social support, healthy communication dynamics, and emotional safety (Crandall et al., 2020). 2) Living a healthy lifestyle which involves healthy eating, physical well-being, and seeking healthcare services when needed (Crandall et al., 2020). 3) Familial resources which include financial resources and coping with external challenges, as well as other basic needs (Crandall et al., 2020). 4) External social support which refers to the established relationships built outside the family unit, where the family can rely on for emotional support, care, or any other need. These domains when integrated within a family unit can serve as a protective factor against various physical and mental health challenges. Mistry and colleagues (2002) observed that if the family is facing economic hardship, a healthy family unit will serve as a protective factor regardless of the adversity. Moreover, family health has also been shown to moderate the relationship between ACEs (e.g., communal violence, parental divorce, and mental health) and alcohol use (Ramiro et al., 2010). One other study found that family health moderated the relationship between ACEs and adolescent health and emotional secureness (Balistreri & Alvira-Hammond, 2016).

In terms of alcohol use, healthy parent-child relationships have been well established in the literature, with studies finding that a healthy dynamic is associated with lower levels of alcohol use (Barnes et al., 2000; Chen et al., 2019; Patock-Peckham et al., 2001; Ryan et al., 2010). Integrating maladaptive schema theory, if an individual has experienced ACEs, having positive family health domains later in adulthood can serve as a protective factor for these
maladaptive schemas. These schemas may have changed in adulthood due to emotional support and healthy coping mechanisms. Given that alcohol expectancies can change over time, familial health can serve as a protective factor for positive alcohol expectancies, regardless if the individual experienced ACEs or formed positive alcohol expectancies earlier in life. If an individual has a healthy familial dynamic, that fosters healthy habits, and maintains a positive parent-child relationship, there can be a decrease in alcohol use due to the potential formulation of negative alcohol expectancies.

To the authors knowledge, no study investigated the protective role between family health and alcohol expectancies when an individual has experienced ACEs. It is important to assess this association, as it can take into account how healthy family dynamics play a role in the prevention of alcohol use.

**Resilience**

The impact of ACEs on long term health has been well established. However, many individuals who have experienced ACEs overcome such challenges despite enduring childhood trauma, likely as a result of resilience. In the literature, resilience is described as a process of overcoming and adapting to sources of stress and/or trauma (Windle, 2011). Moreover, the individual may have better access to resources in their environment that allows them to overcome or bounce back and facilitate adaptation in the face of adversity. Resilience has three protective orientations: trait, outcome, and process (Richardson, 2002). Resilient traits enhance the individual’s ability to adapt to stress in the face of adversity through support systems, self-esteem, and self-efficacy (Richardson, 2002). Outcome resilience is seen as a behavioral outcome, wherein the individual has a motivational force to not only adapt but also thrive in the face of adversity (Richardson, 2002). Lastly, the process-related facet of resilience is exemplified
by when an individual is able to bounce back with minimal negative outcomes, even if they were exposed to substantial adversity (Richardson, 2002). Several traits such as positive emotions, spirituality, and healthy coping have been observed to enhance resilience and are often undergirded by environmental factors such as supportive relationships, family health, and strong role models foster resilient traits (Benzies & Mychasiuk, 2009; Feder et al., 2009). Studies suggest that resilience is dynamic and can be molded, weakened, or strengthened over time (e.g., Richardson, 2002).

Resilience is seen as an important protective factor for ACEs and alcohol use. Indeed, numerous studies have shown that resilience influences the relationship between ACEs and negative health outcomes (Bethell et al., 2014; Morgan et al., 2021; Young-Wolff et al., 2019). Resilient characteristics have also been shown to mitigate risks for developing alcohol use disorder. This can be due to individuals being able to regulate their emotions, having supportive relationships, and adapt easier to adversity. With regard to college student drinking, resilience seems to serve as a protective factor to prevent or decrease alcohol use. Multiple studies have observed a negative association between resilience and alcohol use (Johnson et al., 2011; Lyvers et al., 2020; van Gils et al., 2020). One study conducted among Latinx college students revealed that greater resilience levels predicted fewer alcohol-related consequences as well as lower levels of negative reinforcement motives (Sanchez et al., 2022).

Resilience has shown to be a potential buffer between adverse experiences and alcohol use. However, no study has investigated how resilience may be associated with alcohol expectancies among a Latinx college student sample, indicating that more research is necessary to address the potential protective role between resilience and alcohol expectancies.
The Present Study – Study Aims and Hypotheses

Given the emergence and efficacy of college student drinking programs that rely on the identification and modification of alcohol expectancies to prevent problematic college student drinking patterns (Dunn et al., 2022), this study sought to validate the previously observed relationships between ACEs and alcohol expectancies (e.g., Pedersen et al., 2014) and identify risk and protective factors that can meaningfully contribute to Latina college student alcohol prevention programming.

Hypotheses are fourfold. Among Latina college students: 1) ACEs will be positively associated with positive alcohol expectancies; 2) scores indicating greater likelihood of reporting being an ACOA, as well as higher depression, anxiety, and stress scores will strengthen the association between ACEs and positive alcohol expectancies; 3) increased family health and resilience will weaken the association between ACEs and positive alcohol expectancies; and 4) higher levels of family health and resilience will be associated with negative alcohol expectancies.
Chapter 2: Methods

Participants

An a priori power analysis was conducted to determine sample size using G*Power, a statistical analysis tool, determined 335 participants would be required for the present study. The test family was set to F tests, and the statistical test was set to linear multiple regression: Fixed model, $R^2$ deviation from zero. Power was set to .80, $\alpha = .05$, and effect size was set to $f^2 = .048$. The effect size was determined from a correlation between alcohol expectancies and mental health constructs (e.g., risk and aggression and depression) that was derived from a study investigating the relationships between alcohol expectancies and posttraumatic stress disorder among college students with childhood trauma ($r = 0.04$; Tuliao et al., 2016). Moreover, a second correlation between alcohol expectancies and childhood trauma was also assessed from previous literature ($r = 0.214$; Klanecky et al., 2019). However, because the latter correlation was larger, the former was used for the power analysis to remain conservative in sample size calculations. The number of predictors was set to nine to account for all subscales of the variables to include the moderators.

Four hundred and twenty participants were ultimately recruited for the present study. However, 68 participants were excluded for not meeting the inclusion criteria. Inclusion criteria included: self-identifying as female, self-identifying as Hispanic/Latina, being a college student, and being between the ages of 18-25 years. Within this age range, individuals are undergoing a developmental period of identity exploration (Arnett, 2000, 2007, 2015) characterized by a heightened increase of risky behaviors and mental health problems (Arnett, 2007). Furthermore, Latinas are more likely to still be living at home with their parents and can have a heightened susceptibility to experience adverse childhood experiences (Forster et al., 2018; Grest et al.,
An additional 11 participants were excluded for not passing at least three of the four attention checks. This resulted in a final sample size of 341 Latina college students responses ($M_{age} = 20.02, SD = 1.70$) retained for analyses.

**Materials**

*Sociodemographic Survey*

This 27-item questionnaire will assess typical demographic information such as age, ethnic group, education, parental education, and income (Appendix A).

