

COLLEGE STUDENTS' PERSONAL EXPERIENCES AND OPINIONS OF SUBSTANCE USE DISORDER

A Thesis By

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Abstract:

Recreational substance use has become normalized and prevalent on college and university campuses, increasing the risk of college students developing Substance Use Disorder (SUD). Despite the risk of substance abuse and high rates of other forms of mental illness in the U.S. college population, many students fail to recognize hazardous substance use and neglect seeking treatment. However, there is a paucity of research examining the predictive factors that contribute to the development of SUD in college students. The present study examined how adverse childhood experiences (ACES), current substance use behaviors, and family history of substance use corresponded to the attitudes of 613 college students toward SUD, perceived stigma surrounding SUD, and treatment options. The quantitative results demonstrated no significant differences among the predictor variable groups. Qualitative results demonstrated that participants most often reported needing interpersonal support, counseling, and greater education to navigate a loved one's substance use disorder; witnessing SUD in family members resulted in negative emotional impacts; and participants largely attributed SUD development to mental health and family influences, along with peer, coping, and support-related factors. It is hoped that these findings will provide information to university mental health professionals about the complexities of SUD in diverse students and offer insight into how to integrate prevention, harm reduction, outreach, and treatment programs to support the unique needs of this high-risk population.

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CHAPTER 1

INTRODUCTION

Substance Use on College Campuses

Substance use has become normalized among college students and in campus culture, yet many students fail to recognize substance abuse and the negative impact it has on their daily lives, well-being, and academic performance. Despite the popularity of alcohol, marijuana, and nicotine usage by college students, negative stigma consistently surrounds substance use disorders (SUDs) (Mosel, 2024). Many students may not realize that they are struggling with substance abuse or that their close friends and peers may be struggling. For individuals who may be dealing with the onset of SUD or the negative implications of substance use in their environment, any negative stigma and anticipated discrimination may discourage them from disclosing their substance use, seeking treatment, and/or receiving care from programs and resources offered (Welsh et al., 2019).

Substance use rates continue to increase on college campuses due to multiple factors including use of substance(s) as a coping mechanism to manage stress, academic pressure, and various mental health challenges such as depression or anxiety, or due to social and peer influence as a way to fit in or connect with others while trying to establish independence and social support (Schulenberg et al., 2018). There is also greater availability of substances such as marijuana (now legal as a recreational drug in 24 states, along with Washington, D.C., and Guam (Cross, 2025; Davis et al., 2024), prescription drugs (e.g., Adderall or other stimulants), and opiates (e.g., Oxycodone, Fentanyl). Social media has increased the communication of the availability of drugs and alcohol, but also normalized the concept of college being a time for students to explore and experiment with substances (Welsh et al., 2019).

Substance use rates have increased due to easier accessibility (e.g., legalized recreational use of marijuana), availability, and social acceptance (Torrejón-Guirado et al., 2023). As a result, the increased popularity of substance use on college campuses has several negative consequences. Habitual substance use may cause a serious decline in physical, mental, and emotional health, poor academic performance,

impaired decision-making, unsafe sexual practices, violent incidents, etc., that can result in long-term impact (Cleveland Clinic, 2022; Welsh et al., 2019). It is critical to address substance use openly to reduce stigma and encourage students to seek help in environments where they are safe, supported, and understood.

According to the National Survey on Drug Use and Health (NSDUH), in 2022, almost 49% of full-time college students aged 18-22 years drank alcohol in the past month, with approximately 39.5% of college students using marijuana (Mosel, 2024). About 1 in 4 college students experience academic problems due to drinking, and approximately 14% of full-time college students meet the criteria for an alcohol use disorder (Patrick et al., 2024). Data from the National Institute on Alcohol Abuse and Alcoholism (NIAAA) demonstrate that an estimated 1,519 college students aged 18-24 die each year due to unintentional alcohol-related injuries (including motor vehicle accidents), and that 1 in 5 college students experience sexual assault during their time in college, where the perpetrator and often the victim are intoxicated (NIAAA, 2024).

Substance Use Disorder

Substance Use Disorder (SUD) is characterized by compulsive substance seeking and use despite risks and negative consequences. Some criteria of SUD include being unable to stop or cut down use, needing more substance to get the desired effect, developing withdrawal symptoms, neglecting life responsibilities, using substances despite risks or danger, such as while driving, continuing to use despite problems to physical and mental health, etc. (American Psychiatric Association [APA], 2022). SUD is a chronic, relapsing illness or syndrome with a significant negative impact on physical health, mental well-being, and quality of life. Individuals may experience negative consequences such as serious health issues, emotional struggles such as feelings of guilt, shame, and low self-worth, academic, social, and work problems, and possibly legal or financial problems by engaging in illegal activities to obtain the substance or being under the influence when making decisions (APA, 2022). According to the US Department of Health and Human Services (2023), of the 134.7 million people aged 12 or older who

currently use alcohol, 45.6% people (61.4 million) had engaged in binge drinking (i.e., episode of heavy consumption of alcoholic beverages in a short period of time with intent of becoming intoxicated) in the past month; 3.1% of people (8.9 million) misused opioids in the past year; 21.8% of people aged 12 or older (61.8 million people) used marijuana in the past year; and 9.4% of people aged 12 or older vaped nicotine in the past month. Hazardous substance use is a rapidly growing high-risk psychological disorder, meaning there are significant consequences to the life and health of the individual and community, yet struggling individuals often neglect seeking treatment or lack the resources to access help (Farhoudian et al., 2022).

College Student-Specific Risks

College students are a high-risk population for mental illness due to elevated levels of stress from increased responsibility, changes in eating and sleeping habits, large workloads, and shifts in the dynamics of social engagement (Eagan et al., 2014). In addition, the majority of college students are 18 to 24 years, which is within the most common age of onset window for many mental illnesses, such as bipolar I disorder and SUD (APA, 2022). Many of these students are young adults leaving their family home for the first time and have newly gained independence and personal agency. Almost two-thirds of college students are concerned about their ability to pay for college expenses, including tuition and housing costs (National Association of Student Financial Aid Administrators [NASFAA], 2024). Many students engage in substance use to cope with these new and intense stressors, alongside discovering their identities and attempting to fit into social groups (Welsh et al., 2019).

In the United States, 32.9% of college students drop out every year, with the largest number of college dropouts (15.27%; 6.6 million) within California (Flores, 2024). The primary reasons students reported having left their institutions were finances (42%) and family commitments (32%), but 64% of college students reported dropping out additionally due to mental health-related reasons (Flores, 2024). Of the students who reported mental health-related concerns, 41% reported anxiety, and 36% of students reported depression as the primary reason for dropping out (Flores, 2024). Anxiety, depression, and

alcohol use disorders are the most prevalent mental health concerns among college students due to their high comorbidity (Austin & Villarosa-Hurlocker, 2021). Interventions for alcohol misuse alone are not effective in individuals with comorbid mood/anxiety issues (Austin & Villarosa-Hurlocker, 2021; Terlecki et al., 2011). The National Alliance on Mental Illness (NAMI) reports that 50% of students with mental health issues do not seek help, contributing to these increased dropout rates (Lamm, 2024). To ensure student support and success in their academics and life transitions, college campuses and universities need to take the necessary steps to destigmatize mental health treatment and increase resources for students (Lamm, 2024). The first steps may include normalizing mental health conversations as part of campus culture (e.g., education and awareness in orientation programs, classroom discussions, and campus events); educating and training faculty, administrators, staff, and student leaders about mental health warning signs and stigma; and helping student peers learn how to respond and react so students feel safer and supported in asking for help (Lamm, 2024).

Underrepresented College Student Communities

College and university populations are increasingly diverse, including racial and ethnic cultures, LGBTQ+ students, first-generation college students, and students from low-income backgrounds. Students from these groups remain underrepresented in the general college population and face unique additional stressors that can impact their mental health. Some challenges these individuals may face include cultural identity issues, discrimination, systemic inequities, stereotypes, lack of representation, financial strain, and social isolation and feelings of disconnection from peers (Kodish et al., 2022). Due to these factors, these populations are at higher risk for mental health issues yet are less likely to seek out and receive professional treatment (Ross & Nicholson, 2024). Underrepresented students often encounter barriers to mental health care such as a lack of culturally competent treatment, mental health stigma in their community, unaffordable and/or limited access to counseling services, or lack of awareness and education of available resources on campus (Kodish et al., 2022). With the environment on college campuses and the high risk of these populations, individuals may engage in substance use as

a method of coping with stress, numbing negative emotions, distraction from responsibility, or desire to belong and feel accepted in a social environment (Ross & Nicholson, 2024). When considering how to implement SUD treatment and resources on campuses, university policymakers and student organizations need to consider these underrepresented groups and provide culturally inclusive outreach and a variety of treatment options to increase psychological help-seeking and promote efficacious intervention (Kodish et al., 2022).

Substance Use Disorder Treatment

Due to SUD being a complex condition that varies from individual to individual, treatment must be personalized and accessible to meet each person's needs. The most common and accessible treatment options include recovery peer support groups such as Alcoholics Anonymous (AA), Narcotics Anonymous (NA), or a 12-step program that helps an individual achieve and maintain abstinence from substances at their own pace but with unconditional support from others in the meeting rooms (National Institute on Drug Abuse [NIDA], 2020b). An individual with severe substance dependence may also seek medications to help manage withdrawal symptoms, reduce cravings, and weaken the effects of the substance (e.g., medical options to replace the use of smoking nicotine with skin patches, chewing gums, or nasal sprays, or medication assisted treatment [MAT] such as prescribing Suboxone to promote and maintain sobriety for those recovering from opiate use disorder; Miller, 2024). Another form of intervention may include empirically supported treatments (EST) or psychotherapy techniques such as relapse prevention training (RPT) that are designed to modify attitudes, thoughts, and behaviors related to substance abuse and their negative consequences, but also to build sobriety maintenance motivation in the individual (Miller, 2024). These behavioral models are important for individuals with SUD to develop healthy coping strategies, emotional regulation, and mindfulness, as well as to prevent relapse (NIDA, 2020b).

Even with multiple evidence-based treatment techniques for substance use disorder, several factors may cause an individual to refuse or be reluctant to seek treatment, including but not limited to

denial of, misuse, or lack of control with a substance; fear of withdrawal; lack of support and/or lack of healthcare accessibility; co-occurring psychological disorders such as depression; and/or perceived stigma leading to fear of negative judgment by others or shame related to seeking help (Arun et al., 2004; Farhoudian et al., 2022). Many healthcare systems fail to offer or provide integrated care that can apply to each complex case of SUD, such as culturally sensitive or affordable options. These limitations may be due to inadequately trained professionals or a shortage of available staff (Farhoudian et al., 2022). When integrating SUD treatment into broader mental health support for students, college and university administrators and health professionals need to consider SUD student perceptions such as underlying causes of substance abuse as well as diverse student demographics to promote student comfort in seeking help.

Attitudes and Stigma Toward Substance Use

Drug addiction and alcoholism consistently rank among the most stigmatized conditions worldwide, causing a significant barrier between the afflicted individual and receiving proper screening, treatment, and support (Spata et al., 2024). Substance use stigma can exist at structural, social, and individual levels as evidenced by negative labeling, stereotyping, status loss, and discrimination that maintains and expands social inequities among the SUD population (Kulesza et al., 2013). Due to this, U.S. society as a whole devalues people with SUDs and allows for collective action to punish this population through institutionalized systems, policies, and practices. Compared to other mental and physical illnesses, limited research has addressed the substance use stigma that discredits and shames those suffering from SUD (Kulesza et al., 2013; Smith et al., 2020; Spata et al., 2024; Yang et al., 2019). Although evidence-based treatments exist, a large gap exists between the number of individuals with this disorder and those who receive treatment. To address this gap, the National Institute of Drug Abuse or NIDA has recently identified understanding and decreasing the stigma of SUD as a major priority by focusing on three major forms of displayed negative attitudes and beliefs (NIDA, 2024). The common forms of stigmatization include *stereotyping*, which occurs when public conceptions link labeled

individuals to negative characteristics such as viewing people with SUDs as dangerous or criminals; *emotional reactions* that are affective responses to stigma endorsed by the general public such as fear, disgust, or pity towards those with SUDs that often cause embarrassment, shame, and isolation of the individual; and *discrimination*, which is being treated unjustly by others and which occurs when individuals with SUDs are perceived as less valued and incapable of normalcy (NIDA, 2024).

Individuals with SUD may feel inferior because of the stigma surrounding their condition. As a result, such individuals might fear being shamed by others or socially limited because of their SUD. This fear can lead them to isolate themselves, hide their substance use, and avoid or reject treatment, worsening their symptoms and condition (Kulesza et al., 2013).

Internalized or self-stigma is the endorsement and application of negative feelings and beliefs about SUD onto oneself (Spata et al., 2024). Many individuals already hold negative beliefs and feelings towards substance abuse due to awareness of societal or public stigma. This leads to internalized stigma which involves reactions to anticipated stigma, or the expectation of being stigmatized, often at the hands of family members, friends and acquaintances, employers, or healthcare providers (Smith et al., 2020; Yang et al., 2019). Upon gaining the SUD label, individuals are forced to confront these negative thoughts and emotions which may result in the internalization of stigma or devaluing of oneself due to substance use (Smith et al., 2020).

Due to the normalization of drinking, drug use, and party cultures on most college campuses, many students may underestimate the risks and negative consequences of substance abuse, avoid seeking help, or have feelings of isolation if they do begin to struggle. This type of environment can make it difficult and discouraging for students to seek treatment due to a lack of perceived need or fear of judgment. If (hazardous) substance use is normalized, students may fear that treatment will stigmatize them as problematic or weak compared to their peers. Increasing research in the field of substance use on college and university campuses may decrease the normalization of substance (ab)use and co-occurring stigma to ultimately increase help-seeking behaviors and treatment availability for students.

Adverse Childhood Experiences

Adverse Childhood Experiences (ACES) are defined as moderately to severely stressful experiences during the first 18 years of an individual's life that may include emotional, sexual, or physical abuse, neglect, caretaker psychopathology, caretaker incarceration, and parental separation or divorce (Felitti et al., 1998). Since ACES often co-occur with other mental health issues (e.g., anxiety, depression, trauma-related disorders) it is important to examine their cumulative impact. Experiencing greater numbers of ACES is linked to a higher risk of developing SUD as, for example, individuals may engage in substance use in attempts to self-medicate and numb emotional pain (Broekhof et al., 2023). Chronic stress in early childhood environments has direct and long-lasting effects on the stress-response systems, causing an individual who experienced ACES to be more vulnerable to distress or intolerance with life stressors, especially among college students who have increased responsibilities. In a 2017 study completed by Karatekin, 27% of college student participants reported multiple ACES, which were, in turn, associated with higher levels of stress and mental health issues, including anxiety and depression. The most common ACES reported in this population were emotional abuse, neglect, and family mental health issues. The transition to college can be a stressful time for some college students, especially those with a history of ACES, as there may be more environmental triggers or lack of support throughout the transition period. Higher stress levels in college freshman then correspond to a higher risk of abusing alcohol or drugs, presumably to manage unresolved feelings and issues from childhood (Broekhof et al., 2023; Karatekin, 2017).