*Independent Variable*

**Center for youth Wellness Adverse Childhood Experience Questionnaire (CYW ACE-Q)**

This scale was an expanded version of the original Adverse Childhood Experience Questionnaire (Felitti et al., 1998), developed by the Center for Youth Wellness (Burke Harris & Renschler, 2015). It is a 19-item questionnaire that assess the breadth of exposure to adverse childhood experiences and toxic stress during childhood. The first 10-items address the traditional ACEs: emotional, physical, or sexual abuse, physical and emotional neglect, and household dysfunction. The additional 9-items added by the CYW address community early life stressors that contribute to toxic stress during childhood. Responses are coded as ‘yes=1’ and ‘no=0’. Total scores ranged from 0 to 19. Higher scores indicate more adverse childhood experiences. The (CYW ACE-Q) has demonstrated adequate internal consistency ($\alpha = 0.79$). This measure has assessed the cumulative exposure of ACEs in children between the ages of 0-19. However, it has been used with other populations as well as college students (Cronholm et al., 2015; Woloshchuk et al., 2022;) This scale demonstrated adequate internal consistency ($\alpha = 0.77$; Appendix B).
Dependent Variables

Comprehensive Effects of Alcohol (CEOA)

This 38-item scale contains seven subscales assessing positive drinking expectancies such as sociability (e.g., “It would be easier to talk to people”), liquid courage (e.g., “I would feel bold and daring”), enhanced sexuality (e.g., “I would enjoy sex more”), and tension reduction (e.g., “I would feel calm”). Negative expectancies include cognitive and behavioral impairment (e.g., “my senses would be dulled”), increased risk and aggression (e.g., “I would act aggressively”), and negative self-perception (e.g., “I would be self-critical”). Items are answered on a 4-point Likert scale ranging from 1 (Disagree) to 4 (Agree). Consistent with previous research (Ham & Hope 2006; Werner et al., 1993), a positive expectancy score and a negative expectancy score are calculated by summing across the items on each subscale and dividing by the total number of items on the subscale. Fromme et al., (1993) reported adequate internal consistency, criterion validity, and temporal stability for the CEOA scale (range of $r = 0.53–0.81$ for subscales. This measure demonstrated high internal consistency on the positive alcohol expectancy scale ($\alpha = 0.90$) and on the negative alcohol expectancy scale ($\alpha = 0.94$; Appendix C).

Moderators

Children of Alcoholics Screening Test (CAST)

This scale assesses how likely the participant is to be a child of an alcoholic. It consists of 30 “yes or no” questions, generating a continuous variable with scores ranging from 0-30. Example items include “Have you ever lost sleep because of a parent drinking” and “Did you ever feel responsible for and guilty about a parent drinking”. Higher scores indicate a higher likelihood of the participant being a child of an alcoholic. The CAST scale has demonstrated high internal consistency ($\alpha = 0.95-0.96$) and inter-rater reliability ($k = 0.83$; Charland & Côte,
This scale has been used among various population including Latinx college students (Rodriguez et al., 2014; Woloshchuk et al., 2022). This measure demonstrated high internal consistency ($\alpha = 0.96$; Appendix D).

**Depression, Anxiety, Stress, Scale – 21 (DASS)**

This 21-item three-factor scale measures levels of 1) depression ($a = 0.91$), 2) anxiety ($a = 0.87$), and 3) stress ($a = 0.87$; Lovibond & Lovibond, 1995). Example items include, “I couldn’t seem to experience any positive feelings at all” and “I found it difficult to relax.” Items are rated on a 4-point Likert-like scale ranging from 0 (Did not apply to me at all) to 3 (Applied to me very much or most of the time). Items within each subscale are summed and multiplied by two; higher scores indicate greater levels of depression, anxiety, and/or stress. The DASS-21 depression and anxiety factors have demonstrated convergent validity with both the Beck depression inventory ($r = 0.74$) and the Beck anxiety inventory ($r = 0.8$; Lovibond & Lovibond, 1995; Appendix E).

**The Family Health Scale -Long Form (FHS-LF)**

This 32-item-four-factor scale is a holistic measure that assess family health. The four factors are: family emotional and social health processes ($\alpha = .92$), family healthy lifestyle ($\alpha = .87$), family health resources ($\alpha = .82$), and family external social supports ($\alpha = .85$). Example items include “In my family, we help each other avoid unhealthy habits” and “In my family, a lack of health insurance would prevent us from asking for medical help.” Response options are on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicate enhanced family health. Scores from each item are summed to calculate a total score and a score for each of the subscales (Cradall et al., 2020). For the purposes of this study, the total
family health score was used. This measure demonstrated high internal consistency (α = 0.93; Appendix F).

**Brief-Resilience Scale (BRS)**

This 6-item scale measures interpersonal resilience. Questions are answered on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Scores range from 1 (low resilience) to 5 (high resilience). An example item includes “I tend to bounce quickly after hard times.” Three of the six items are reverse coded, and the mean of all six items is computed to attain a total score in which higher values indicate greater resilience. The BRS has demonstrated adequate internal reliability in past studies (α = .70-.90; Smith et al., 2008) BRS has been psychometrically validated and used in a variety of populations and settings (Sanchez et al., 2022; Smith et al., 2008). This measure demonstrated high internal consistency (α = 0.93; Appendix G).

**Procedure**

University Institutional Review Board approval was obtained prior to data collection. Data were collected from February 2nd, 2024, to March 20th, 2024. Participants were recruited via SONA, a secure web-based recruiting system, and asked to sign an online consent form on Qualtrics separate from the online questionnaire to protect confidentiality. Once consent was obtained, participants who opted to participate in the study were directed to complete a series of questionnaires. Measures were counterbalanced by randomizing measures to reduce order effects (Allen, 2017). Participants received course credit for completing the survey, were debriefed regarding the study, and were provided with university and community resources.

A missing data pattern on SPSS (2020) was used to determine missing data mechanisms. The missing data percentage displayed was set to 0.01 to identify the lowest amount of missing
data from the variables of interest. Within the data, no variable violated the 5% threshold, therefore no multiple imputations were conducted. Skewness and Kurtosis were used to assess whether the data were normally distributed. Using the cut off scores of $|\text{Sk}|<2$ and $|\text{Ku}|<7$ as guidelines (Kim, 2013) all of the variables were normally distributed.

Descriptive analyses were used to generate participant characteristics with regard to ACEs, positive and negative alcohol expectancies, ACOAs, depression, anxiety, and stress, family health and resilience among Latina college students living on the U.S./Mexico border. Predictors were mean-centered to reduce nonessential multicollinearity between the interaction terms and main effects and to improve interpretability.

Hierarchical linear regressions were used to test for main and interactive effects and to determine if the moderators (i.e., ACOAs $(Z_1)$, depression $(Z_2)$, anxiety $(Z_3)$, stress $(Z_4)$, family health $(Z_5)$, and resilience $(Z_6)$) affect the relationship between continuous ACEs $(X)$, and positive alcohol expectancies $(Y_1)$ and negative alcohol expectancies $(Y_2)$. Hierarchical analyses was be conducted as follows: 1) Regression of $Y_1$ on $X$. 2) Regression of $Y_1$ on $X$ and $Z_1$. If no statistical change in $R^2$ is observed during step two, thus implying that the moderator has no predictive effect on $Y_1$ we will proceed to step three. 3) Regression of $Y_1$ on $X$, $Z_1$ and the cross-product term of $X*Z_1$. Statistical change in $R^2$ during step three implies a significant moderation effect between $X$ and $Y$ by $Z$.

**Approach to Analyses**

A missing data pattern on SPSS (2020) was used to determine missing data mechanisms. The missing data percentage displayed was set to 0.01 to identify the lowest amount of missing data from the variables of interest. Within the data, no variable violated the 5% threshold, therefore no multiple imputations were conducted. Skewness and Kurtosis were used to assess
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Figure 1: Conceptual Model

Adverse Childhood Experience’s (ACEs) → Alcohol Expectancies
- Positive
- Negative

Moderators
Risk Factors
- ACOAs
- Depression
- Anxiety
- Stress
Protective Factors
- Family Health
- Resilience
Chapter 3: Results

Descriptive Analyses

Female undergraduate college students \((N = 341, M_{age} = 20.02, SD = 1.70); \) see Table 1) were recruited from a University on the U.S./Mexico border. Participants all identified as Latina and spoke English, however 64.3% identified Spanish as the primary language spoken at home. Furthermore, 88.1% of participants reported still living at home with their parents. Participants also reported their household income: 39% reported under 29,000, 22% reported between 30,000 and 49,000, 15.5% reported between 50,000 and 69,000, 12% reported between 70,000 and 89,000 and 11.4% reported above 90,000.

Analyses were conducted to determine the frequencies and distribution of the independent variable ACEs and the two dependent variables of alcohol expectancies (e.g., positive and negative). Within the sample, the average ACEs total score was 4.38 \((SD = 3.24)\). The most commonly reported ACE was family dysfunction (i.e., a household member swore at, insulted, humiliating or put you down in a way that scared you) and peer victimization (i.e., you experienced harassment or bullying at school). Participants on average experienced 2.75 \((SD = 0.67)\) positive alcohol expectancies, with the most common being tension reduction (i.e., My body would be relaxed) and sociability (i.e., I would act more sociable). On average 2.42 \((SD = 0.59)\) of negative alcohol consequences were experienced, with the most common being cognitive and behavioral impairment (i.e., My head would feel fuzzy).

Table 1: Participant Characteristics and Descriptive Statistics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Sex Female</td>
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</tr>
<tr>
<td>Measures</td>
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<td>Median</td>
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<tr>
<td>Age</td>
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<td>20.00</td>
</tr>
<tr>
<td>CEOA Positive</td>
<td>4.58</td>
<td>2.85</td>
</tr>
<tr>
<td></td>
<td>CEOA Negative</td>
<td>ACEs</td>
</tr>
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<tr>
<td></td>
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<td></td>
<td>1-4</td>
<td>0-14</td>
</tr>
</tbody>
</table>

Note. CEOA: Comprehensive Effects of Alcohol; ACEs: Adverse Childhood Experiences; CAST: Children of Alcoholics Screening Test; DASS-21: Depression, Anxiety, and Stress Scale; FHS: Family Health Scale; BRS: Brief Resilience Scale.

**Univariate Analyses**

Overall, positive alcohol expectancies were positively correlated with ACEs ($r = .240$), CAST ($r = .127$), depression ($r = .223$), anxiety ($r = .207$), stress ($r = .299$) and negatively correlated with family health ($r = -.107$). Negative alcohol expectancies were positively correlated with ACEs ($r = .270$), CAST ($r = .183$), depression ($r = .260$), anxiety ($r = .247$), stress ($r = .293$) and negatively correlated with family health ($r = -.148$) and resilience ($r = -.219$). Additionally, ACEs was positively correlated with CAST ($r = .516$), depression ($r = .439$), anxiety ($r = .356$), stress ($r = .450$) and negatively correlated with family health ($r = -.480$) and resilience ($r = -.126$; Table 2).
<table>
<thead>
<tr>
<th>Variable</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
<th>9.</th>
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<tbody>
<tr>
<td>1. CEOA Positive</td>
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<td>2. CEOA Negative</td>
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<td>3. ACEs</td>
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<td>.27</td>
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<td></td>
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<td></td>
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<td>4. CAST</td>
<td>.18</td>
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<td>.51</td>
<td>1</td>
<td></td>
<td></td>
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<td>5. Depression</td>
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<td>.26</td>
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<td>6. Anxiety</td>
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<td>.71</td>
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<td>7. Stress</td>
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<td>8. FHS</td>
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<td>-.32</td>
<td>-.46</td>
<td>-.33</td>
<td>-.39</td>
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<tr>
<td>9. BRS</td>
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<td>-.21</td>
<td>-.12</td>
<td>.05</td>
<td>-.43</td>
<td>-.33</td>
<td>-.40</td>
<td>.23</td>
<td>1</td>
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</table>

*Note. Bold indicates significance at p < .05; Note. CEOA: Comprehensive Effects of Alcohol; ACEs: Adverse Childhood Experiences; CAST: Children of Alcoholics Screening Test; DASS-21: Depression, Anxiety, and Stress Scale; FHS: Family Health Scale; BRS: Brief Resilience Scale.*
Multivariate analyses

Main effects between ACEs and alcohol expectancies (e.g., positive and negative) were assessed through two linear regressions, which then resulted in statistically significant main effects for which hierarchical regressions were conducted to test for moderation effects of risk factors (e.g., ACOAs, depression, anxiety, stress) and protective factors (e.g., family health and resilience). A total of 12 hierarchical regressions were conducted to determine whether the relationship between ACEs and alcohol expectancies were moderated by the risks and protective factors.

Positive Alcohol Expectancies

Model 1 assessed the relationship between ACEs and CAST on positive alcohol expectancies. In step 1, the overall model was statistically significant such that ACEs was positively associated with positive alcohol expectancies ($F (1, 340) = 8.76, p < .001, R^2 = .058$). In step 2, the moderator CAST was introduced, and the model continued to be statistically significant, however, there was no statistical change in $R^2$. In step 3 when the interaction (ACEs $\times$ CAST) were entered, the model was statistically significant (See table 3), however the interaction was not statistically significant ($\Delta R^2 =.003, p = .297$) suggesting that there was no true moderation.