In a 2023 study conducted by Broekhof and colleagues, results demonstrated a significant positive correlation between the number of ACES and the likelihood of the individual developing SUD in adulthood. Since it was found that participants with multiple ACES were more likely to develop a dependence on alcohol or drugs compared to those with fewer or no ACES, this study provides evidence for ACES being a predictive factor of substance abuse and emphasizes the importance of prevention and early intervention to address the underlying impact of ACES, especially in high-risk populations like

college students (Broekhof et al., 2023). Research has also found that ACEs are a significant factor in a student's decision whether to seek counseling services, with students who experienced multiple ACEs reporting higher levels of distress and being more likely to seek professional psychological support (Craig et. al, 2023). However, there is very limited research exploring ACEs (or a past history of a SUD-specific ACE event) and views of accessing professional psychological services among college participants.

Family History of Substance Use

To accurately diagnose, treat, and understand attitudes and behaviors surrounding SUD, any family history of substance usage and possible abuse is crucial to consider, as it may influence the risk of development of SUD symptoms and the (perceived) effectiveness of treatment strategies. People with a family history of substance abuse may have a higher risk of developing SUD due to inherited genetic and biological factors as well as environmental and social influences (Harrington et al., 2011). Growing up in an environment where substance use is normalized or sometimes even encouraged may influence children to learn patterns of maladaptive coping mechanisms, ways to fit in socially, or model inappropriate language and behaviors (Cservenka, 2016). Early exposure may also increase the risk of early experimentation with substances which often leads to a higher risk of developing SUD later in life (Grant & Chamberlain, 2020). In a 2008 study completed by Besler et al., the results indicated that individuals with a family history of Alcohol Use Disorder (AUD) were more likely to develop an alcohol dependence due to at-risk drinking behaviors, suggesting that genetic factors and/or modeled behaviors within a family environment may increase the likelihood of developing SUD (Besler et al., 2008). It was also found that drinking motives were predictive of alcohol dependence; that is, individuals who drank alcohol as a coping mechanism were more likely to develop SUD than other individuals who drank for social or enhancement motives. Individuals who reported a family history of AUD were more likely to state that their motive for drinking was to cope with emotional distress, further suggesting family history of substance use (i.e., genetic predisposition, learned behaviors, early

environmental influences) is a significant predictor of developing SUD (Besler, 2008). The results of multiple research studies also emphasize that individuals with a first-degree relative (e.g., parent or sibling) with alcohol dependence have a higher risk of developing SUD (Cservenka, 2016; Grant & Chamberlain, 2020; Harrington et al., 2011), most likely due to similar factors in family dynamics.

In a recent study, Hatoum et al., 2023 found in a sample of drug-naïve children, the addiction gene was correlated with parental substance use problems and externalizing behavior. Concurrently, individual SUDs are considered heritable, as recent large-scale genome-wide studies have identified genetic associations with problematic drinking, alcohol use disorder, cigarettes smoked per day, nicotine dependence, cannabis use, and opioid use disorder (Hatoum et al., 2023; Mallard et al., 2021; Quach et al., 2020; Zhou et al., 2020).

Harrington et al. (2011) found multiple predictive factors for adults in the U.S. of initiating substance use or developing SUD including comorbid mental disorders (e.g., mood and anxiety disorders), lower socioeconomic status, younger adults (ages 18-29), personal history of substance use, and family history of substance use. These factors are important to consider when researching substance abuse among college students since they are a high-risk population and often meet the criteria for one or more of the prior listed predictive indicators of SUD onset.

With substance use being normalized in a person's environment, individuals may not recognize when usage develops into SUD, or they may reject the concept of seeking professional help for substance abuse since intervention would be considered atypical or highly unusual (and perhaps premature and unnecessary) to them. Additionally, if they witnessed a family member receive treatment for SUD and the relative continued to abuse substances, relapsed, or possibly experienced death, it may cause the individual more hesitation to access treatment for themselves or to suggest seeking treatment to others. Witnessing SUD may cause individuals to develop preconceived notions about when or if as well as what type of treatment is necessary or effective in terms of substance abuse recovery and maintenance of sobriety and wellbeing.

A family history of substance abuse may be an important indicator for clinicians to identify individuals who are at a higher risk of developing SUD and to be more proactive in screening for substance misuse before it becomes debilitating (Harrington et al., 2011). When providing treatment, if an individual has a family history of SUD, the person may need more intensive treatment to address underlying trauma, longstanding maladaptive thought processes, and potential triggers for relapse prevention (Harrington et al., 2011). Understanding the role of family history may help end a cycle of generational SUD and give individuals insight as to how it may have affected their views about themselves, their family, or societal norms. Further research on the influence of family history on an individual's substance use and their attitudes toward treatment may help to externalize the disorder from the person struggling with chemical dependency but also reduce the negative stigma surrounding SUD and encourage individuals to seek professional treatment when warranted.

The Theory of Planned Behavior

The theory of planned behavior (TPB) states that an individual's beliefs and attitudes are directly linked to specific behaviors (Ajzen, 1991). The TPB focuses on measuring attitudes, where attitudes are used to predict a person's intentions and then used to predict their behavior (Ajzen, 1991). With this, the TPB provides an understanding of the complex factors (e.g., peer influence, family engagement, social encouragement) that can strongly impact and contribute to an individual engaging in hazardous substance use, leading to the development of SUD. The TPB has been applied specifically to psychological help-seeking through exploration of variables such as attitudes toward psychological treatment (Mak & Davis, 2014) and perceived stigma of mental illness (Nam et al. 2013), which may be applied specifically to SUD.

By addressing attitudes, social norms, and perceived behavioral control, the TPB provides insight into the possibilities of why individuals might begin or continue the use of substances, and how this may be changed through SUD interventions. If community values discourage substance use, individuals may be less likely to initiate or continue such behavior or feel more pressure to hide their

struggles. This perspective is important for understanding why certain individuals or groups might be at higher risk for SUD and can inform interventions that provide alternative social models. The criterion for diagnosing SUD requires wanting to stop substance use but being unable to control behavior, linking to the TPB regarding conflicting attitudes and behaviors not aligning with an individual's intention to decrease use (Ajzen, 1985; APA, 2022). Understanding an individual's intention behind substance use can identify high-risk individuals and aim at providing prevention and treatment resources (Abad et al., 2017).

Based on the TPB, it is hypothesized that if an individual has negative attitudes regarding psychological health due to SUD (e.g., viewing substance use as a coping mechanism and disregarding the need for underlying mental illness treatment), they will be less likely to engage in the steps of seeking out help for recovery. Due to this, high-risk individuals may not seek available psychological resources and be less inclined to find help for themselves or loved ones who may be struggling with SUD. Using the TPB as the conceptual foundation of research in the field of SUD may yield data which help to develop critical areas for intervention by identifying and modifying attitudes, reducing social influences, and increasing awareness of perceived control (Booth et al., 2014). The present study examined how previous life experiences involving substance use may relate to negative beliefs and stigma about SUD and about psychological help-seeking attitudes for SUD in college students.

The Present Study

The present study explored the influence of personal experiences, childhood exposure to adverse events with a focus on those involving SUD, and opinions of SUD on college students' knowledge, perception, and attitudes toward those with SUD and toward seeking professional treatment for SUD. The current study focused on how college students view other individuals who may have or had SUD by utilizing predictive factors, including ACES, participants' own substance use, and family history of substance use. This study also examined how participants view receiving professional treatment for

SUD and what they predict is the most beneficial form(s) of help based on their prior knowledge and experiences of SUD.

To achieve these goals, the present study addressed two questions: (1) How has witnessing/not witnessing substance abuse and mental illness at home during one's formative years affected perceptions and attitudes toward substance use disorder, individuals struggling with SUD, and seeking professional psychological treatment for SUD? And (2) Do previous experiences regarding substance use influence college students' current attitudes toward individuals with SUD, seeking professional treatment for SUD, and their own substance use behaviors?

Hypotheses

The hypotheses for the present study included:

1. Participants with v. without a family history of substance abuse would be more likely to recommend psychological treatment for SUD.
2. Participants with v. without a family history of substance abuse would be less likely to endorse stigma of individuals with SUD.
3. Participants who report v. those who do not report greater substance use would be less likely to recommend psychological treatment for SUD.
4. Participants who report v. those who do not report higher substance use would be less likely to endorse stigma of individuals with SUD.
5. Participants with v. without 4 or more ACES would be more likely to recommend psychological treatment for SUD.
6. Participants with v. without 4 or more ACES would be less likely to endorse stigma of individuals with SUD.

Both quantitative and qualitative methods were used in the present study. Participants were asked to complete self-report closed-item measures; those who endorsed having a family history of SUD and/or while growing up, lived with someone who abused substances, were also asked to answer three open-ended questions. Quantitative analyses using the results of the closed-item scales were conducted to address the six stated hypotheses listed above. Qualitative analysis of coded responses to the open-

ended items provided additional information, deepening the understanding and interpretation of quantitative results.

CHAPTER 2

METHOD

Institutional Review Board Approval

The present study was approved by California State University, Fullerton's Institutional Review Board (HSR-24-25-102). The study was conducted in accordance with legal and ethical standards of research involving human participants. Data from a larger study conducted by the author and her research advisor at CSUF during the fall 2024 and spring 2025 semesters were used for the present thesis study.

Participants

Participant requirements included being age 18 or older and an enrolled student at a U.S. college or university. Participants were recruited through the SONA system, which is the psychology experiment participant pool of the California State University, Fullerton (CSUF) Psychology Department. The SONA system is an online platform for researchers in the CSUF Psychology Department to recruit and schedule research participants, as well as provide a confidential link (in the case of the present study) to an online protocol for completing research participation. Participants recruited through the SONA system must be enrolled in CSUF psychology courses and typically are required to complete a specified number of hours of research participation to fulfill course requirements in Introduction to Psychology (PSYC 101) or earn extra credit in various other psychology courses per instructor reference. After fulfilling their participation requirements in the study, PSYC 101 participants recruited through SONA received 0.5 units of research credit as compensation for their participation in the study. Other (non-PSYC 101) psychology students earned extra credit points (amount determined by the student's instructor) in exchange for their participation in the study. Any non-SONA participants recruited through various outreach methods (i.e., on-campus flyers, emails, word-of-mouth) completed the survey voluntarily to advance knowledge in the field.

After data collection, the sample included 863 college students. Any participant with missing data from the questionnaires of the variables of interest was excluded from the study for data analysis purposes. Once the data were cleaned, participants were grouped into low, moderate, and high categories based on their scores for the AUDIT and ACES. Because the study's hypotheses focused on comparing individuals at the low and high ends of these measures, participants in the moderate range were excluded from further analyses to allow more direct comparisons between groups and clearer interpretation of qualitative responses. The number of participants excluded due to these factors was incomplete data ($n = 106$), a moderate AUDIT score ($n = 79$), and a moderate ACES score ($n = 65$). The revised participant sample consisted of 613 college students who were enrolled at CSUF and who chose to participate in the study via SONA for 0.5 hours of PSYC 101 research credit ($n = 546$, 89.1%) or via an external link (non-SONA) for extra credits (amount designated by their respective instructors) or who volunteered to participate for no incentive other than to contribute to the available scientific knowledge on this topic ($n = 67$, 10.9%).

Age was assessed with an open-text box question where participants could directly type in their age. The study participants ranged in age from 18 to 56 years. The average age of participants was 19.5, with a standard deviation of 2.53. Although the sample included participants older than the average college age, most participants in the sample were between 18 and 22 years old ($n = 563$, 91.9%). Gender was assessed through multiple-choice options of female ($n = 445$, 72.6%), male ($n = 156$, 25.4%), transgender ($n = 2$, 0.4%), and non-binary/gender non-conforming ($n = 10$, 1.6%). Sexual orientation was assessed through multiple-choice options of heterosexual (straight/opposite sex) ($n = 465$, 75.8%), homosexual (gay/same sex) ($n = 25$, 4.0%), bisexual ($n = 72$, 11.8%), asexual ($n = 18$, 3.0%), questioning or unsure ($n = 13$, 2.1%), prefer not to disclose ($n = 11$, 1.8%), and other, with an open-text box to specify sexual orientation if the participant so wished ($n = 9$, 1.5%).

Ethnicity was assessed through multiple-choice options of Latine / Latinx / Latino(a) / Hispanic ($n = 334$, 54.5%), Asian / Asian American ($n = 134$, 21.9%), Non-Hispanic White / Anglo American

($n = 50$, 8.1%), Bi-Ethnic / Multi-Ethnic ($n = 42$, 6.9%), Arab / Middle Eastern / North African (AMENA) or Southwest Asian / North African (SWANA) ($n = 19$, 3.1%), South Asian / Asian Indian / Indian American ($n = 11$, 1.8%), African American / Black American ($n = 9$, 1.5%), Native Hawaiian Pacific Islander (NHPI) / Pacifica ($n = 2$, 0.3%), American Indian / Alaska Native (AIAN) / Indigenous North American ($n = 1$, 0.1%), and other, with an open-text box to specify ethnicity if the participant so wished ($n = 11$, 1.8%).

Socioeconomic status was assessed by asking about annual household income. Most participants reported an annual household income of less than \$100,000 per year ($n = 425$, 69.4%), while the remaining participants reported an annual household income of more than \$100,000 per year ($n = 188$, 30.6%). The majority of the sample participants indicated that psychology was either their primary major in their higher education or, for those who were double majoring, one of their majors ($n = 320$, 52.2%), compared to non-psychology majors ($n = 293$, 47.8%).

Materials and Measures

Informed Consent, Pre-Screen, Demographics

Following the Informed Consent and pre-screening questions (see Appendix A), the short introductory demographics section (see Appendix B) was presented at the beginning of the online protocol and collected participant demographic information including age, gender, ethnicity, annual household income, and current major in college or university.

Attitudes Toward Seeking Professional Psychological Help

The Attitudes Toward Seeking Professional Psychological Help Scale – Short Form (ATP-SF; Fischer & Farina, 1995) assesses attitudes and beliefs about accessing professional mental health treatment (see Appendix C). The ATP-SF includes 10 items, derived from the original 29-item form (Fischer & Turner, 1970). The assessment utilizes a Likert 4-point rating scale (1 = *disagree*; 2 = *partly disagree*; 3 = *partly agree*; 4 = *agree*). An example item is, “A person should work out his / her / their own problems; getting psychological counseling would be a last resort.” The ATP-SF shows good

internal reliability ($\alpha = 0.84$), with higher scores indicating more positive attitudes toward accessing professional psychological help (Elhai et al., 2008). The range for the ATP-SF is 10 to 40. In the present study, the ATP-SF had good internal reliability ($\alpha = 0.83$).

For purposes of the present study, additional SUD-related items were added to the ATP-SF to further investigate participant attitudes toward seeking professional psychological treatment for SUD, with terms such as “mental breakdown” and “personal and emotional troubles” replaced with “substance use” or “substance use problem”. Five items (i.e., items 1, 3, 5, 9, and 10) were taken from the original ATP-SF and modified, then added to the original 10 ATP-SF items, totaling 15 items (ATP-SF_SUD; see Appendix C). The range for the ATP-SF_SUD is 15 to 60. In the present study the ATP-SF_SUD had acceptable internal reliability ($\alpha = 0.83$).

Perceived Stigma of Substance Abuse

The Perceived Stigma of Substance Abuse Scale (PSAS) (Luoma et al., 2010) assesses an individual’s perception of other people with substance abuse issues (see Appendix D). The PSAS includes 8 items and utilizes a Likert 4-point rating scale (1 = *strongly disagree*; 2 = *disagree*; 3 = *agree*; 4 = *strongly agree*). An example of an item is, “Most people would be willing to date someone who has been treated for substance use.” The PSAS shows acceptable internal reliability ($\alpha = 0.73$), with higher scores indicating greater perceived stigma toward substance users (Luoma et al., 2010). The range for the PSAS is 8 to 32. In the present study, the PSAS had acceptable internal reliability ($\alpha = 0.73$).