### Table 3: Hierarchical Linear Regression of CEOA Positive and ACEs on CAST

<table>
<thead>
<tr>
<th>Predictors</th>
<th>$B$</th>
<th>$SE$</th>
<th>$\Delta R^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td>.058</td>
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<tr>
<td>ACEs</td>
<td>.049</td>
<td>.011</td>
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<tr>
<td>Step 2</td>
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</tr>
<tr>
<td>ACEs</td>
<td>.049</td>
<td>.013</td>
<td></td>
<td>.001</td>
</tr>
<tr>
<td>CAST</td>
<td>.000</td>
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<tr>
<td>Step 3</td>
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<td>.003</td>
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<tr>
<td>ACEs</td>
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<tr>
<td>CAST</td>
<td>.003</td>
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<tr>
<td>ACEs*CAST</td>
<td>-.002</td>
<td>.001</td>
<td>.297</td>
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</tbody>
</table>
Model 2 assessed the relationship between ACEs and depression on positive alcohol expectancies. In step 1, the overall model was statistically significant such that ACEs was positively associated with positive alcohol expectancies \((F (1, 343) = 8.76, p < .001, R^2 = .058)\). In step 2, the moderator depression was introduced and the model continued to be statistically significant, however, there was a statistical change in \(R^2\). In step 3, when the interaction (ACEs \(\times\) depression) were entered, the model was statistically significant (See table 4), however the interaction was not statistically significant \((\Delta R^2 = .01, p = .503)\) showing that there was no true moderation.

### Table 4: Hierarchical Linear Regression of CEOA Positive and ACEs on Depression

<table>
<thead>
<tr>
<th>Predictors</th>
<th>(B)</th>
<th>(SE)</th>
<th>(\Delta R^2)</th>
<th>(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACEs</td>
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<td>.011</td>
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<td></td>
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</tbody>
</table>

*Note. Bold indicates significance at \(p<.05\); CEOA: Comprehensive Effects Of Alcohol; ACEs: Adverse Childhood Experiences.*

Model 3 assessed the relationship between ACEs and anxiety on positive alcohol expectancies. In step 1, the overall model was statistically significant such that ACEs was positively associated with positive alcohol expectancies \((F (1, 338) = 8.42, p < .001, R^2 = .056)\). In step 2, the moderator anxiety was introduced and the model continued to be statistically significant, however, there was a statistical change in \(R^2\). In step 3, when the interaction (ACEs \(\times\) anxiety) were entered, the model was statistically significant (See table 5), however the
interaction was not statistically significant ($\Delta R^2 = .002, p = .343$) showing that there was no true moderation.

Table 5: Hierarchical Linear Regression of CEOA Positive and ACEs on Anxiety

<table>
<thead>
<tr>
<th>Predictors</th>
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<td>.012</td>
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<td>.004</td>
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<td>.010</td>
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<td>.001</td>
<td></td>
<td>.343</td>
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</tbody>
</table>

Note. Bold indicates significance at $p < .05$; CEOA: Comprehensive Effects of Alcohol; ACEs: Adverse Childhood Experiences.

Model 4 assessed the relationship between ACEs and stress on positive alcohol expectancies. In step 1, the overall model was statistically significant such that ACEs was positively associated with positive alcohol expectancies ($F(1, 339) = 8.76, p < .001, R^2 = .058$).

In step 2, the moderator stress was introduced and the model continued to be statistically significant, however, there was a statistical change in $R^2$. In step 3, when the interaction (ACEs × stress) were entered, the model was statistically significant (See table 6), however the interaction was not statistically significant ($\Delta R^2 = .001, p = .566$) showing that there was no true moderation.

Table 6: Hierarchical Linear Regression of CEOA Positive and ACEs on Stress

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<td>ACEs* Stress</td>
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<td>.001</td>
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<td>.566</td>
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</table>
Model 5 assessed the relationship between ACEs and family health on positive alcohol expectancies. In step 1, the overall model was statistically significant such that ACEs was positively associated with positive alcohol expectancies ($F(1, 338) = 8.72, p < .001, R^2 = .058$). In step 2, the moderator family health was introduced and the model continued to be statistically significant, however, there was no statistical change in $R^2$. In step 3, when the interaction (ACEs $\times$ family health) were entered, the model was statistically significant (See table 7), however the interaction was not statistically significant ($\Delta R^2 = .001, p = .498$) showing that there was no true moderation.

Model 6 assessed the relationship between ACEs and resilience on positive alcohol expectancies. In step 1, the overall model was statistically significant such that ACEs was positively associated with positive alcohol expectancies ($F(1, 339) = 8.76, p < .001, R^2 = .058$). In step 2, the moderator resilience was introduced and the model continued to be statistically significant, however, there was no statistical change in $R^2$. In step 3, when the interaction (ACEs $\times$ resilience) were entered, the model was statistically significant (See table 8), however the
interaction was not statistically significant ($\Delta R^2 = .003, p = .274$) showing that there was no true moderation.

**Table 8: Hierarchical Linear Regression of CEOA Positive and ACEs on BRS**

<table>
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</table>

*Note. Bold indicates significance at $p<.05$; CEOA: Comprehensive Effects of Alcohol; ACEs: Adverse Childhood Experiences; BRS: Brief Resilience Scale.*

**Negative Alcohol Expectancies**

Model 7 assessed the relationship between ACEs and CAST on negative alcohol expectancies. In step 1, the overall model was statistically significant such that ACEs was positively associated with negative alcohol expectancies ($F (1, 336) = 8.57, p < .001, R^2 = .073$). In step 2, the moderator ACOAs was introduced and the model continued to be statistically significant, however, there was no statistical change in $R^2$. In step 3 when the interaction (ACEs $\times$ ACOAs) were entered, the model was statistically significant (See table 9), however the interaction was not statistically significant ($\Delta R^2 = .314, p = .459$) showing that there was no true moderation.

**Table 9: Hierarchical Linear Regression of CEOA Negative and ACEs on CAST**

<table>
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</table>
Model 8 assessed the relationship between ACEs and depression on negative alcohol expectancies. In step 1, the overall model was statistically significant such that ACEs was positively associated with negative alcohol expectancies ($F(1, 336) = 8.57, p < .001, R^2 = .073$). In step 2, the moderator depression was introduced and the model continued to be statistically significant, however, there was a statistical change in $R^2$. In step 3, when the interaction (ACEs $\times$ depression) were entered, the model was statistically significant (See table 10), however the interaction was not statistically significant ($\Delta R^2 = .002, p = .662$) showing that there was no true moderation.

### Table 10: Hierarchical Linear Regression of CEOA Negative and ACEs on Depression

<table>
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</table>

**Note.** Bold indicates significance at $p < .05$; CEOA: Comprehensive Effects of Alcohol; ACEs: Adverse Childhood Experiences.

Model 9 assessed the relationship between ACEs and anxiety on negative alcohol expectancies. In step 1, the overall model was statistically significant such that ACEs was positively associated with negative alcohol expectancies ($F(1, 336) = 8.57, p < .001, R^2 = .073$). In step 2, the moderator anxiety was introduced and the model continued to be statistically
Model 10 assessed the relationship between ACEs and stress on negative alcohol expectancies. In step 1, the overall model was statistically significant such that ACEs was positively associated with negative alcohol expectancies ($F(1, 336) = 8.57, p < .001, R^2 = .073$). In step 2, the moderator stress was introduced and the model continued to be statistically significant, however, there was a statistical change in $R^2$. In step 3, when the interaction (ACEs × stress) were entered, the model was statistically significant (See table 12), however the interaction was not statistically significant ($\Delta R^2 = .001, p = .507$) showing that there was no true moderation.

### Table 11: Hierarchical Linear Regression of CEOA Negative and ACEs on Anxiety

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<td>Step 2</td>
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<td>Step 3</td>
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*Note. Bold indicates significance at $p<.05$; CEOA: Comprehensive Effects of Alcohol; ACEs: Adverse Childhood Experiences.*

### Table 12: Hierarchical Linear Regression of CEOA Negative and ACEs on Stress

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Model 11 assessed the relationship between ACEs and family health on negative alcohol expectancies. In step 1, the overall model was statistically significant such that ACEs was positively associated with negative alcohol expectancies ($F(1, 335) = 8.59, p < .001, R^2 = .073$). In step 2, the moderator family health was introduced and the model continued to be statistically significant, however, there was no statistical change in $R^2$. In step 3, when the interaction (ACEs $\times$ family health) were entered, the model was statistically significant (See table 13), however the interaction was not statistically significant ($\Delta R^2 = .008, p = .088$) showing that there was no true moderation.

Model 12 assessed the relationship between ACEs and resilience on negative alcohol expectancies. In step 1, the overall model was statistically significant such that ACEs was positively associated with negative alcohol expectancies ($F(1, 336) = 8.57, p < .001, R^2 = .073$). In step 2, the moderator resilience was introduced and the model continued to be statistically
significant, however, there was no statistical change in $R^2$. In step 3, when the interaction (ACEs $\times$ resilience) were entered, the model was statistically significant (See table 14), however the interaction was not statistically significant ($\Delta R^2 = .001, p = .510$) showing that there was no true moderation.

Table 14: Hierarchical Linear Regression of CEOA Negative and ACEs on BRS

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Note. Bold indicates significance at $p < .05$; CEOA: Comprehensive Effects of Alcohol; ACEs: Adverse Childhood Experiences; BRS: Brief Resilience Scale
Chapter 4: Discussion

The current study investigated the associations between ACEs and alcohol expectancies with ACOAs, depression, anxiety, stress, family health and resilience in a sample of emerging adult Latinas through a theoretical framework of EMS and expectancy theory.

Hypothesis 1 was supported in that ACEs was associated with positive alcohol expectancies. Hypothesis 2 was not supported in that being an ACOA, as well as higher depression, anxiety and stress did not strengthen the association between ACEs and positive alcohol expectancies. Hypothesis 3 was not supported in that increased family health and resilience did not weaken the association between ACEs and positive alcohol expectancies. Lastly, hypothesis 4 was partially supported in that higher levels of resilience were associated with negative alcohol expectancies; however, there was no association with family health.

In the present sample, 54% of participants reported four or more ACEs. The observed prevalence in this study is higher than previous findings indicating 47.6% (Woloshchuk, 2020) within a similar border region sample. Additionally, a study from an institution with a predominantly white demographic found that 17% of students reported at least 3 ACEs (Smyth et al., 2008) vs. 43% in the current sample. This may suggest that the prevalence of ACEs among Latina college students living on the U.S./Mexico border is increasing and that border region emerging adult Latinas report a far greater number of adverse childhood experiences than their White counterparts, suggesting the importance of the current and future research. Additionally, 85% of the current sample reported an average of at least three positive expectancies, and 80% of participants reported an average of two negative expectancies. This rate of alcohol related expectancies is lower than what has been reported in previous literature in which studies have observed an average of eight alcohol expectancies among college students (Feltus, 2022).
Alcohol Expectancies and ACEs

That positive alcohol expectancies were associated with ACEs supports our hypothesis and is congruent with prior literature. That is, individuals exposed to childhood trauma may drink to cope, further explaining the relationship between trauma and positive alcohol expectancies. One study conducted with college students observed that coping motives fully mediated the ACEs and heavy drinking relationship (Feltus, 2022). This study suggested that college students with a history of childhood trauma may engage in heavy drinking to cope with negative affect or enhance positive affect (Feltus, 2022). Research has demonstrated that indicators of vulnerability during childhood predominantly stem from social entities such as the family nucleus or peer associations. Traits such as parental alcohol consumption, family dysfunction (e.g., parental violence), and affiliation with peers who endorse alcohol consumption have demonstrated an association with heightened positive alcohol expectancies (Smit et al., 2018). In the current sample, 76% of Latinas reported at least one family dysfunction, and 51% reported an expectancy of feeling calm if they drink. This contributes to the existing literature by highlighting that Latina college students with ACEs may develop these positive expectancies as a coping mechanism. Integrating EMS theory highlights the association between positive alcohol expectancies and childhood trauma. That is, early maladaptive schemas form as a result of ACEs, and when they are internalized as fundamental beliefs, they may influence risky behavior and initiation of alcohol use (Wright et al., 2009). One study observed that alcohol use was correlated with early maladaptive schemas, which suggests that individuals may misuse alcohol as a means to alleviate psychological distress (Rawlison, 2018). Though limited, there has been evidence that suggests that early maladaptive schemas potentially mediate the connection between PTSD symptoms and alcohol use (Bilge et al., 2022) Prospective studies should continue to assess the
relationship between ACEs and positive alcohol expectancies, while further expanding on the role of early maladaptive schemas to better understand these relationships.

That negative alcohol expectancies were positively associated with ACEs is inconsistent with literature. Few studies indicate that individuals with trauma, may also exhibit a distinct pattern when it comes to negative expectancies. That is, individuals may continue to engage in alcohol use despite anticipating these expectancies. One study found that negative expectancies such as increased arousal and aggression were found to be correlated with severity of PTSD symptoms among females who have experienced intimate partner violence (Peters et al., 2012). Additionally, individuals who behave impulsively in response to emotionally distressing situations, may gravitate toward negative expectancies as they may perceive diminished cognitive performance and heighten physical effects as potential methods to either avoid or alleviate negative emotions (Urban et al., 2008). Hence, it is plausible that Latinas who have experienced trauma drink despite expectancies that alcohol may worsen their symptoms. However, positive alcohol expectancies may hold a greater significance and have a stronger influence on behavior. Given the scarcity of literature, prospective studies should further assess the relationship between negative alcohol expectancies and ACEs.

ACOAs

That ACOA did not moderate the relationship between ACEs and alcohol expectancies does not support our hypothesis; however, this observation adds to the mixed findings of expectancies among individuals living with a parent with an AUD (Kuntsche & Kuntsche, 2018; Smit et al., 2019; Waddell et al., 2020). Furthermore, there were positive univariate relationships observed between ACOAs and both types of alcohol expectancies, as well ACEs. Two explanations for this seem noteworthy. First, the positive association between alcohol
expectancies and ACOAs is supported by past literature. Positive alcohol expectancies are conceptualized by expectancy theory as learned responses to alcohol use in accordance with observation of their parents’ behaviors (Jayne & Valentine, 2016). Latinas who are an ACOA have reported higher positive expectancies and had an earlier onset of problematic drinking (Jester et al., 2014). In fact, one study conducted by Waddell and colleagues hypothesized that observing parents’ negative drinking consequences would result in more negative perceived alcohol effects; however, results showed the opposite, likely in part due to parents highlighting the positive effects of alcohol and normalizing the negative effects of alcohol (Waddell et al., 2020). These results suggest while not serving as a moderator of the ACEs and alcohol expectancy relationship, ACOA may remain a risk factor for positive alcohol expectancies.