Alcohol Use Disorders Identification Test

The Alcohol Use Disorders Identification Test (AUDIT; WHO, 2001) assesses personal alcohol intake and any negative consequences of alcohol use (see Appendix E). The AUDIT includes 11 items and uses multiple response styles to various questions including 8 items with a Likert 5-point response scale (1 = *Never*; 2 = *Less than monthly*; 3 = *Monthly*; 4 = *Weekly*; 5 = *Daily or almost daily*), 1 item assessing the amount of drinks on a typical day of drinking (0-2; 3 or 4; 5 or 6; 7-9; 10 or more), and 2 items with Yes/No responses with specifications for the yes answer (*Yes, but not in the last year*; *Yes, in*

the last year). The questionnaire includes a brief statement describing what is considered “one drink” in the context of the questionnaire to have objective responses to individual questions (*One drink = 12 ounces of beer, 5 ounces of wine, or one shot (1.5 ounces) of liquor.*) The AUDIT shows strong internal reliability ($\alpha = 0.85$), with higher scores indicating a higher risk of alcohol use-related problems (Daepfen et al., 2000). The range for the AUDIT is 0 to 40. The low AUDIT group included participants whose scores ranged from 0-7; the medium AUDIT group, from 8-15; and the high AUDIT group, from 16-40. In the present study, the AUDIT had strong internal reliability ($\alpha = 0.85$).

Drug Abuse Screening Test

The Drug Abuse Screening Test (DAST-10) (Skinner, 1982) assesses personal substance use and any negative consequences due to drug usage (see Appendix F). The DAST-10 is a 10-item scale with “yes” or “no” responses to the questions based on individual experience with drug use. The questionnaire includes a brief paragraph defining what a “drug” is considered and clarification that alcohol is not included for any items to obtain objective responses. An example item is, “Are you always able to stop using drugs when you want to?”. The DAST-10 has strong internal reliability ($\alpha = 0.94$), with higher scores indicating a more severe level of substance abuse problems (Yudko et al., 2007). The DAST-10 range is 0 to 10, with the low DAST-10 group including participants with scores of 0 to 2, and the high DAST-10 group including participants with scores of 3 to 10. In the present study, the DAST-10 had acceptable internal reliability ($\alpha = 0.72$).

Adverse Childhood Experiences

The Adverse Childhood Experiences Scale (ACES) (Anda & Felitti, 2003) assesses how negative childhood relationships and distressing experiences affect health and well-being (see Appendix G). ACES is a 10-item scale, and participants respond with “yes” or “no” to the ten statements of difficult childhood experiences, specified as occurring before their 18th birthday. An example of an item on the ACES scale is, “Did you live with anyone who had a problem with drinking or using drugs, including prescription drugs?”. The scale has acceptable internal reliability ($\alpha = 0.70$) and can be used to

categorize participants into groups of those who have experienced low ACES (0-1), moderate ACES (2-3), and high ACES (4+) (CDC, 2024; Oláh et al., 2023). In the present study, ACES had acceptable internal reliability ($\alpha = 0.79$).

Family History

To investigate the influence of distinctive lived experiences or environment, participants were asked close and open-ended questions about family history of substance usage and any impact it may have had on the participant (see Appendix H). An example of a close-ended question is, “Does someone in your family have/had substance use disorder or abuse substances (currently or in the past)?”. The close-ended family history questions were devised to gain further detail concerning the family member with substance use disorder. The participants also rank-ordered responses to a question about substance use treatment methods based on their knowledge and experience in perceiving a family member's struggle with substance use disorder.

Additionally, open-ended items were utilized with the intention of increasing deeper insight into the indirect or direct influences of a relative's substance abuse on an individual's perceptions and opinions of SUD presently. An example of an open-ended question is, “How has your loved one's substance use affected you personally?”. Utilizing qualitative items ensures that participants' perceptions and understanding of their experiences are not limited to predetermined categories or scales and helps reduce leading questions or biases. The intent is not to create generalizable findings but to offer insights of relevant lived experiences of current college students that contribute to awareness and advocacy on college campuses to gain support and resources about mental health and substance use that is beneficial. Participants who answered affirmatively about having a family history of SUD were asked a total of three open-ended questions (see Appendix H).

Procedure

The present study is a differential research design utilizing both quantitative scales and qualitative questions. Participants completed a 15-30 minute online self-report survey via Qualtrics, an online survey platform.

Participants were first shown the Informed Consent form, to which they agreed before continuing with the survey. After consenting to participate in the study, participants were shown the screening questions inquiring if they were at least 18 years of age and a student at a U.S. college or university (see Appendix A). Participants who answered no to any of these questions were excluded from the study and were automatically routed to a page thanking them for their participation. This ended their survey experience. Participants who met the study criteria were then asked to complete the demographics section. Following this section, participants were asked to complete questions from the ATP-SF_SUD, PSAS, AUDIT, DAST-10, ACES, and then the Family History Questionnaire, including open-ended items for those participants who reported a positive family SUD history or endorsed ACES items involving SUD in a family member.

After completing all the items, participants were thanked and debriefed for their participation (see Appendix J). Participants received a list of beneficial resources, including mental health resources, on and off campus, and substance abuse services for either themselves or someone they know who may be struggling with SUD, that they may utilize or access to learn more about mental health and substance abuse.

Quantitative Data

For the quantitative measures, participants were asked to complete questions from the ATP-SF_SUD, PSAS, AUDIT, DAST-10, ACES, and a demographics section. The scores from these scales were analyzed to address the study's hypotheses. By gathering concrete, numerical evidence, it was hoped to accurately identify patterns, trends, and relationships within the data related to the present study's hypotheses. Subsequently, this allowed for formulating predictions and generalizations about the

college student population regarding the influence of family history, personal substance use, and ACES on perceived stigma of SUD and recommended treatment for SUD.

Qualitative Data

Qualitative items were utilized to gather participants' experiences of substance use, both individually and through observation of family members' substance use experiences. Gathering open-ended responses allowed for the use of a grounded theory method. Grounded theory (Glaser & Strauss, 1967, as cited in Noble & Mitchell, 2016) is an approach that allows an investigator to construct a theoretical framework to explain phenomena following review of participant responses, which in turn yields repeated, similar observations coded as themes. Through the grounded theory methodology, we may develop theoretical conclusions from the direct, unique participant individualized responses that are systematically gathered and analyzed, allowing for deeper speculation beyond the suggested findings of the prior quantitative analyses (Noble & Mitchell, 2016). From the results of the quantitative measures, we can employ grounded theory to obtain possible answers and reasoning for the patterns and relationships found from the participant perspectives. By employing a grounded theory methodology in the current study, participants' personal opinions and experiences regarding SUD in their family were not confined to predetermined categories. While generalizable findings are not possible, the shared themes that emerged offer insights that contribute to greater awareness and advocate for college students who are impacted either directly or indirectly by SUD in their family history.

The family history portion of the present study allowed for a rich and in-depth perspective of the lived experiences behind an individual's behaviors. Additionally, it revealed the complex, multifaceted nature of substance use, which may identify the personal, social, and cultural factors impacting the development of SUD. Using individualized experiences instead of categorizing and grouping participant responses allowed for more nuanced insights into what high-risk individuals may want, need, and expect from SUD treatment. Such data may provide useful information that might be incorporated into campus SUD awareness, outreach, and treatment programs in hopes of destigmatization, increasing help-

seeking, gaining support, or promoting understanding of SUD family dynamics, and decreasing the rates of substance (mis)use as a coping mechanism among the college population. This qualitative approach may be beneficial for individuals who feel marginalized or misunderstood by respecting their varied experiences and perspectives as those personally affected by SUD in their family of origin (Chun et al., 2017). By gathering open-ended answers and narratives, we identified patterns and commonalities across participants' experiences in terms of their family history and gained insight into shared coping strategies, barriers to accessing treatment, or perspectives that might not be readily measured by quantitative research approaches (Chun et al., 2017).

Participants' qualitative responses were coded and analyzed using a thematic analysis formed in grounded theory (Noble & Mitchell, 2016). The thematic analysis procedure includes five phases: (1) marginal coding; (2) codebook creation; (3) pilot testing; (4) codebook revision; (5) theme assignment, inter-rater reliability calculation, and consensus on final codes. During marginal coding, the author reviewed the first 300 participants' responses to identify general themes capturing the respondents' experience. In this process, the author was able to create an outline for the codebook and transitioned into phase two by creating a codebook with three theme tables, one per qualitative measure (See Appendix I). The pilot testing phase consisted of the author, her advisor, and a fellow graduate research assistant in Dr. Mori's lab, who was trained and experienced with qualitative coding, using the newly created codebook to train two undergraduate research assistants on reviewing and coding 5% of the participant responses to ensure participant responses were being accurately coded. This process proceeded until all potential problems were identified, addressed, and modified in the codebook revision phase. The coders then utilized the revised and adapted codebook to (independently) assign designated themes to participant responses on another 5% of participant responses, and then their coded results were compared to the author's codes until 90+% interrater reliability was achieved. Following the establishment of high inter-rater reliability, the two undergraduate research assistants and the author completed coding on all remaining participant qualitative item responses.

Awareness and considerations were made regarding the researcher's positionality with emphasis on the importance of remaining unbiased regarding the participants' experiences, whether similar or different to the researcher's own experiences. The author is a graduate student in a Master of Science program in Clinical Psychology, serves as a Marriage and Family Therapist Trainee at a substance use rehabilitation clinic, and has a family and personal history of substance use. The two undergraduate researchers were also college students, on track to work in the clinical psychology field, and had personal experiences involving substance use. The coders remained mindful of potential countertransference and were careful to avoid making assumptions about participants with similar experiences, opinions, or perspectives as themselves or substance-using clients they have had. The coders maintained a conscious separation between personal beliefs and qualitative coding and data analysis, acknowledging the diversity of participants' experiences. Throughout the analysis, the coding team worked closely together and took deliberate precautions to ensure unbiased results.

Mixed-Methods Design

Quantitative findings examined the relevance and potential relationships of individual substance use experiences, familial exposure in childhood, and opinions of SUD on college students' knowledge, perception, and attitudes toward those with SUD and seeking professional treatment for SUD. Quantitative analysis established and provided insight into important patterns and trends. However, to gain further understanding of the influence of previous familial experience with SUD, qualitative measures were incorporated to discover the narrative, perspectives, and intricacies beyond the quantitative findings.

By utilizing a mixed-methods approach, the present study provided a more comprehensive understanding of college students' attitudes toward SUD and psychological help-seeking for SUD. With the complexity of perceptions about SUD, a mixed-methods approach allowed for generalizable findings while capturing distinctive features of human experiences and behaviors. Additionally, combining

quantitative and qualitative methods strengthened the validity and reliability of findings through supportive evidence and a holistic understanding of these phenomena.

CHAPTER 3

RESULTS

Plan of Analysis

Quantitative Analysis

All hypotheses were evaluated using multivariate analysis of variance (MANOVA) and follow-up means comparison tests. It was hypothesized that:

1. Participants with v. without a family history of substance abuse would be more likely to recommend psychological treatment for substance use disorder.
2. Participants with v. without a family history of substance abuse would be less likely to endorse stigma of individuals with substance use disorder.
3. Participants who report v. those who do not report high substance use would be less likely to recommend psychological treatment for substance use disorder.
4. Participants who report v. those who do not report high substance use would be less likely to endorse stigma of individuals with substance use disorder.
5. Participants with v. without high ACES would be more likely to recommend psychological treatment for substance use disorder.
6. Participants with v. without high ACES would be less likely to endorse stigma of individuals with substance use disorder.

A power analysis for an a priori MANOVA for global effects with three predictor variables (Family History, Substance Usage, ACES) at two levels each (Family History: yes, no; Substance Usage: low, high; ACES: low, high; 6 groups total), with a probability error of 0.05, was calculated using the G*Power 3.1.9.7 sample size calculator (Faul et al., 2007). The minimum total per group was 90 participants, bringing the minimum total of participants to 540 needed for sufficient power to detect a medium-sized effect.

Qualitative Analysis

The present study aimed to explore college students' personal experiences and opinions of SUD, which were additionally quantified and assessed through qualitative items. Utilizing narrative answers to open-ended questions allowed for a deeper understanding of the phenomena and participant identification of possible intervention methods for the identified problems.

For qualitative research, it is essential to implement strategies that establish and ensure trustworthiness (Merriam, 2002). An extensive literature review was conducted focusing on potential risk and protective factors central to research. In the qualitative portion of research, results will not claim objectivity and recognize that the researcher is subjective in interpretation. The primary researcher worked with data collection on the survey for one year prior to developing the present study. Consequently, the primary researcher identified themes and developed a codebook (see Appendix I) to categorize descriptive codes.

The primary investigator and author were trained by and collaborated with their research advisor and a fellow graduate research assistant who had training and extensive experience in qualitative data coding and analysis, as well as codebook creation, thematic assignment, and qualitative analysis and interpretation of results. All three then trained two undergraduate student research assistants (RAs) to analyze the open-ended responses, thoughtfully consider each response, and identify emerging themes. Additionally, they provided thorough training, including practice sessions, where the importance of consistency, adherence to guidelines, and coding feedback was emphasized. The coding team then reviewed and revised themes to further adjust and refine the coding based on observations, emerging issues, or questions. Throughout the coding process, repeated references were made to the importance of remaining unbiased regarding participants' experiences and avoiding possible partiality or assumptions. To ensure unbiased results, the team collaborated and held several open discussions to address and resolve any potential issues in the analysis. The two undergraduate RAs coded a selection of 10 to 20 participant responses to all three open-ended items separately, and then their codes were compared with those of the author. Disagreements were identified and discussed until an agreement was reached. This process was repeated until an interrater agreement of 90% or higher was reached for each of the three open-ended questions across 10% of the narrative answers. Once inter-rater reliability was established, the author and the two undergraduate RAs independently coded the remaining participants' responses. The most common themes (and subthemes) were reported for each open-ended item.

MANOVA Results

Predictor Variable Groups

The family history predictor variable was determined using the yes/no response to the question “Does someone in your family have/had substance use disorder or abuse substances (currently or in the past)?” The participant breakdown for the family history of substance use groups is as follows: a positive family history group ($n = 254$, 41.4% of the total sample) and a negative family history group ($n = 359$, 58.6% of the total sample).

Personal substance use was examined using the Alcohol Use Disorders Identification Test (AUDIT) and Drug Abuse Screening Test (DAST-10), with higher scores on both indicating higher substance usage. As stated above, the AUDIT total scores were divided into three groups: low, moderate, and high. The range of AUDIT total scores was 0-40. The low AUDIT group included participants whose scores ranged from 0-7. The moderate AUDIT group included participants whose scores ranged from 8-15. The high AUDIT group included participants whose scores ranged from 16-40. As stated above, the DAST-10 total scores were divided into two groups: low and high. The range of DAST-10 scores was 0-10. The low DAST-10 group included participants whose scores ranged from 0-2. The high DAST-10 group included participants whose scores ranged from 3-10. After creating these groups, participants who were categorized in the moderate AUDIT groups were removed from the study, with the remaining AUDIT and DAST-10 groups combined to make two groups of low and high personal substance use, ensuring both alcohol and drugs were included in the study results. The participant breakdown for the low and high personal substance use groups is as follows: low substance use group ($n = 443$, 72.3% of the total sample) and high substance use group ($n = 170$, 27.7% of the total sample). Only participants in the high and low groups were used, as it is more appropriate and applicable for determining clinical cutoffs for experiences in the low and high substance use groups. Additionally, it is more helpful to categorize individuals as low or high on substance usage, should the findings of this study be applied to clinical purposes.