Additionally, there was also a positive correlation between negative alcohol expectancies and ACOAs which contradicts prior literature (Donovan et al., 2009; Kuntsche & Kuntsche, 2018; Waddle et al., 2020). One study however demonstrated that children who are exposed to parental drinking may observe the adverse consequences which then may lead them to foster negative expectancies (Wiers et al., 1998). However, there may be a shift from negative to positive expectancies once these individuals are exposed to personal or peer drinking (Waddell et al., 2020). Prospective studies, which could help elucidate this developmental trajectory on ACOA and negative expectancies are lacking. Therefore, future longitudinal studies are warranted to better understand these associations among Latina college students.

**Depression, Anxiety, and Stress**

That depression, anxiety and stress did not moderate the relationship between ACEs and alcohol expectancies does not support our hypotheses. However, there was a univariate relationship between both positive and negative alcohol expectancies and depression, anxiety,
and stress. There is a plethora of research that has investigated these constructs with ACEs and alcohol use (Auerbach et al., 2018; Tavolacci et al., 2013) with most of the research supporting that individuals with an ACE score greater than four are at heightened risk of depression, anxiety and stress compared to individuals who had fewer than four ACEs (Hunt et al., 2017; Karatekin, 2018). Latinas who have experienced ACEs have reported struggling with mental health, and as a result, Latinas with trauma-related symptoms may develop these expectancies regardless if they are positive or negative as a way to mitigate symptoms. In fact, one study suggested that negative expectancies can play a functional role in those with trauma-related symptoms such that dulling or numbing expectancies may be perceived to ameliorate symptoms associated with heightened arousal (Pedersen et al., 2014). Prospective studies should further assess how mental health constructs and alcohol expectancies influence one another among Latina college students who report ACEs.

**Family Health**

Family health did not moderate the relationship between ACEs and alcohol expectancies which does not support our hypothesis. However, univariate analyses indicated that family health was negatively correlated with both negative and positive alcohol expectancies and negatively correlated with ACEs. The benefits of healthy parent-child relationships have been well established in the literature, with studies suggesting that a healthy family dynamic is associated with lower levels of alcohol use (Barnes et al., 2000; Chen et al., 2019; Patock-Peckham et al., 2001). In the present sample, 83% of Latinas reported that drinking alcohol will allow them to become more sociable. Therefore regardless of the expectancy (e.g., positive or negative) Latinas may primarily be using alcohol as a facilitator of social interaction, rather than strictly adhering to familial norms. One study showed that the perception of approval regarding alcohol
consumption by peers mediated the relationship between healthy parental relationship and drinking (Rulison et al., 2016). Specifically, those who perceived parental approval of drinking also perceived peer approval which was subsequently linked to higher social drinking (Rulison et al., 2016). Social norms emanating from various sources such as parents, friends and schools are prone to interact, collectively shaping a perception of normality and acceptability of alcohol use (Lynch et al., 2015). These influences were observed to forecast alcohol perceptions (Lynch et al., 2015). Although family health did not moderate the relationship between ACEs and alcohol expectancies, its univariate relationships with expectancies and its inverse relationship with ACEs consistent with previous literature (Crandall et al., 2019; Daines et al., 202; Klever, 2015) suggests its potential importance within this relationship and the need for its continued use in future assessments.

**Resilience**

That resilience did not moderate the relationship between ACEs and alcohol expectancies does not support our hypothesis. However, there was a negative correlation between resilience and negative alcohol expectancies which partially supports our hypothesis of resilience serving a protective role with negative alcohol expectancies. Resilience has shown to be a potential buffer for alcohol use and other negative health outcomes (Morgan et al., 2021; Young-Wolff et al., 2019). This may be attributed to resilient Latinas being able to regulate emotions, have healthy coping strategies, and maintain supportive relationships (Lyvers et al., 2020; van Gils et al., 2020), all of which protect against unhealthy behaviors (Sanchez et al., 2021; Wingo et al., 2014; Zimmerman et al., 2013). Coupling resilience and negative alcohol expectancies certainly seems a plausible strategy for alcohol prevention programming in emerging adults; however, more research, particularly prospective in nature is needed to assess this likelihood.
Limitations & Strengths

The present study contains notable limitations and strengths. A predominant limitation is the current study is its cross-sectional nature which prevents establishing casual inferences and temporality about Latina alcohol expectancies and ACEs. Future longitudinal studies are required to better establish the temporality of these constructs. Additionally, the use of a convenience sample potentially limited generalizability. This study was also limited in that data were collected via self-report measures, and the responses may have been influenced by participants’ discomfort when disclosing potential childhood trauma, as communication of past trauma is often seen as taboo within the Latinx community. Despite these limitations, the study has noteworthy strengths. First, the current study adds to the relatively limited body of quantitative studies focused on alcohol expectancies and ACEs. Additionally, this study contributes to literature on the most rapidly growing ethnocultural minority and doing so by utilizing nuanced constructs such as ACOAs, depression, anxiety, stress, family health and resilience in relation to ACEs and alcohol expectancies. Lastly, this study assessed ACEs and alcohol expectancies through a life-course developmental perspective by utilizing EMS and expectancy theory which may inform the need for future prospective studies.

Conclusion

These findings emphasize the importance of assessing alcohol expectancies and ACEs from a developmental perspective. Additionally, these findings suggest that ACEs are a pertinent construct related to Latina college students, warranting further study in relation to expectancies, alcohol use, and other risk and protective factors. The present study demonstrated that ACEs are positively associated with both positive and negative alcohol expectancies. However none of the selected moderators weakened or strengthened the associations, suggesting the need to explore
other constructs that may better influence this relationship, such as the use (or lack thereof) of early maladaptive schemas. Findings that suggest that Latinas who have experienced ACEs may develop both positive and negative alcohol expectancies were unexpected and novel, suggesting the need to evaluate other constructs which may intervene between adverse childhood experience and the development of thoughts about alcohol. For example, peer influences and coping styles should likely be addressed in future such studies.

These findings, though preliminary, can inform college student alcohol prevention drinking efforts among Latinas, particularly those who have experienced childhood trauma. Therapeutic interventions aimed at mitigating expectancies and early initiation of alcohol use may wish to employ techniques that provide psychoeducation regarding alcohol expectancies and heighten healthy coping, promote family health, garner positive peer support, and respect yet reduce the impact of adverse childhood experience and challenge early maladaptive schemas.