To compare and contrast predictor variable group differences, participants were divided into groups based on Adverse Childhood Experiences (ACES) and personal substance use total scores. The range of ACE total scores was 0-10. As stated above, the ACE total scores were categorized into three groups: low ACES (0-1), moderate ACES (2-3), and high ACES (4+) (CDC, 2024; Oláh et al., 2023). For purposes of the study, only participants in the low and high ACE groups were retained. The participant breakdown for the low and high ACES groups is as follows: the low ACES group ($n = 384$, 62.6% of the total sample) and the high ACES group ($n = 229$, 37.4% of the total sample). Only participants in the low and high groups were used, as this approach is more appropriate and applicable when determining clinical cutoffs for experiences in low and high ACE groups. It would be more helpful to identify individuals as being low or high on ACES if the study's findings are to be applied to clinical purposes.

Multivariate Results

A 2 (Family History: yes, no) X 2 (Substance Usage: low, high) X 2 (ACES: low, high) MANOVA was run; for all multivariate results, Wilks' Lambda was used. There were no significant main effects, and no significant interactions, for the predictor variables on attitudes towards seeking professional psychological help or perceived stigma of substance abuse.

The MANOVA revealed no significant differences between groups based on family history of substance use in terms of recommending psychological treatment for SUD, $F(1, 611) = 0.71, p = .40$, or for stigma endorsement toward individuals with SUD, $F(1, 611) = 0.002, p = .96$ (See Table 1). Similarly, there were no significant differences between low and high substance usage groups in recommending psychological treatment for SUD, $F(1, 611) = 3.55, p = .061$, or for stigma endorsement, $F(1, 611) = 1.33, p = .25$ (See Table 2). The MANOVA also showed no significant differences between low and high ACEs groups in recommending psychological treatment for SUD, $F(1, 611) = 2.25, p = .13$, or for stigma endorsement, $F(1, 611) = 0.26, p = .61$ (See Table 3). No significant interaction

effects were found. Given the absence of significant main or interaction effects, no post hoc or follow-up mean comparison tests were conducted.

Table 1. Number of Participants, Means, and Standard Deviations for Attitudes towards Seeking Psychotherapy and Perceived Stigma across Family History of SUD

Measure	Positive Family History (<i>n</i> = 254)		Negative Family History (<i>n</i> = 359)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Attitudes Towards Seeking Psychotherapy	25.28	3.31	24.91	3.34
Perceived Stigma of SUD	21.63	3.74	21.66	3.12

Table 2. Number of Participants, Means, and Standard Deviations for Attitudes towards Seeking Psychotherapy and Perceived Stigma across Personal Substance Use

Measure	Low Personal Substance Use (<i>n</i> = 443)		High Personal Substance Use (<i>n</i> = 170)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Attitudes Towards Seeking Psychotherapy	24.61	3.56	25.24	3.22
Perceived Stigma of SUD	21.97	3.58	21.53	3.30

Table 3. Number of Participants, Means, and Standard Deviations for Attitudes towards Seeking Psychotherapy and Perceived Stigma across ACES

Measure	Low ACES (<i>n</i> = 384)		High ACES (<i>n</i> = 229)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Attitudes Towards Seeking Psychotherapy	25.32	3.42	24.92	3.27
Perceived Stigma of SUD	21.70	3.64	21.62	3.22

Thematic Analysis Results

Overview

Thematic analysis was utilized to find common themes across all participants' open-ended responses to understand the phenomenon of college students' personal experiences of SUD influencing

their perceptions and opinions of substance use and SUD treatment recommendations. The three areas of focus that were explored included: support needed as a family member of an individual with SUD, the impact of witnessing a family member with SUD, and perceived causes or predictors of SUD development. The following sections report the most common themes (and subthemes) for each open-ended area of focus.

Support Needed as a Family Member of an Individual with SUD

Participants were asked the open-ended question, “What support do you need as a family member of someone with substance use disorder?” and the analysis revealed four main themes (see Figure 1).

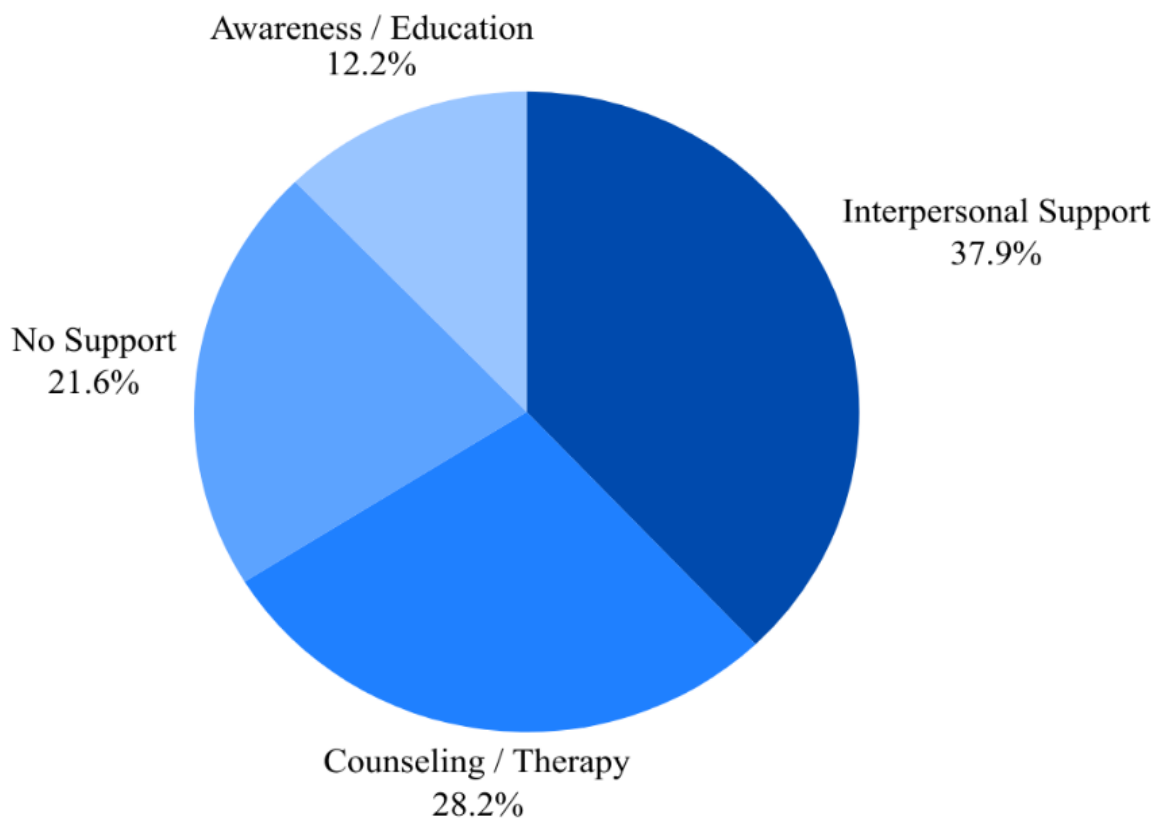


Figure 1. Support Needed as a Family Member of an Individual with SUD

1. **Interpersonal Support.** Participants ($n = 226$) reported a need for emotional, social, or relational support to help cope with their family member's SUD (e.g., "Support from my siblings who went through the same experience, as well as from others who are currently going through it like I am.").

2. Counseling / Therapy. Participants ($n = 168$) expressed a need for access to professional mental health support, such as individual therapy (e.g., “Support groups or therapy.”).
3. No Support. Participants ($n = 129$) indicated that they did not feel any support for themselves was necessary; however, the family member with SUD could have utilized support (e.g., “I don't need support; my family member needs to understand that they need to go seek support.”).
4. Awareness/Education. Participants ($n = 73$) reported a need for more education or awareness about substance use, its effects, and resources in order to better understand and support their family member with SUD (e.g., “Information on how to support that family member and tips on how to help them receive assistance.”).

Impact of Witnessing a Family Member with SUD

Participants were asked the open-ended question, “How has your loved one's substance use affected you personally?” and four themes emerged through analysis (see Figure 2), with one major theme, negative emotional impact, divided further into subthemes.

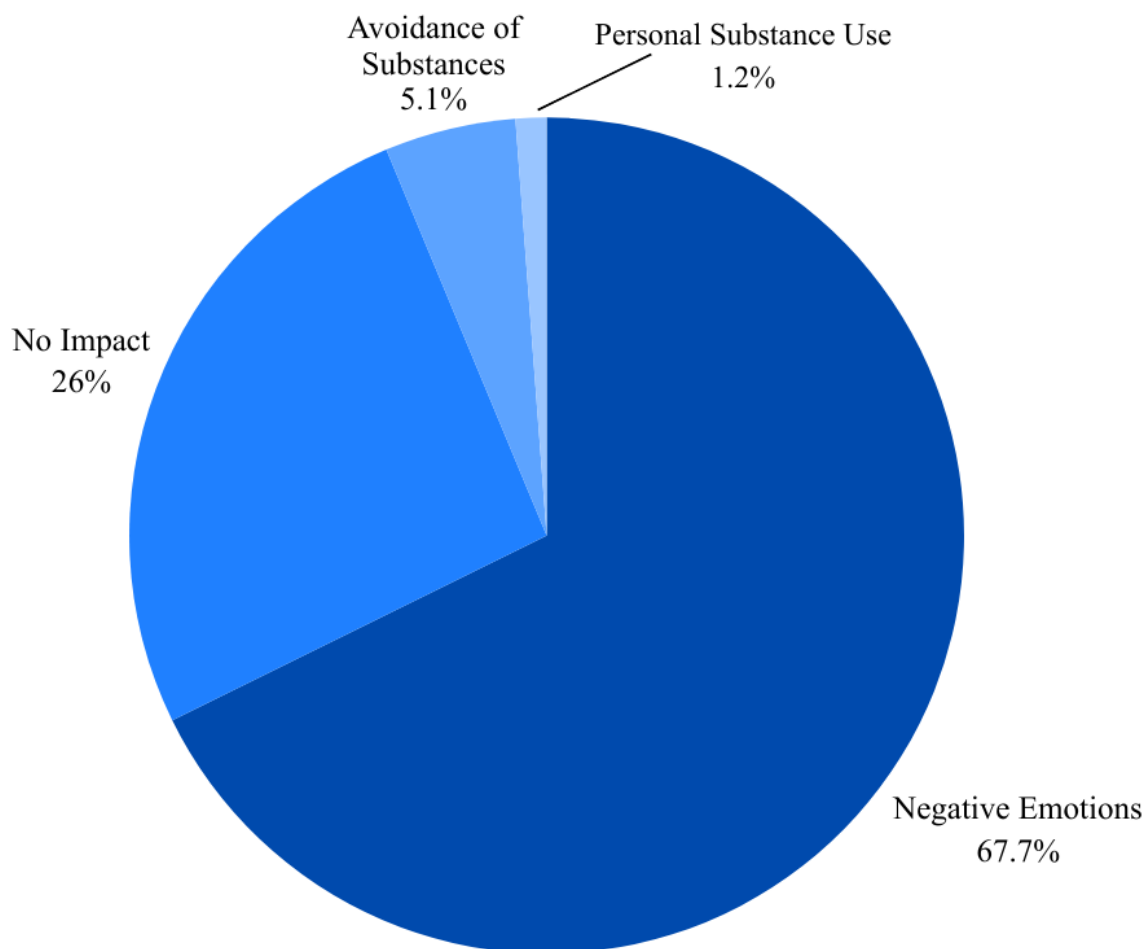


Figure 2. Impact of Witnessing a Family Member with SUD

1. **Negative Emotions.** A significant portion of participants ($n = 453$) reported experiencing emotional distress due to their family member's SUD (e.g., "I feel overwhelmed by emotions such as anger, fear, and sadness. I will always see alcohol/drugs as a poison, ready to ruin someone's life."). This theme was divided into subthemes as follows: stress/anxiety/fear ($n = 139$), disconnect/lonely/hopelessness ($n = 130$), sadness/emptiness/numbness ($n = 104$), anger/frustration ($n = 44$), and guilt/shame/responsibility ($n = 38$).
2. **No Impact.** Participants ($n = 174$) reported they experienced no personal emotional, psychological, or physical impact from their family member's SUD (e.g., "No, my parents did a great job at keeping me away from toxic behaviors of my family with substance abuse issues.").
3. **Avoidance of Substances.** A smaller group of participants ($n = 34$) reported that witnessing a family member struggle with SUD led them to intentionally avoid using substances themselves (e.g., "Now, I feel guilty if I have a drink or two. I stay away from substances. I have a very hard time being patient with people who abuse substances.").
4. **Personal Substance Use.** A few participants ($n = 8$) indicated that their exposure to substance use in the family contributed to earlier onset or increased personal use, often due to normalization within the home environment (e.g., "It introduced me to substances at a young age and I processed all of that too young and inevitably started to try some things.").

Predictions of SUD Development

Participants were asked the open-ended question, "What do you predict is the biggest factor in developing substance use disorder?" and six distinct themes emerged (see Figure 3).

1. **Mental Health.** A significant portion of participants ($n = 265$) predicted that the development of SUDs is due to varying mental health issues such as depression, anxiety, or trauma (e.g., "I think substance use is developed from psychological and/or life stress that has gone unaddressed.").
2. **Family Influence.** Many participants ($n = 249$) identified family-related factors as contributing to SUD development (e.g., "The biggest factor in developing substance use disorder is childhood. As an example, many people have to suffer abandonment from parents in their childhood, sexual orientation, or abuse."). This theme included the following subthemes: home environment ($n = 171$), abuse/neglect ($n = 43$), and childhood conflict ($n = 35$).
3. **Peer Pressure.** Participants ($n = 130$) attributed SUD development to social influences and peer pressure, especially during young adulthood (e.g., "One of the biggest factors in developing a substance use disorder can be the people you hang around. The peer pressure can make people change and abuse items that they thought they would never have done before.").
4. **Coping Mechanism.** Participants ($n = 123$) described substance use as a maladaptive coping strategy for managing emotional pain or life stressors that may develop into SUD

(e.g., “Substance use is developed by trying to fill a void or trying to feel better without having to talk to someone, trying to find a temporary solution to numb emotional pain.”).

5. Addictive Personality. Participants ($n = 113$) believed that individuals with SUDs may have an inherent or biological predisposition toward addiction or addictive tendencies (e.g., “I think substance use disorder is developed through genetics and having bad habits because of an addictive personality.”).
6. Lack of support system. Participants ($n = 74$) indicated that the absence of a stable or supportive environment contributed to the development of SUD (e.g., “The biggest factor in developing substance use disorder is feeling alone, or maybe going through something alone and not having anyone or anything to help with the feelings.”).

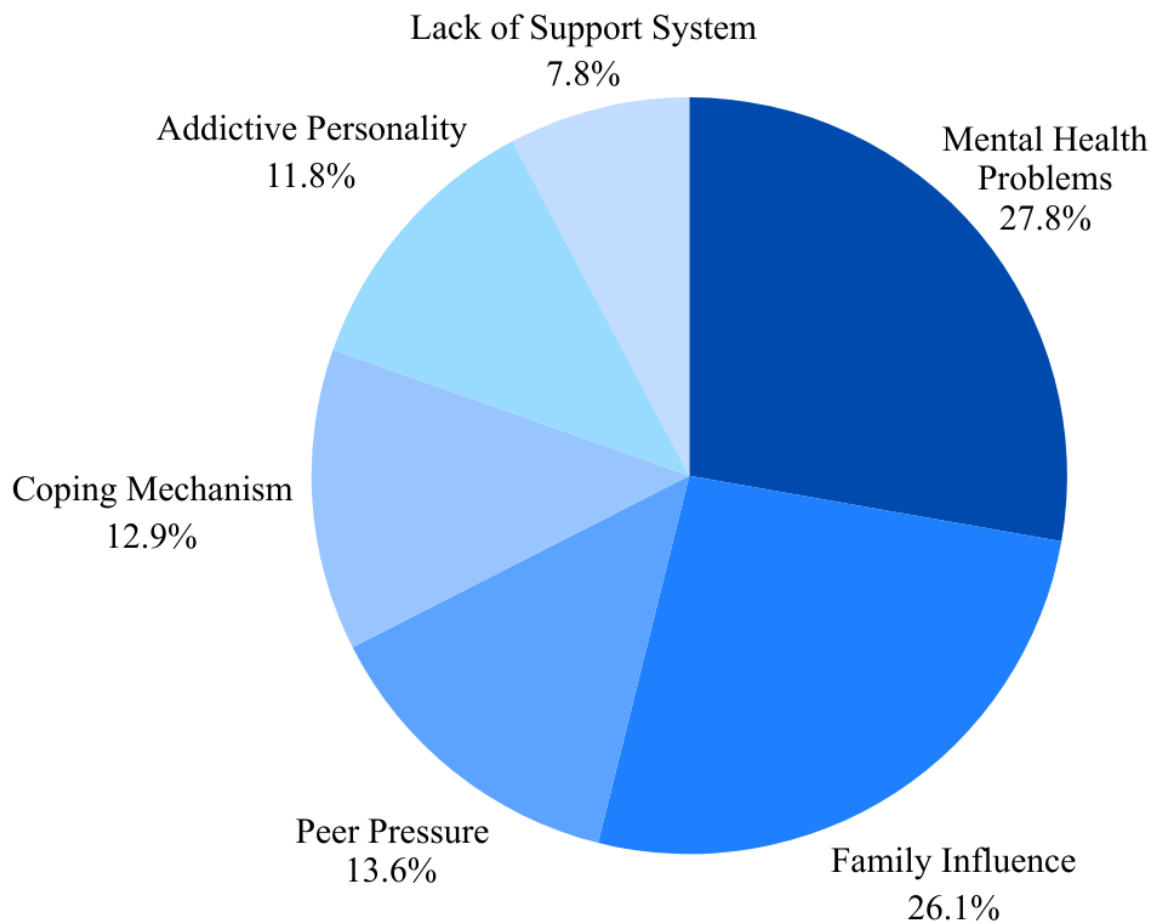


Figure 3. Predictions of SUD Development

CHAPTER 4

DISCUSSION

Overview

The present study investigated the influence of family history of substance use, personal substance use, and ACES on psychological help-seeking attitudes and perceived stigma toward individuals with SUD. As previously mentioned, prior research has established that both familial environments and early childhood experiences shape an individual's perceptions, beliefs, and attitudes toward others and toward mental health. Building on this work, the current study aimed to investigate how these factors intersect to influence students' views on treatment, stigma, and mental health support-seeking. Additionally, the present study focused exclusively on college students, whereas previous studies have rarely examined these relationships within emerging-adult student populations. As previously discussed, college students represent a high-risk group for psychological distress, substance use, and the development of mental and behavioral health concerns. It was hoped that the results of this study would be useful in informing campus-based prevention, treatment engagement, and stigma-reduction efforts for students impacted by SUD, either directly or through family exposure.

Attitudes Toward Professional Psychological Help for SUD

The qualitative findings reflected intense emotional impact, ambivalence, and mixed reactions to SUD experiences; however, these emotional responses did not translate into significant quantitative differences in attitudes toward recommending psychological treatment for SUD or stigma toward an individual with a SUD. Although many students described substantial emotional strain related to growing up with or being close to a loved one with SUD, these experiences did not appear to decrease their willingness to recommend treatment or to support an individual in recovery. The lack of statistical differences suggests that support for psychological services and endorsement of help-seeking may be widely shared across students, regardless of background factors. This may reflect broader societal shifts toward increased mental health acceptance, generational normalization of therapy, and changing stigma

norms on college campuses. Contrary to some prior research, greater exposure to adversity or substance use did not necessarily correspond to either greater empathy or greater stigma (Krendl & Perry, 2022).

Experiences of SUD exposure, as presented in the qualitative findings, were shown to be heterogeneous. For some individuals, exposure to SUD in the family cultivated compassion and insight, while for others, it contributed to resentment, distancing, or avoidance. These varying responses have the possibility of statistically averaging each other out, causing no variability in the statistical analyses. The qualitative data illustrated this concept, as some participant responses expressed empathy and understanding, whereas others expressed anger, blame, or emotional withdrawal. This suggests that family exposure to SUD does not lead to a single belief or attitude, but instead produces diverse, and sometimes contradictory, meaning-making processes, which is consistent with current research findings (Ólafsdóttir & Marinósson, 2022). Overall, the findings showed that students who grew up with SUD in their families experience complex emotional and relational outcomes and should be understood as secondary survivors of SUD-related harm, despite the impact being different for everyone in their adult years. While these relationships were not evident in the quantitative results, qualitative findings align with the theory of planned behavior, indicating that lived experiences influence empathy toward individuals with SUD, help-seeking willingness, and attitudes toward prevention and treatment.

Additionally, self-selection bias may partially explain the lack of quantitative differences, as self-selection samples may exhibit characteristics that are not representative of the general population (Heckman, 1990). This study was posted on a research pool for undergraduate students with the title “College Students' Personal Experiences and Opinions of Substance Use Disorder,” and participants were given the option to choose to participate or not. An assessment of an online survey revealed that the mean scores for participants who self-select to participate in a study may be higher than those from a random population (Khazaal et al., 2014). This is important to consider in light of the lack of quantitative results, as students who volunteered for the survey may have been more engaged, motivated, or had more extreme experiences regarding SUD, which could skew the sample and make it

less representative of the broader college student population. People with extreme positive or extreme negative experiences would be more likely to volunteer for this survey rather than students with neutral stances, thus distorting the generalizability. Only participants genuinely interested in the study's content would choose to participate, potentially limiting the ability to find statistically significant differences among groups. Given the limited representation of the broader college student population in this study, conclusions should be interpreted with caution, as misinterpretation could contribute to stigma and reduce mental health help-seeking.

Interpersonal Support and Mental Health Services

Across qualitative responses, the primary support that students identified as necessary regarding SUD-related concerns was interpersonal support and counseling or therapy. This suggests a strong need for relational validation, emotional processing, and safe spaces for reflection, in comparison to relying solely on informational resources or referral-based services, as found in previous research studies (Krendl & Perry, 2023). With these findings, students emphasized the need for safe, nonjudgmental spaces that allow for emotional processing, reflection, and trust-building. Students' repeatedly mentioning relational support suggests that they may be more likely to engage in mental health programming when services emphasize empathy and human connection (Krendl & Perry, 2023). Given the prevalence of stigma and fear of judgment surrounding substance use, the emphasis on interpersonal support may reflect students' need for services that prioritize psychological safety and trust as prerequisites for mental health help-seeking. This may indicate that students perceive "wellness" or "personal development" services as more approachable or less stigmatizing than "counseling" or "psychological services," making them more likely to engage with these supports offered. Another barrier for underrepresented students such as Latine college students may be a lack of self-efficacy in being able to effectively navigate the mental health system, communicate and be understood by mental health professionals, and cope with negative reactions of loved ones for seeking psychological services (Moore et al., 2015; Pinedo et al., 2018; Pinedo et al., 2020; Santana et al., 2023).

Additionally, the themes of interpersonal support align with literature on children of alcoholics (COAs) and adult children of alcoholics (ACOAs), particularly regarding invisible caregiving roles, family role-shifting, and emotional burden (Tedgård et al., 2019). Individuals raised in substance-affected family systems often develop heightened self-reliance, emotional suppression, and hypervigilance, which can persist in adulthood. Reflecting their developmental experiences, interpersonal support may function as a corrective relational experience, addressing invalidation in childhood, caregiver inconsistency, or emotional neglect, all of which are common in COA/ACOA contexts (Tedgård et al., 2019). This helps explain why students preferred relational over clinical/healthcare support, either formally or informally, to receive validation, genuine connection, and emotional processing when navigating concerns related to familial SUD.

The family dynamics mentioned are often characterized by role patterns such as the hero (i.e., a child who becomes an overachiever and caretaker to distract from underlying family problems, thereby creating an image of normalcy), the scapegoat (i.e., a child blamed for the family's problems), or the invisible child (i.e., a child who is often overlooked or emotionally withdrawn) (Lander et al., 2013). In these family dynamics, the child's emotional needs are minimized, and help-seeking is discouraged. For example, the hero child often suffers from high pressure, burnout, and difficulty with vulnerability as an adult; the scapegoat child often suffers from isolation, low self-esteem, and has a potential for long-term trauma; the invisible child often suffers from feelings of worthlessness and difficulty with intimacy due to their needs being ignored (Lander et al., 2013). In these environments, students may internalize the belief that their needs are unimportant, or that seeking personal support is unnecessary. These messages can persist in adulthood and influence unwillingness to access services, even when emotional distress is significant.

Many students preferred increased education and awareness surrounding their loved ones' SUD. These findings support a movement away from strictly individual treatment models and toward incorporating family-inclusive and support-inclusive approaches. Students may benefit from

psychoeducation groups, peer support for family members of individuals with SUD (similar to ACOA or Al-Anon), and trauma-informed counseling resources (Pihkala et al., 2017). Psychoeducation may normalize students' experiences, reduce self-blame and stigma, and increase insight into family dynamics, boundaries, and coping patterns commonly associated with SUD, while the peer support groups may provide the necessary validation, connection, and a sense of belonging for students. Importantly, many students explicitly named therapy as a support they wanted, challenging common assumptions that stigma prevents individuals from desiring services (Krendl & Perry, 2023). Instead, the barrier of individuals not receiving mental health treatment may solely be due to a lack of access, awareness, or appropriate outreach methods (Spata et al., 2024).

Self-Reliant Coping Mechanisms

Some participants reported that they did not need any support in relation to their loved one's substance use. While this response may reflect healthy emotional boundaries, it may also reflect emotional distancing or defensive coping strategies, such as framing the distress and dysfunction of the SUD as belonging solely to the person struggling with the illness. These responses may also signal internalized norms of self-reliance, stigma around help-seeking, or normalization of dysfunctional family environments in which substance use was present (Lander et al., 2013). For some individuals, this minimization may be linked to parentification or role reversal during childhood, where students assumed caretaking roles and learned to prioritize the needs of the individual with SUD above their own needs (Tedgård et al., 2019). Over time, these dynamics may contribute to patterns of codependency, such as relying on one's emotional and mental stability on the well-being of the family member with SUD, further complicating recognition of personal support needs (Lander et al., 2013). While these coping strategies may foster resilience and autonomy in certain contexts, they may also represent suppressed emotional needs or avoidance, placing students at increased risk for later psychosocial distress, particularly during emerging adulthood (Lander et al., 2013). Within a college setting, these patterns may contribute to delayed help-seeking and reduced engagement with available mental health

services. These findings underscore the importance of screening, outreach, and supportive programming for students who minimize or dismiss the impact of SUD on their own well-being. Normalizing ambivalence, self-reliance, and emotional detachment within prevention, education, and outreach efforts may be critical for reaching this vulnerable population and reducing long-term risk (Krendl & Perry, 2023).

Impact of Family Members' SUD

Negative emotions emerged as the most salient impact of having a family member with SUD and may represent a primary reason why many students would benefit from support services. Participants' responses reflect ongoing emotional strain rather than isolated stressors, consistent with chronic exposure to instability, unpredictability, and emotional burden within SUD-affected family systems (Lander et al., 2013). These findings align with research on disrupted attachment, emotional invalidation, and trauma-like responses among individuals exposed to familial substance use, including heightened anxiety, guilt, anger, and emotional exhaustion (Lander et al., 2013). Such patterns suggest that negative emotions are developmentally embedded and may persist in adulthood, shaping emotional regulation and vulnerability to distress. Within the college context, unresolved family-related stress may compound academic, relational, and developmental demands, increasing risk for psychosocial impairment (Welsh et al., 2019). These results emphasize the importance of trauma-informed, relationally focused on-campus services that address the emotional impact of familial SUD exposure as a key component of prevention and early intervention.

Additionally, a contrast emerged regarding witnessing a family member with a SUD. Some participants described avoidance of substances, suggesting instilled fear or protective factors, while a smaller subset reported increased personal substance use, reflecting social modeling, normalization, or self-medication pathways (Ólafsdóttir & Marinósson, 2022). These differing outcomes demonstrate that family exposure to SUD is neither fully protective nor fully risk-inducing, but the outcomes are shaped by coping styles, environmental contexts, and developmental timing (Ólafsdóttir & Marinósson, 2022).

These findings are important to consider when developing nuanced prevention programs rather than adopting one-size-fits-all approaches.

Perceived Stigma of Substance Use Disorder

Some responses expressed uncertainty about viewing SUD as a mental illness, reflecting lingering gaps in public knowledge and awareness. This uncertainty may be due to personal experiences of a family member who struggled with relapse or recidivism, contributing to perceptions that treatment is ineffective or that recovery is unlikely (Krendl & Perry, 2022). These perspectives are often reinforced by treatment models that emphasize complete abstinence, such as the 12-step or AA approach, where each relapse is seen as a complete failure instead of a common part of the recovery process (Krendl & Perry, 2023). For these uncertain students, it is essential to reframe SUD within educational and supportive contexts as a chronic, relapsing condition that necessitates ongoing management, rather than a success-failure outcome.

By emphasizing recovery as a dynamic and individualized process, psychoeducation can help students better understand the complexity of SUD, reduce stigma, and normalize the possibility of setbacks while helping them connect personal experiences with a broader clinical understanding (Krendl & Perry, 2023). This approach is critical because it reduces stigma by normalizing non-linear recovery trajectories and reframing setbacks as expected features of SUD rather than indicators of personal failure, lack of motivation, or poor willpower (Earnshaw, 2020). Such normalization is especially important in collegiate settings, where fear of judgment, academic consequences, or perceived inadequacy often deters students from seeking or continuing care, especially after lapses. Incorporating harm reduction reinforces this approach by prioritizing safety, autonomy, and incremental behavior change, which can sustain engagement in care by better meeting students at varying stages of readiness for change (Earnshaw, 2020). In relation to campus programming, integrating this into wellness initiatives, prevention efforts, and counseling outreach can enhance student engagement, promote realistic help-seeking expectations, and foster continuity of care by connecting students' lived

experiences with evidence-based clinical models of recovery (Krendl & Perry, 2023). These findings further express the need for a comprehensive, developmentally appropriate, and destigmatizing SUD education and outreach that reflects the realities of recovery, rather than perpetuating misconceptions about SUD treatment (Earnshaw, 2020).