**Future Directions**

Future research is crucial to disentangling the concepts explored within the present study, thereby offering clearer insights and providing more targeted direction for research and prevention and intervention efforts. Future directions include prospective studies that assess other constructs such as peer influence, early maladaptive schemas, emotion regulation, and coping styles. Furthermore, integrating assessments of ACEs into brief alcohol interventions may be beneficial to identify and support Latinas at heightened risk for drinking, promoting health on the U.S./Mexico border.
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Appendix A: Sociodemographic Survey

1) What is your biological sex?
   - Male
   - Female
   - Intersex

2) What is your gender?
   - Man
   - Woman
   - Transgender
   - Gender Fluid
   - Non-Binary
   - Other (please specify):

3) Are you transgender?
   - Yes
   - No
   - Prefer not to say

4) What is your age? ___

5) What is your race/ethnicity?
   - Asian or Pacific Islander
   - White/Caucasian
   - Black/African American
   - American Indian/Native American or Alaska Native
   - Hispanic/Latinx
   - Native Hawaiian
   - Other (please specify):

6) What is your household income?
   - Less than $10,000
   - $10,000 - $19,999
   - $20,000 - $29,999
   - $30,000 - $39,999
   - $40,000 - $49,999
   - $50,000 - $59,999
   - $60,000 - $69,999
7) How many people live in your current household? ___

8) My household consists of (Select all that apply):
   - Great grandparents
   - Grandparents
   - Mother or father
   - Siblings
   - Mother or father in-law
   - Brother or sister in-laws
   - Daughter or son
   - Cousins
   - Niece or nephew
   - Grandchildren
   - God children
   - Uncles or aunts
   - Son or daughter in-laws
   - Guardian
   - Step-parents
   - Step Siblings

9) While growing up my household consists of (Select all that apply):
   - Great grandparents
   - Grandparents
   - Mother or father
   - Siblings
   - Mother or father in-law
   - Brother or sister in-laws
   - Daughter or son
   - Cousins
   - Niece or nephew
   - Grandchildren
   - God children
   - Uncles or aunts
   - Son or daughter in-laws
   - Guardian
   - Step-parents
   - Step Siblings
10) Do you speak more than one language?
   o Yes
   o No

11) What was the first language you spoke?
   o English
   o Spanish
   o Other (Please specify)

12) Do you still live at home or with your parent(s) or legal guardian(s)?
   o Yes
   o No

13) What is the highest level of education obtained by your father?
   o Less than high school
   o High School Diploma
   o Some College
   o 2 Year College
   o 4 Year College
   o Graduate School

14) What is the highest level of education obtained by your mother?
   o Less than high school
   o High School
   o Some College
   o 2 Year College
   o 4 Year College
   o Graduate School

15) What is the primary language spoken at home?
   o English
   o Spanish
   o Other, please specify

16) Are you a veteran or have you ever been in military active duty?
   o Yes
   o No
17) What is your sexual orientation?
   o Heterosexual
   o Bisexual
   o Gay
   o Lesbian
   o Asexual
   o Pansexual

18) What describes your current romantic relationship?
   o Single
   o Dating
   o In a Committed relationship
   o Engaged
   o Married
   o Open-Relationship
   o Other, please specify:

19) How long have you been in this relationship for? (In Months) ___

20) Have you ever received Mental Health Services?
   o Yes
   o No

21) If yes, what conditions were you treated for?
   o Substance Abuse
   o Depression
   o Anxiety
   o Post-Traumatic Stress Disorder
   o Schizophrenia
   o Other, please specify:

21) Are you currently employed?
   o Employed full time
   o Employed part time
   o Unemployed looking for work
   o Unemployed not looking for work

22) What is your current GPA (on a 4.0 scale) ___
23) What country do you live in?
   ○ United States
   ○ Mexico

24) Do you consider yourself to be Hispanic/Latina?
   ○ Yes
   ○ No

25) Where were you born?
   ○ United States
   ○ Guatemala
   ○ Argentina
   ○ Honduras
   ○ Bolivia
   ○ Mexico
   ○ Brazil
   ○ Nicaragua
   ○ Chile
   ○ Panama
   ○ Colombia
   ○ Paraguay
   ○ Costa Rica
   ○ Peru
   ○ Cuba
   ○ Puerto Rico
   ○ Dominican Republic
   ○ Uruguay
   ○ Ecuador
   ○ Venezuela
   ○ El Salvador
   ○ Other (specify) ___________________________

26) What country/place/nationality do you identify with the most? (Check all that apply)
   ○ United States
   ○ Guatemala
   ○ Argentina
   ○ Honduras
   ○ Bolivia
   ○ Mexico
   ○ Brazil
   ○ Nicaragua
   ○ Chile
   ○ Panama
   ○ Colombia
   ○ Paraguay
   ○ Costa Rica
   ○ Peru
   ○ Cuba
   ○ Puerto Rico
   ○ Dominican Republic
   ○ Uruguay
   ○ Ecuador
   ○ Venezuela
   ○ El Salvador
   ○ Other (specify) ___________________________

27) Which of the following categories would you use to describe yourself? (Check all that apply)
   ○ White-Latina
   ○ Black-Latina (Afro-Latina)
   ○ Asian-Latina
   ○ Indigenous Latina
   ○ Other (specify) ___________________________
Appendix B: CYW Adverse Childhood Experience Scale (ACE-Q)

Please answer yes or no.
While you were growing up, during your first 18 years of life:

1) Your parents ever separated or divorced.
2) You lived with a household member who served time in jail or prison.
3) You lived with a household member who was depressed, mentally ill or attempted suicide. 4.) You saw or heard household members hurt or threaten to hurt each other.
5) A household member swore at, insulted, humiliated, or put you down in a way that scared you OR a household member acted in a way that made you afraid that you might be physically hurt.
6) Someone touched your private parts or asked you to touch their private parts in a sexual way that was unwanted, against your will, or made you feel uncomfortable.
7) More than once, you went without food, clothing, a place to live, or had no one to protect you.
8) Someone pushed, grabbed, slapped or threw something at you OR you were hit so hard that you were injured or had marks.
9) You lived with someone who had a problem with drinking or using drugs.
10) You often felt unsupported, unloved and/or unprotected.
11) You have been in foster care.
12) You have experienced harassment or bullying at school.
13) You have lived with a parent or guardian who died.
14) You have been separated from your primary caregiver through deportation or immigration.
15) You have had a serious medical procedure or life threatening illness.
16) You have often seen or heard violence in the neighborhood or in your school neighborhood.
17) You have been detained, arrested or incarcerated.
18) You have often been treated badly because of race, sexual orientation, place of birth, disability, or religion.
19) You have experienced verbal or physical abuse or threats from a romantic partner (i.e. boyfriend or girlfriend).
Appendix C: Comprehensive Effects of Alcohol (CEOA)

Instructions: The following questions ask what you would expect to happen if you were under the influence of ALCOHOL. Choose from disagree to agree - depending on whether you expect the effect to happen to you if you were under the influence of alcohol. These effects will vary, depending upon the amount of alcohol you typically consume. This is not a personality test. We want to know what you would expect to happen if you were to drink alcohol, not how you are when you are sober. Example: If you are always emotional, you would not circle agree as your answer unless you expected to become more emotional if you drank.

Each item is rated on a 4-point Likert-type scale ranging from 1 (Disagree) to 4 (Agree).