Perceived Causes of Substance Use Disorder

Students largely conceptualized SUD as resulting from mental-health factors, environmental influences, relational dynamics, or trauma exposure. This perspective reflects a shift away from stigmatizing views and toward more health-oriented and biopsychosocial frameworks that consider multiple interacting factors in the development and maintenance of SUDs (Volkow & Blanco, 2023). Despite this, some participants still referred to ideas such as an “addictive personality”, suggesting that simplified genetic narratives and cultural stereotypes continue to exist alongside more evidence-based, nuanced understandings (Volkow & Blanco, 2023). These mixed beliefs indicate partial destigmatization, as students increasingly recognize structural, psychological, and environmental contributors to SUD while stereotypical or mainstream beliefs remain influential. This suggests that familial exposure, formal education, or increasing awareness may not fully replace the socially ingrained misconceptions of SUD. By integrating comprehensive information about biopsychosocial contributors, trauma-informed perspectives, and recovery-oriented narratives, on-campus prevention, outreach, and intervention programs can promote a more accurate understanding of SUD while reducing explanations of causation that reinforce stigma (Krendl & Perry, 2023).

Limitations of the Present Study

While the present study’s findings offered important insights, there are limitations to consider. The present study relied on self-reported experiences, which may be influenced by recall bias and participants' willingness to disclose family SUD exposure. Reported themes may also vary based on emotional closeness to the family member, the severity and chronicity of SUD, the recency of harm, or whether the family member was in recovery, and these factors were not fully captured by the study

variables. Additionally, the scales used did not specify the type of substance or contextual characteristics, which may be influenced by socioeconomic status and cultural norms (Meiselbach et al., 2022). For example, the impact of prescription drugs, street drugs, alcohol, or cigarette use varies significantly in severity and prevalence, and these patterns may intersect with SES or systemic inequities (Volkow & Blanco, 2023).

The use of convenience sampling further limits generalizability, and cultural variation in experiences may not be fully represented. All participants were college students attending one large state university in Southern California and the majority were Latinx, females, and introductory psychology students and majors. The sample may not reflect the views of SUD and seeking psychological help of the general population of U.S. college students. Although many participants were psychology majors and may have had previous education on SUD, their perspectives remain important, given their likelihood of pursuing careers in mental health-related fields. Notably, the majority of this study's sample identified as Latine students, who may experience higher rates of alcohol use and face cultural stigma toward mental health treatment and SUD acknowledgment. These factors likely influenced study results and should be considered in interpreting findings (Lee et al., 2025).

Implications and Future Directions

Future Research Directions

This study emphasized the importance of centering student voices and lived experiences rather than relying solely on researcher-defined constructs, particularly through the use of a mixed-methods design. It advanced understanding of intergenerational SUD effects, emerging adulthood, and family-system influences on attitudes toward substance use and mental health. Future research should expand on these findings by examining differences across various demographic characteristics, including ethnicity, culture, gender identity, sexual orientation, first-generation status, and type of substance exposure, as well as by diversifying recruitment strategies. Given potential ceiling effects in quantitative measures, future studies may benefit from more sensitive scales, implicit stigma assessments, or

vignette-based methods. Additional work is needed to explore protective resilience pathways and to evaluate whether campus-based support interventions are effectively reaching students who are affected by familial or environmental SUD.

Future Clinical Directions

The findings suggest strong potential value in campus-based support groups for students impacted by family SUD, psychoeducation workshops on trauma exposure and coping strategies, and peer-facilitated discussion spaces. Bridge referrals to community-based supports, such as Al-Anon or family recovery programs, may further enhance access to ongoing resources. Counselor training in family-system trauma, ambiguous loss, and caregiver identity in emerging adults may improve service responsiveness. Additionally, shifting toward compassion-oriented and harm-reduction approaches, rather than solely abstinence-focused models, may foster greater trust and treatment engagement. Students' responses implied barriers related to access, limited awareness, mistrust of systems, and uncertainty about dual-diagnosis treatment approaches. These dynamics express the need for integrated, coordinated care rather than fragmented or competing treatment philosophies.

Concluding Remarks

As mentioned in my researcher positionality, I am a graduate college student with personal and family history related to substance use and elevated ACEs. With this background, I was interested in understanding whether these experiences contribute to greater or lesser empathy toward individuals with SUD. These experiences influenced my decision to pursue a career in clinical psychology and work toward licensure as a marriage and family therapist and licensed professional clinical counselor. In my current role as a clinical trainee working with inpatient and outpatient SUD populations, I interact with diverse individuals from a wide range of backgrounds and identities. Through this work, I have observed the persistent barriers many individuals face when seeking psychological services, as well as the stigma they have internalized from societal messages and lived experiences. I wanted to draw on these observations to better understand how such factors may relate to mental health development, help-

seeking behaviors, and the kinds of support that would be most meaningful and effective for those impacted by SUD.

The findings of this mixed-methods study highlight the ongoing need for accessible mental health services, preventive efforts, and outreach programs on college campuses. It is hoped that these results will contribute to a deeper understanding of students' attitudes toward SUD, perceptions of people who struggle with SUD, and their views on helpful resources and treatment approaches. These insights may be useful for college health professionals, university administrators, and peer leaders in developing prevention strategies, implementing harm-reduction programming, and increasing support options for at-risk students. As SUD remains prevalent among college populations, understanding the factors that shape student attitudes and experiences is crucial for mitigating long-term impacts and promoting supportive campus environments. Greater access to and awareness of mental health services may reduce stigma and psychological distress, ultimately encouraging students to value self-care, interpersonal support, and help-seeking during this formative stage of life.

APPENDIX A

INFORMED CONSENT AND SCREENING QUESTIONS

College Students' Personal Experiences and Opinions of Substance Use Disorder

[HSR-24-25-102]

Informed Consent

Please note: You must be at least 18 years of age to consent to participate in this research project and a current college student attending a US college or university.

This project, “College Students' Personal Experiences and Opinions of Substance Use Disorder”, is being conducted by Principal Investigator and California State University, Fullerton (CSUF) Master of Science in Clinical Psychology Graduate Student Katelyn Hancock under the advisement of Psychology Professor & Clinical Psychologist Lisa Mori, Ph.D., and her research assistants. It involves assessing knowledge of substance use disorders, attitudes toward those diagnosed with substance use disorders, and views of substance use disorder treatment. Participation in this study entails completing an online survey which will take about 15-30 minutes. In this study, you will be asked to provide information about yourself including but not limited to age, gender, ethnicity, college major, etc. Next, you will be asked to complete questions about substance use disorders and treatment, which includes reading and answering questions about any family history of substance use and the personal impact it had on you. Finally, questions will be asked about your personal substance use history.

Again, this study is assessing college students’ mental health knowledge and attitudes toward substance use disorders and treatment. If you have any questions about the online survey, please email Principal Investigator Katelyn Hancock at <[REDACTED]@csu.fullerton.edu>

This protocol contains no foreseeable risks. Although unlikely, the topic of the study may cause stress or discomfort for some. For CSUF students, should you be distressed by your participation in the study, you may contact the CSUF Counseling and Psychological Services (CAPS) Center by phone at (657) 278-3040 or via website <https://www.fullerton.edu/caps/>, or visit in-person at 1111 N. State College Blvd (CAPS is located in Titan Hall, which is across State College Blvd. from the main campus and opposite Titan Student Union). Non-CSUF participants may visit the National Alliance on Mental Illness online at <https://nami.org/help>. For mental health emergencies, call 988. Should you find yourself in a crisis, you may access free crisis counseling support 24/7 through the Crisis Text Line by texting “HOME” to 741741 or through the National Suicide Prevention Lifeline by texting 988 or calling (800) 273-8255.

The study has been approved by the Institutional Review Board at California State University, Fullerton, and is conducted within legal and ethical standards of research involving human participants. If you have any questions about your rights as a human participant in research, please contact the CSUF Institutional Review Board at <irb@fullerton.edu> or by phone at (657) 278-7719.

The information you provide is confidential and will be used for research purposes only. All data is stored electronically in PI Hancock’s and Dr. Mori’s CSUF-secured accounts for up to 5 years post-presentation/publication. Only PI Hancock, Dr. Mori, and her research assistants will have access to the data. Your confidentiality will be protected to the extent possible by law.

You may refuse to answer any question or terminate your participation in the study at any time without penalty.

[CSUF Psychology students only: If you choose not to participate after reading this consent form or if you end your participation prematurely or skip/randomly answer many questions, you will not receive credit.]

I have carefully read this consent form. By clicking on the "I AGREE" button, I agree that I am at least 18 years of age and a current college student attending a U.S. college or university, and choose to participate in this project.

☐ I AGREE (1)

☐ I DO NOT AGREE (2)

Are you 18 years of age or older?

☐ Yes (1)

☐ No (2)

Are you currently a student attending a U.S. college or university?

☐ Yes (1)

☐ No (2)

APPENDIX B

DEMOGRAPHICS

Please answer the following demographic questions.

Age _____

Gender

Male (1)

Female (2)

Non-binary / Gender Non-Conforming (3)

Transgender (4)

Other (Please Specify) (5) _____

Sexual Orientation

Asexual (1)

Bisexual (2)

Homosexual (gay / same sex) (3)

Questioning or unsure (4)

Heterosexual (straight / opposite sex) (5)

Prefer not to disclose (6)

Other (Please specify) (7) _____

Ethnicity

African American / Black American (1)

Arab / Middle Eastern / North African (AMENA) or Southwest Asian / North African (SWANA) (2)

American Indian / Alaska Native (AIAN) / Indigenous North American (3)

Asian / Asian American (4)

Latine / Latinx / Latino(a) / Hispanic (5)

Native Hawaiian Pacific Islander (NHPI) / Pacifica (6)

Non-Hispanic White / Anglo American (7)

South Asian / Asian Indian / Indian American (8)

Bi-Ethnic / Multi-Ethnic (9)

Other (Please Specify) (10) _____

Annual Household Income

Under \$15,000 (1)

\$15,000 - \$24,000 (2)

\$25,000 - \$34,000 (3)

\$35,000 - \$49,000 (4)

\$50,000 - \$74,000 (5)

\$75,000 - \$99,000 (6)

\$100,000 - \$149,000 (7)

\$150,000 - \$199,000 (8)

\$200,000 or more (9)

College Major (Please fill in with specific major)

Arts (1) _____

Business & Economics (2) _____

Communication (3) _____

Education (4) _____

Engineering & Computer Science (5) _____

Health & Human Development (6) _____

Humanities & Social Sciences (7) _____

Natural Sciences & Mathematics (8) _____

APPENDIX C

ATTITUDES TOWARD SEEKING PROFESSIONAL PSYCHOLOGICAL HELP SCALE – SHORT FORM SUBSTANCE USE DISORDER MODIFICATION (ATP-SF_SUD)

Below are a number of statements pertaining to psychology and mental health issues. Read each statement carefully and indicate your agreement, probable agreement, probable disagreement or disagreement. There are no “wrong” answers, and the only right ones are whatever you honestly feel or believe. It is important that you answer every item.

	Disagree (1)	Probably Disagree (2)	Probably Agree (3)	Agree (4)
If I believed I was having a mental breakdown, my first inclination would be to get professional attention. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in psychotherapy. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is something admirable in the attitude of a person who is willing to cope with his or her or their conflicts and fears without resorting to professional help. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would want to get psychological help if I were worried or upset for a long period of time. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I might want to have psychological counseling in the future. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A person with an emotional problem is not likely to solve it alone; he or she or	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

they is/are likely to solve it with professional help. (7)

Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me. (8)

A person should work out his or her or
their own problems; getting
psychological counseling would be a
last resort. (9)

Personal and emotional troubles, like many things, tend to work out by themselves. (10)

If I believed that I had a problem with substance use, my first inclination would be to ask for professional help.

(11)

If I were experiencing serious problems with substance use, I would be confident that I could find help with psychotherapy. (12)

A person should work out a substance use problem on their own; getting psychological counseling would be a last resort. (13)

I would want to get psychological help if I were struggling with substance use for a long period of time. (14)

Substance use problems, like many things, tend to work out by themselves.

(15)

APPENDIX D

PERCEIVED SUBSTANCE ABUSE STIGMA SCALE (PSAS)

Please read each statement carefully and circle the number below the item that indicates the degree of your agreement or disagreement with each statement. Please use the scale below, and please do not omit any item.

	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)
Most people would willingly accept someone who has been treated for substance use as a close friend. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people believe that someone who has been treated for substance use is just as trustworthy as the average citizen. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people would accept someone who has been treated for substance use as a teacher of young children in a public school. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people would hire someone who has been treated for substance use to take care of their children. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people think less of a person who has been in treatment for substance use. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most employers will hire someone who has been treated for substance use if he or she is qualified for the job. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Most employers will pass over the application of someone who has been treated for substance use in favor of another applicant. (7)



Most people would be willing to date someone who has been treated for substance use. (8)



APPENDIX E**ALCOHOL USE DISORDERS IDENTIFICATION TEST (AUDIT)**

The following questions will be utilized to assess alcohol intake. As a reminder, your responses are anonymous and confidential. Please consider if any of these experiences have happened to you in the past, then choose the appropriate response.

[One drink = 12 ounces of beer, 5 ounces of wine, or one shot (1.5 ounces) of liquor.]

How often do you have a drink containing alcohol?

- ☐ Never (1)
- ☐ Monthly or less (2)
- ☐ 2-4 times a month (3)
- ☐ 2-3 times a week (4)
- ☐ 4 or more times a week (5)

How many drinks containing alcohol do you have on a typical day when you are drinking?

- ☐ 0-2 (1)
- ☐ 3 or 4 (2)
- ☐ 5 or 6 (3)
- ☐ 7-9 (4)
- ☐ 10 or more (5)

How often do you have five or more drinks on one occasion?

- ☐ Never (1)
- ☐ Less than monthly (2)
- ☐ Monthly (3)
- ☐ Weekly (4)
- ☐ Daily or almost daily (5)

How often during the last year have you found that you were not able to stop drinking once you had started?

- ☐ Never (1)
- ☐ Less than monthly (2)
- ☐ Monthly (3)
- ☐ Weekly (4)
- ☐ Daily or almost daily (5)

How often during the year have you failed to do what was normally expected of you because of drinking?

- ☐ Never (1)
- ☐ Less than monthly (2)
- ☐ Monthly (3)
- ☐ Weekly (4)
- ☐ Daily or almost daily (5)

How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

- ☐ Never (1)
- ☐ Less than monthly (2)
- ☐ Monthly (3)
- ☐ Weekly (4)
- ☐ Daily or almost daily (5)

How often during the last year have you had a feeling of guilt or remorse after drinking?

- ☐ Never (1)
- ☐ Less than monthly (2)

- ☐ Monthly (3)
- ☐ Weekly (4)
- ☐ Daily or almost daily (5)

How often during the last year have you been unable to remember what happened the night before because of your drinking?

- ☐ Never (1)
- ☐ Less than monthly (2)
- ☐ Monthly (3)
- ☐ Weekly (4)
- ☐ Daily or almost daily (5)

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

- ☐ No (1)
- ☐ Yes, but not in the last year. (2)
- ☐ Yes, in the last year. (3)

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

- ☐ No (1)
- ☐ Yes, but not in the last year. (2)
- ☐ Yes, in the last year. (3)

Have you ever been in treatment for an alcohol problem?

- ☐ Never (1)
- ☐ Currently (2)
- ☐ In the past (3)

APPENDIX F

**DRUG ABUSE SCREENING TEST –
10 ITEM VERSION (DAST-10)**

The following questions will be utilized to assess alcohol intake. As a reminder, your responses are anonymous and confidential. Please consider if any of these experiences have happened to you in the past, then choose the appropriate response.

["Drug use" refers to (1) the use of prescribed or over-the-counter drugs in excess of the directions, and (2) any nonmedical use of drugs. The various classes of drugs may include cannabis (marijuana, hashish), solvents (e.g., paint thinner), tranquilizers (e.g., Valium), barbiturates, cocaine, stimulants (e.g., speed), hallucinogens (e.g., LSD) or narcotics (e.g., heroin). The questions do not include alcoholic beverages.]

	Yes (1)	No (2)
Have you used drugs other than those required for medical reasons? (1)	<input type="radio"/>	<input type="radio"/>
Do you use more than one drug at a time? (2)	<input type="radio"/>	<input type="radio"/>
Are you always able to stop using drugs when you want to? (3)	<input type="radio"/>	<input type="radio"/>
Have you had "blackouts" or "flashbacks" as a result of drug use? (4)	<input type="radio"/>	<input type="radio"/>
Do you ever feel bad or guilty about your drug use? (5)	<input type="radio"/>	<input type="radio"/>
Does your partner (or parents) ever complain about your involvement with drugs? (6)	<input type="radio"/>	<input type="radio"/>
Have you neglected your family because of your use of drugs? (7)	<input type="radio"/>	<input type="radio"/>
Have you engaged in illegal activities in order to obtain drugs? (8)	<input type="radio"/>	<input type="radio"/>
Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs? (9)	<input type="radio"/>	<input type="radio"/>
Have you had medical problems as a result of your drug use (e.g., memory loss, hepatitis, convulsions, bleeding, etc.)? (10)	<input type="radio"/>	<input type="radio"/>

APPENDIX G

ADVERSE CHILDHOOD EXPERIENCES (ACES)

The purpose of the following questions are to gain an understanding of how childhood relationships and experiences affect health and well-being. Please consider if any of these experiences have occurred before your 18th birthday, then choose the appropriate response.

	Yes (1)	No (2)
Did you feel that you didn't have enough to eat, had to wear dirty clothes, or had no one to protect or take care of you? (1)	<input type="radio"/>	<input type="radio"/>
Did you lose a parent through divorce, abandonment, death, or other reason? (2)	<input type="radio"/>	<input type="radio"/>
Did you live with anyone who was depressed, mentally ill, or attempted suicide? (3)	<input type="radio"/>	<input type="radio"/>
Did you live with anyone who had a problem with drinking or using drugs, including prescription drugs? (4)	<input type="radio"/>	<input type="radio"/>
Did your parents or adults in your home ever hit, punch, beat, or threaten each other? (5)	<input type="radio"/>	<input type="radio"/>
Did you live with anyone who went to jail or prison? (6)	<input type="radio"/>	<input type="radio"/>
Did a parent or adult in your home ever swear at you, insult you, or put you down? (7)	<input type="radio"/>	<input type="radio"/>
Did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any way? (8)	<input type="radio"/>	<input type="radio"/>
Did you feel that no one in your family loved you or thought you were special? (9)	<input type="radio"/>	<input type="radio"/>
Did you experience unwanted sexual contact (such as fondling or oral/anal/vaginal intercourse/penetration)? (10)	<input type="radio"/>	<input type="radio"/>

APPENDIX H**FAMILY HISTORY**

The following questions are to gain an understanding of how family dynamics and exposure to substance abuse may affect knowledge and perception. Please consider family experiences and exposure that may have happened to you in the past, then choose the appropriate response.

Does someone in your family have/had substance use disorder or abuse substances (currently or in the past)?

☐ Yes (1)

☐ No (2)

If yes, please specify whom. If no, select none.

☐ Mother (1)

☐ Father (2)

☐ Sibling (Brother, Sister, Step Sibling, Half Sibling) (3)

☐ Grandparent (Mother's Side) (4)

☐ Grandparent (Father's Side) (5)

☐ Aunt / Uncle (6)

☐ Cousin (7)

☐ None (8)

☐ Other (Please Specify) (9) _____

Please consider the questions and choose the appropriate response.

	Yes (1)	No (2)
Do you feel the need to keep your relative's substance use a secret from others? (1)	<input type="radio"/>	<input type="radio"/>
Do you still have a relationship with the family member that has substance use disorder? (2)	<input type="radio"/>	<input type="radio"/>
Do you use substances, even with knowledge of family history as a risk factor? (3)	<input type="radio"/>	<input type="radio"/>

What treatment do you believe works best for someone struggling with substance use disorder? **(Please rank: 1 = Best / Most Effective; 7 = Non / Least Effective)**

- _____ Finding Distractions / Work / Staying Busy (1)
- _____ Other (Please Specify) (2)
- _____ Psychotherapy / Counseling (3)
- _____ Prescription Medications (4)

You have reached the final questions. We ask that you take serious thought and consideration into your written answers. Please answer carefully and honestly.

What support do you need as a family member of someone with substance use disorder?

How has your loved one's substance use affected you personally?

What do you predict is the biggest factor in developing substance use disorder?

APPENDIX I

FAMILY HISTORY CODING MANUAL

Coding Manual

Themes Tables

Table I1.

What support do you need as a family member of someone with substance use disorder?

Themes	Description	Examples
Counseling / Therapy	<i>Seeking mental health treatment of any facet</i>	“I think therapy would be perfect to heal traumas from being around someone with a substance use disorder.”
Interpersonal Support	<i>Support/comfort from other individuals</i>	“A supporting group and people to rely on if things get out of hand for myself or the other intoxicated individual.”
Awareness / Education	<i>Resources to understand SUD as an illness and treatment options</i>	“Learning about mental illnesses and treatment options is the support one needs as a family member of someone with substance use disorder.”
None	<i>Doesn't want/need support</i>	“I wouldn't say I need support.”

Table I2.

How has your loved one's substance use affected you personally?

Themes	Subthemes	Description	Examples
Negative Emotions		<i>Reporting any negative affect</i>	“I did feel overwhelmed by emotions such as anger, fear, and sadness. I will always see alcohol/drugs as a poison, ready to ruin someone's life.”
	Anger / Frustration	<i>Being frustrated with the family member, the situation, or oneself</i>	“It destroyed the relationship I had with them. They're no longer a person or my father in my eyes since now he only cares about alcohol”

Sadness / Empty / Numb	<i>Feelings of sadness or sorrow due to various factors</i>	“My loved one's substance use has affected me personally in many ways. It's been emotionally draining, as I constantly worry about their well-being and feel sad seeing them struggle.”
Worry / Stress / Anxiety / Fear	<i>Having concerns or worries about the family member or the situation</i>	“I think it's always affected me, not knowing whether your brother would be alive is pretty difficult.”
Disconnect / Lonely / Hopeless	<i>Feeling a lack of support, motivation, or hope about the situation</i>	“My loved one's substance has affected me drastically. It hurts me to see them down this substance knowing it hurts them. Seeing them take this drug, hurts me and breaks my heart because there is nothing I can do. It's almost as if I'm losing my other half.”
Legal Issues / Major Consequences	<i>Any external impacts or consequences due to SUD</i>	“Yes, it has caused arson, theft, death.” “My father who was an alcoholic died from drunk driving so it has taken a toll on my mental health”
Guilt / Shame / Sense of Responsibility	<i>Feelings of responsibility about the family member's substance abuse</i>	“I feel it is my responsibility to help them because no one is taking action to do so. Since I am observing how their substance use has affected them, I feel as if I am a part of the problem because I am observing their behavior and not taking the proper steps to help them.”
Avoidance of Substances	<i>Not engaging in drinking, drug use, or certain environments surrounding it</i>	“It's made me not ever want to drink or do drugs. I get anxious when around people who are drunk.”
Personal Substance Use	<i>Increased personal substance use</i>	“It introduced me to substances at a young age and I processed all of that too young and inevitably started to try some things.”
None	<i>No reportable impact</i>	“I have not been affected significantly because I do not know them well”

Table I3.

What do you predict is the biggest factor in developing substance use disorder?

Themes	Subthemes	Description	Examples
Family Influence		<i>Culture, environment, familial relationships, family experiences</i>	“Family upbringing and if they were exposed to it early.”
	Childhood Conflict	<i>Any mention of negative childhood experiences</i>	“Childhood and the way parents treat their children.”
	Home Environment	<i>Household influence at any point in time</i>	“I think the biggest factor in developing substance use disorder is the household you live in and the people you surround yourself with.”
	Abuse / Neglect	<i>Any form of abuse or toxic relationships</i>	“Sexual/physical abuse, negligence, and no home/family structure.”
Mental Health		<i>Anything regarding mental struggles or negative affect</i>	“Trauma, high-stress levels, depression, loss of job”
Lack of Support System		<i>Not having interpersonal support, a community, or someone to rely on</i>	“Loneliness or a lack of support.”
Coping Mechanism		<i>Using substances to cope with life stressors, mental illness, emotions, etc.</i>	“Emotional pain they do not know how to cope with”
Peer Pressure		<i>Wanting to fit in socially, living in an environment where substance use is common, surrounded by others who use drugs or alcohol</i>	“People at school or in the community pressuring you to try it. It may become a sensation to keep using it and spread quickly.”
Addictive Personality		<i>Experimenting, prescriptions, and personality traits cause an individual to be more vulnerable to SUD</i>	“I think people get addicted to prescription medications or pain medications.”

APPENDIX J

THANKS AND DEBRIEFING

College Students' Personal Experiences and Opinions of Substance Use Disorder

[HSR-24-25-102]

Thanks & Debriefing Page

Thank you for participating in the survey!

The purpose of this study is to examine college students' personal experiences and opinions of substance use disorder. We hope that this study's findings will not only serve to contribute to existing literature but may help college administrators and health professionals gain a better understanding of diverse college students who may or may not have family histories of substance use disorder (SUD) and who may or may not themselves be struggling with substance abuse or other varying mental health issues. Results may be helpful in how to best provide more education and resources to at-risk students.

We ask that you maintain confidentiality about the purpose of this study and avoid discussing it with other students. Any pre-knowledge of the purpose of the study will bias data for that person and therefore cannot be used.

If answering any of these questions led you to feel distressed and you would like to speak to someone about your thoughts, please contact one of the following:

CSUF Students: Counseling and Psychological Services (CAPS) Center – Titan Hall (across State College Blvd from the main campus and directly opposite Titan Student Union) 1111 N. State College Blvd., 1st & 3rd Floor - Crisis Services Available (657) 278-3040; <https://www.fullerton.edu/caps/>

National Alliance on Mental Illness Text line, text "HOME" to 741741; <https://nami.org/help>

National Suicide Prevention Lifeline 988 or (800) 273-8255; <https://988lifeline.org/>

If you believe that you or someone you know may be struggling with substance use and would like to speak to someone, please contact one of the following:

Substance Abuse and Mental Health Services Administration (SAMHSA) National Helpline (800) 662-4357; <https://www.samhsa.gov/find-help/national-helpline>

National Rehab Hotline (866) 210-1303; <https://nationalrehabhotline.org/>

California Drug Addiction Hotline (844) 289-0879; <https://drughelpline.org/drug-addiction-hotline/california/> 2-11 California Dial211 or text zip code to 898211; <https://www.211ca.org/>

Thank you again for your participation!

REFERENCES

- Abad, S. S. M., Jadgal, K., & Movahed, E. (2017). Application of planned behavior theory to predict drug abuse related behaviors. *Journal of Community Health Research*, 6(1), 44–52.
<https://applications.emro.who.int/imemrf/689/JCommunity-Health-Res-2017-6-1-44-52-eng.pdf>
- American Psychiatric Association. (2022). Substance-related and addictive disorders. In *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.).
https://doi.org/10.1176/appi.books.9780890425787.x16_Substance_Related_Disorders
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. *Action Control*, 11–39.
https://doi.org/10.1007/978-3-642-69746-3_2
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Arun, P., Chavan, B. S., & Kaur, H. (2004). A study of reasons for not seeking treatment for substance abuse in community. *Indian Journal of Psychiatry*, 46(3), 256–260.
- Assistant Secretary for Public Affairs (ASPA) (2024). *Samhsa releases annual national survey on drug use and health*. HHS. <https://www.hhs.gov/about/news/2024/07/30/samhsa-releases-annual-national-survey-drug-use-and-health.html>
- Austin, M. A., & Villarosa-Hurlocker, M. C. (2021). Drinking patterns of college students with comorbid depression and anxiety symptoms: The moderating role of gender. *Journal of Substance Use*, 26(6), 650–656. <https://doi.org/10.1080/14659891.2021.1879291>
- Beseler, C. L., Aharonovich, E., Keyes, K. M., & Hasin, D. S. (2008). Adult transition from at-risk drinking to alcohol dependence: The relationship of family history and drinking motives. *Alcoholism: Clinical and Experimental Research*, 32(4), 607–616.
<https://doi.org/10.1111/j.1530-0277.2008.00619.x>
- Booth, B. M., Stewart, K. E., Curran, G. M., Cheney, A. M., & Borders, T. F. (2014). Beliefs and attitudes regarding drug treatment: Application of the theory of planned behavior in African American cocaine users. *Addictive behaviors*, 39(10), 1441–1446.
<https://doi.org/10.1016/j.addbeh.2014.05.012>
- Broekhof, R., Nordahl, H. M., Tanum, L., & Selvik, S. G. (2023). Adverse childhood experiences and their association with substance use disorders in adulthood: A general population study (young-hunt). *Addictive Behaviors Reports*, 17, 100488. <https://doi.org/10.1016/j.abrep.2023.100488>
- Centers for Disease Control and Prevention. (2024). *Fast facts: Preventing adverse childhood experiences*. <https://www.cdc.gov/aces/prevention/index.html>
- Chun Tie, Y., Birks, M., & Francis, K. (2019). Grounded theory research: A design framework for novice researchers. *SAGE Open Medicine*, 7, 2050312118822927.
<https://doi.org/10.1177/2050312118822927>
- Cleveland Clinic. (2022). *Substance use disorder (SUD): Symptoms & treatment*. Cleveland Clinic.
<https://my.clevelandclinic.org/health/diseases/16652-drugaddiction-substance-use-disorder-sud>