When I drink alcohol, I expect that ______________:

1) I would be outgoing  
2) My senses would be dulled  
3) I would be humorous  
4) My problems would seem worse.  
5) It would be easier to express my feelings  
6) My writing would be impaired  
7) I would feel sexy  
8) I would have difficulty thinking  
9) I would neglect my obligations  
10) I would be dominant  
11) My head would feel fuzzy  
12) I would enjoy sex more  
13) I would feel dizzy  
14) I would be friendly  
15) I would be clumsy  
16) It would be easier to act out my fantasies  
17) I would be loud, boisterous, or noisy  
18) I would feel peaceful  
19) I would be brave and daring  
20) I would feel unafraid  
21) I would feel creative  
22) I would be courageous  
23) I would feel shaky or jittery the next day  
24) I would feel energetic  
25) I would act aggressively  
26) My responses would be slow  
27) My body would be relaxed  
28) I would feel guilty  
29) I would feel calm
30) I would feel moody
31) It would be easier to talk to people
32) I would be a better lover
33) I would feel self-critical
34) I would be talkative
35) I would act tough
36) I would take risks
37) I would feel powerful
38) I would act sociable
Appendix D: Children of Alcoholics Screening Test (CAST)

Please answer yes/no to the questions below in accordance with what best describes your feelings, behavior and experiences related to a parent's alcohol use. Take your time and be as accurate as possible.

1) Have you ever thought that one of your parents had a drinking problem?
2) Have you ever lost sleep because of a parent's drinking?
3) Did you ever encourage one of your parents to quit drinking?
4) Did you ever feel alone, scared, nervous, angry or frustrated because a parent was not able to stop drinking?
5) Did you ever argue or fight with a parent when he or she was drinking?
6) Did you ever threaten to run away from home because of a parent's drinking?
7) Has a parent ever yelled at or hit you or other family members when drinking?
8) Have you ever heard your parents fight when one of them was drunk?
9) Did you ever protect another family member from a parent who was drinking?
10) Did you ever feel like hiding or emptying a parent's bottle of liquor?
11) Do many of your thoughts revolve around a problem drinking parent or difficulties that arise because of his or her drinking?
12) Did you ever wish that a parent would stop drinking?
13) Did you ever feel responsible for or guilty about a parent's drinking?
14) Did you ever fear that your parents would get divorced due to alcohol misuse?
15) Have you ever withdrawn from and avoided outside activities and friends because of embarrassment and shame over a parent's drinking problem?
16) Did you ever feel caught in the middle of an argument or fight between a problem drinking parent and your other parent?
17) Did you ever feel that you made a parent drink alcohol?
18) Have you ever that a problem drinking parent did not really love you?
19) Did you ever resent a parent's drinking?
20) Have you ever worried about a parent's health because of his or her alcohol use?
21) Have you ever been blamed for a parent's drinking?
22) Did you ever think your father was an alcoholic?
23) Did you ever wish you home could be more like the homes of your friends who did not have a parent with a drinking problem?
24) Did a parent ever make promises to you that he or she did not keep because of drinking?
25) Did you ever think your mother was an alcoholic?
26) Did you ever wish that you could talk to someone who could understand and help the alcohol-related problems in your family?
27) Did you ever fight with your brothers and sisters about a parent's drinking?
28) Did you ever stay away from home to avoid the drinking parent or your other parent's reaction to the drinking?
29) Have you ever felt sick, cried, or had a "knot" in your stomach after worrying about a parent's drinking?
30) Did you ever take over any chores and duties at home that were usually done by a parent before he or she developed a drinking problem?
Appendix E: Depression, Anxiety, & Stress Scale-21 (DASS-21)

Please read each statement and select a number 0, 1, 2 or 3 which indicate how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:
   0 Did not apply to me at all
   1 Applied to me to some degree, or some of the time
   2 Applied to me to a considerable degree, or a good part of time
   3 Applied to me very much, or most of the time

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

Instructions: Please indicate how much you agree or disagree that the statements below describe your family. Answer these questions based on who you consider to be your family.

Each item is rated on a 4-point Likert-type scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

In my family…

1) We rarely express affection to each other.
2) There is a feeling of togetherness.
3) We care for one another.
4) We support each other.
5) We rarely do things together.
6) The things we do for each other make us feel a part of the family.
7) We have fun together.
8) We discuss problems and feel good about the solutions.
9) Family members pay attention to me.
10) Overall, I am happy with my relationship with my family members.
11) I feel safe in my family relationships.
12) We make a point of being physically active during daily life.
13) We usually have fresh fruits and vegetables in our home.
14) We help each other avoid unhealthy habits.
15) We make a point to follow medical recommendations.
16) We help each other in seeking health care services when needed (such as making doctor’s appointments)
17) We help each other make healthy changes.
18) We stay hopeful even in difficult times.
19) We have beliefs that give us comfort.
20) If we needed help from others, we would have real difficulty finding transportation to get to that help.
21) If we needed outside help, we would not know what sort of help was available.
22) Financial difficulties would be an obstacle to getting outside help.
23) We do not trust doctors and other health professionals.
24) A lack of health insurance would prevent us from asking for medical help (e.g., no health insurance or inadequate coverage).
25) We have people outside of our family who we can turn to for help (such as for advice, help with childcare, a ride somewhere, or to borrow some money or something valuable)?
26) We have people outside of our family we can turn to when we have problems at school or work.
27) If we needed financial help, we have people outside of our family we could turn to for a loan (e.g., for $200)
28) If we needed help, we have people outside of our family who could provide our family with a place to live.
In the past 30 days...

29) My MENTAL health or the MENTAL health of my family members got in the way of MY FAMILY’s normal daily activities (such as household chores, work, school, or recreation).
30) Family worries and problems distracted me when I was working.

In the past 12 months...

31) My family did not have enough money at the end of the month after bills were paid.
32) My family did not have adequate housing.
Appendix G: Brief Resilience Scale (BRS)

Each item is rated on a 6-point Likert-type scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

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

Andrea Rodriguez Crespo was born and raised in El Paso, Texas to Marisela Rodriguez Crespo and Roberto Rodriguez. She is the eldest of one other sibling, Ximena Rodriguez Crespo. Andrea graduated from the University of Texas at El Paso with her Bachelor of Science in Psychology with a minor in Biology. While completing her undergraduate degree she conducted research under the mentorship of Dr. Laura O’Dell in the Psychopharmacology Laboratory where she studied pre-clinical models of drug use, and abuse. Andrea also conducted research under the mentorship of Dr. Theodore V. Cooper where she studied drug use and mental health constructs among college students. In Fall 2021, she enrolled in the Clinical Psychology Master’s program at the University of Texas at El Paso under the mentorship of Dr. Theodore V. Cooper in the Prevention and Treatment in Clinical Health Laboratory. Her first graduate study investigated cultural risk and protective factors of alcohol and marijuana use. She has first authored one and co-authored 4 publications in peer reviewed journals such as *Journal of Ethnicity in Substance Abuse, Journal of Affective Disorders and Neuropharmacology*. She has also presented at the national conferences of the Society for Behavioral Medicine and the Association for Behavioral and Cognitive Sciences. Additionally, she worked as a clinical intern at the Psychiatric and TMS clinic with Alfredo H. Arellano PMHCNS, BC. Andrea will be attending Virginia Commonwealth University in Richmond, VA in pursuit of her Ph.D. in Counseling Psychology starting Fall 2024.

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