- Craig, F., Servidio, R., Calomino, M. L., Candreva, F., Nardi, L., Palermo, A., Polito, A., Spina, M. F., Tenuta, F., & Costabile, A. (2023). Adverse childhood experiences and mental health among students seeking psychological counseling services. *International Journal of Environmental Research and Public Health*, 20(10), 5906. <https://doi.org/10.3390/ijerph20105906>
- Cross, G. (2025, April 16). Where is marijuana legal in the US? Here's which states have legalized weed as 4/20 approaches. *USA Today*. <https://www.usatoday.com/story/news/health/2025/04/16/which-states-legal-weed-marijuana/83086694007/>
- Cservenka, A. (2016). Neurobiological phenotypes associated with a family history of alcoholism. *Drug and Alcohol Dependence*, 158, 8–21. <https://doi.org/10.1016/j.drugalcdep.2015.10.021>
- Daepfen, J. B., Yersin, B., Landry, U., Pécoud, A., & Decrey, H. (2000). Reliability and validity of the Alcohol Use Disorders Identification Test (AUDIT) imbedded within a general health risk screening questionnaire: results of a survey in 332 primary care patients. *Alcoholism, Clinical and Experimental Research*, 24(5), 659–665. <https://pubmed.ncbi.nlm.nih.gov/10832907/>
- Davis, Jr., E., Hansen, C., & Alas, H. (2024). Where is marijuana legal? A guide to marijuana legalization. *U.S. News & World Report*. https://www.usnews.com/news/best-states/articles/where-is-marijuana-legal-a-guide-to-marijuana-legalization#google_vignette
- Earnshaw V. A. (2020). Stigma and substance use disorders: A clinical, research, and advocacy agenda. *The American psychologist*, 75(9), 1300–1311. <https://doi.org/10.1037/amp0000744>
- Elhai, J. D., Schweinle, W., & Anderson, S. M. (2008). Reliability and validity of the Attitudes Toward Seeking Professional Psychological Help Scale-Short Form. *Psychiatry Research*, 159(3), 320–329. <https://doi.org/10.1016/j.psychres.2007.04.020>
- Farhoudian, A., Razaghi, E., Hooshyari, Z., Noroozi, A., Pilevari, A., Mokri, A., Mohammadi, M. R., & Malekinejad, M. (2022). Barriers and facilitators to substance use disorder treatment: An overview of systematic reviews. *Substance abuse: Research and Treatment*, 16, 11782218221118462. <https://doi.org/10.1177/11782218221118462>
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. *American Journal of Preventive Medicine*, 14(4), 245–258. [https://doi.org/10.1016/s0749-3797\(98\)00017-8](https://doi.org/10.1016/s0749-3797(98)00017-8)
- Fischer, E. H., & Farina, A. (1995). Attitudes toward seeking professional psychological help: A shortened form and considerations for research. *Journal of College Student Development*, 36(4), 368–373
- Fischer, E. H., & Turner, J. L. (1970). Orientations to seeking professional help: Development and research utility of an attitude scale. *Journal of Consulting and Clinical Psychology*, 35(1), 79–90.
- Flores, G. (2024). *College Student Dropout Rate*. Learnopoly. <https://learnopoly.com/college-dropout-rate/>

- Grant, J. E., & Chamberlain, S. R. (2020). Family history of substance use disorders: Significance for mental health in young adults who gamble. *Journal of behavioral addictions*, 9(2), 289–297. <https://doi.org/10.1556/2006.2020.00017>
- Harrington, M., Robinson, J., Bolton, S.-L., Sareen, J., & Bolton, J. M. (2011). A longitudinal study of risk factors for incident drug use in adults: findings from a representative sample of the US population. *The Canadian Journal of Psychiatry*, 56(11), 686–695. doi:10.1177/070674371105601107
- Hatoum, A. S., Colbert, S. M. C., Johnson, E. C., Huggett, S. B., Deak, J. D., Pathak, G. A., Jennings, M. V., Paul, S. E., Karcher, N. R., Hansen, I., Baranger, D. A. A., Edwards, A., Grotzinger, A. D., Tucker-Drob, E. M., Kranzler, H. R., Davis, L. K., Sanchez-Roige, S., Polimanti, R., Gelernter, J., & Edenberg, H. J. (2023). Multivariate genome-wide association meta-analysis of over 1 million subjects identifies loci underlying multiple substance use disorders. *Nature Mental Health*, 1(3), 210–223. <https://doi.org/10.1038/s44220-023-00034-y>
- Heckman J.J. (1990) Selection bias and self-selection. In J. Eatwell, M. Milgate, & P. Newman (Eds.), *Econometrics* (pp. 287–296). Palgrave Macmillan.
- Karatekin, C. (2017). Adverse childhood experiences (ACES), stress and mental health in college students. *Stress and Health*, 34(1), 36–45. <https://doi.org/10.1002/smi.2761>
- Khazaal, Y., van Singer, M., Chatton, A., Achab, S., Zullino, D., Rothen, S., Khan, R., Billieux, J., & Thorens, G. (2014). Does self-selection affect samples' representativeness in online surveys? An investigation in online video game research. *Journal of Medical Internet Research*, 16(7), 1–11. <https://doi.org/10.2196/jmir.2759>
- Kodish, T., Lau, A. S., Gong-Guy, E., Congdon, E., Arnaudova, I., Schmidt, M., Shoemaker, L., & Craske, M. G. (2022). Enhancing racial/ethnic equity in college student mental health through innovative screening and treatment. *Administration and Policy in Mental Health*, 49(2), 267–282. <https://doi.org/10.1007/s10488-021-01163-1>
- Krendl, A. C., & Perry, B. L. (2023). Stigma toward substance dependence: causes, consequences, and potential interventions. *Psychological Science in the Public Interest*, 24(2), 90–126. <https://doi.org/10.1177/15291006231198193>
- Krendl, A. C., & Perry, B. L. (2022). Addiction onset and offset characteristics and public stigma toward people with common substance dependencies: A large national survey experiment. *Drug and Alcohol Dependence*, 237, 109503. <https://doi.org/10.1016/j.drugalcdep.2022.109503>
- Kulesza, M., Larimer, M. E., & Rao, D. (2013). Substance use related stigma: what we know and the way forward. *Journal of Addictive Behaviors, Therapy & Rehabilitation*, 2(2), 782. <https://doi.org/10.4172/2324-9005.1000106>
- Lamm, D. (2024). *Strengthening mental health support for students*. NAMI. <https://www.nami.org/kids-teens-young-adults/strengthening-mental-health-support-for-students/>
- Lander, L., Howsare, J., & Byrne, M. (2013). The impact of substance use disorders on families and children: from theory to practice. *Social Work in Public Health*, 28(3-4), 194–205. <https://doi.org/10.1080/19371918.2013.759005>

- Lee, C. S., Cordova-Ramos, E. G., Rohsenow, D. J., Mueser, K. T., Pace, C. A., Martin, R., Colby, S. M., Lopez, V., Morris, M., Morgan, J. R., Kriegsman, A., & Drainoni, M. L. (2025). Care management staff perspectives on stigma and barriers to substance use treatment experienced by Latine adults who use substances. *Drug and Alcohol Dependence Reports*, 15, 100342. <https://doi.org/10.1016/j.dadr.2025.100342>
- Link, B. G., & Phelan, J. C. (2006). Stigma and its public health implications. *Lancet (London, England)*, 367(9509), 528–529. [https://doi.org/10.1016/S0140-6736\(06\)68184-1](https://doi.org/10.1016/S0140-6736(06)68184-1)
- Luoma, J., Drake, C. E., Kohlenberg, B. S., & Hayes, S. C. (2010). Substance abuse and psychological flexibility: The development of a new measure. *Addiction Research & Theory*, 19(1), 3–13. <https://doi.org/10.3109/16066359.2010.524956>
- Mallard, T. T., Savage, J. E., Johnson, E. C., Huang, Y., Edwards, A. C., Hottenga, J. J., Grotzinger, A. D., Gustavson, D. E., Jennings, M. V., Anokhin, A., Dick, D. M., Edenberg, H. J., Kramer, J. R., Lai, D., Meyers, J. L., Pandey, A. K., Harden, K. P., Nivard, M. G., de Geus, E. J. C., Boomsma, D. I., ... Sanchez-Roige, S. (2022). Item-level genome-wide association study of the alcohol use disorders identification test in three population-based cohorts. *The American Journal of Psychiatry*, 179(1), 58–70. <https://doi.org/10.1176/appi.ajp.2020.20091390>
- Mak, H. W., & Davis, J. M. (2014). The application of the theory of planned behavior to help-seeking intention in a Chinese society. *Social Psychiatry and Psychiatric Epidemiology*, 49(9), 1501–1515. <https://doi.org/10.1007/s00127-013-0792-x>
- Miller, L. (2024). *Substance abuse treatment types & therapy programs*. American Addiction Centers. <https://americanaddictioncenters.org/therapy-treatment>
- Meiselbach, M. K., Kennedy-Hendricks, A., Schilling, C., Busch, A. B., Huskamp, H. A., Stuart, E. A., Hollander, M. A. G., Barry, C. L., & Eisenberg, M. D. (2022). High deductible health plans and spending among families with a substance use disorder. *Drug and Alcohol Dependence*, 241, 109681. <https://doi.org/10.1016/j.drugalcdep.2022.109681>
- Merriam, S. B. (2002). *Qualitative research in practice: Examples for discussion and analysis* (1st ed.). Jossey-Bass.
- Moore, C. D., Schofield, C., van Rooyen, D. R. M., & Andersson, L. M. C. (2015). Development and preliminary validation of a scale to measure self-efficacy in seeking mental health care (SE-SMHC). *SpringerPlus*, 4, 339. <https://doi.org/10.1186/s40064-015-1109-1>
- Mosel, S. (2024). *Substance abuse in college students: Statistics & Rehab treatment*. American Addiction Centers. <https://americanaddictioncenters.org/rehab-guide/college>
- Nam, S. K., Choi, S. I., Lee, J. H., Lee, M. K., Kim, A. R., & Lee, S. M. (2013). Psychological factors in college students' attitudes toward seeking professional psychological help: A meta-analysis. *Professional Psychology: Research and Practice*, 44, 37–45. <https://doi.org/10.1037/a0029562.supp>
- Carrasco, M. (2024). *Report: The biggest barriers to higher ed enrollment are cost and lack of financial aid*. NASFAA. <https://www.nasfaa.org/news-item/34147>

- National Institute on Alcohol Abuse and Alcoholism. (2025). *Harmful and underage college drinking*. National Institute on Alcohol Abuse and Alcoholism (NIAAA). <https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/college-drinking>
- National Institute on Drug Abuse (NIDA). (2020a). *Drugs and the brain*. U. S. Department of Health and Human Services. <https://nida.nih.gov/publications/drugs-brains-behavior-science-addiction/drugs-brain>
- National Institute on Drug Abuse (NIDA). (2020b). *Treatment and recovery*. U. S. Department of Health and Human Services. <https://nida.nih.gov/publications/drugs-brains-behavior-science-addiction/treatment-recovery>
- Noble, H., & Strauss, G. (2016). What is grounded theory? *Evidence Based Nursing*, 19, 34-35. <https://doi.org/10.1136/eb-2016-102306>
- Ólafsdóttir, J., & Marinósson, S. S. (2022). Childhood with a relative's excessive alcohol use, and own drinking in adult years. *Nordisk Alkohol & Narkotikatidskrift*, 39(1), 105–118. <https://doi.org/10.1177/14550725211050747>
- Oláh, B., Fekete, Z., Kuritárné Szabó, I., & Kovács-Tóth, B. (2023). Validity and reliability of the 10-Item Adverse Childhood Experiences Questionnaire (ACE-10) among adolescents in the child welfare system. *Frontiers in Public Health*, 11, 1258798. <https://doi.org/10.3389/fpubh.2023.1258798>
- Palmer, R. S., McMahon, T. J., Moreggi, D. I., Rounsaville, B. J., & Ball, S. A. (2012). College student drug use: Patterns, concerns, consequences, and interest in intervention. *Journal of College Student Development*, 53(1). <https://doi.org/10.1353/csd.2012.0014>
- Patrick, M. E., Miech, R. A., Johnston, L. D., O'Malley, P. M. (2024). *Monitoring the Future national study annual report: National data on substance use among adults ages 19-65, 1976–2023*. Ann Arbor: Institute for Social Research, The University of Michigan. <https://monitoringthefuture.org/wp-content/uploads/2024/07/mtfpanel2024.pdf>
- Perron, B. E., Grahovac, I. D., Uppal, J. S., Granillo, T. M., Shutter, J., & Porter, C. A. (2011). Supporting students in recovery on college campuses: opportunities for student affairs professionals. *Journal of Student Affairs Research and Practice*, 48(1), 47–64. <https://doi.org/10.2202/1949-6605.6226>
- Pihkala, H., Dimova-Bränström, N., & Sandlund, M. (2017). Talking about parental substance abuse with children: eight families' experiences of Beardslee's family intervention. *Nordic Journal of Psychiatry*, 71(5), 395–401. <https://doi.org/10.1080/08039488.2017.1308009>
- Pinedo, M., Zembre, S., & Rogers, S. (2018). Understanding barriers to specialty substance abuse treatment among Latinos. *Journal of Substance Abuse Treatment*, 94, 1-8. <https://doi.org/10.1016/j.jsat.2018.08.004>
- Pinedo, M., Zembre, S., Beltrán-Girón, J., Gilbert, P., & Castro, Y. (2020). Women's barriers to specialty substance abuse treatment: A qualitative exploration of racial/ethnic differences. *Journal of Immigrant and Minority Health*, 22, 653-660. <https://doi.org/10.1007/s10903-019-00933-2>

- Quach, B. C., Bray, M. J., Gaddis, N. C., Liu, M., Palviainen, T., Minica, C. C., Zellers, S., Sherva, R., Aliev, F., Nothnagel, M., Young, K. A., Marks, J. A., Young, H., Carnes, M. U., Guo, Y., Waldrop, A., Sey, N. Y. A., Landi, M. T., McNeil, D. W., Drichel, D., ... Hancock, D. B. (2020). Expanding the genetic architecture of nicotine dependence and its shared genetics with multiple traits. *Nature Communications*, *11*(1), 5562. <https://doi.org/10.1038/s41467-020-19265-z>
- Ross, C., & Nicholson, E. (2024). *Incorporating inclusivity into substance use disorder (SUD) treatment*. National Association of Addiction Treatment Providers. <https://www.naatp.org/resources/blog/incorporating-inclusivity-substance-use-disorder-sudtreatment>
- Santana, A., Williams, C. D., Winter, M., Sullivan, T., de Jesus Elias, M., & Moreno, O. (2023). A scoping review of barriers and facilitators to Latinx caregivers' help-seeking for their children's mental health syndromes and disorders. *Journal of Child and Family Studies*, *32*, 3908-3925. <https://doi.org/10.1007/s10826-023-02715-9>
- Schulenberg, J. E., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Miech, R. A., & Patrick, M. E. (2018). *Monitoring the future national survey results on drug use, 1975-2017* (Vol. 2). ERIC. Institute for Social Research. <https://eric.ed.gov/?id=ED589764>
- Skinner, H. A. (1982). The drug abuse screening test. *Addictive Behavior*, *7*(4), 363-371. [https://doi.org/10.1016/0306-4603\(82\)90005-3](https://doi.org/10.1016/0306-4603(82)90005-3)
- Smith, L. R., Mittal, M. L., Wagner, K., Copenhaver, M. M., Cunningham, C. O., & Earnshaw, V. A. (2019). Factor structure, internal reliability and construct validity of the methadone maintenance treatment stigma mechanisms scale (MMT-SMS). *Addiction*, *115*(2), 354-367. <https://doi.org/10.1111/add.14799>
- Spata, A., Gupta, I., Lear, M. K., Lunze, K., & Luoma, J. B. (2024). Substance use stigma: A systematic review of measures and their psychometric properties. *Drug and Alcohol Dependence Reports*, *11*, 100237. <https://doi.org/10.1016/j.dadr.2024.100237>
- Strickland, J. C., & Smith, M. A. (2014). The effects of social contact on drug use: behavioral mechanisms controlling drug intake. *Experimental and Clinical Psychopharmacology*, *22*(1), 23-34. <https://doi.org/10.1037/a0034669>
- Tan, G. X. D., Soh, X. C., Hartanto, A., Goh, A. Y. H., & Majeed, N. M. (2023). Prevalence of anxiety in college and university students: An umbrella review. *Journal of Affective Disorders Reports*, *14*, 100658. <https://doi.org/10.1016/j.jadr.2023.100658>
- Terlecki MA, Buckner JD, Larimer ME, & Copeland AL (2011). The role of social anxiety in a brief alcohol intervention for heavy-drinking college students. *Journal of Cognitive Psychotherapy*, *25*, 7-21.
- Tedgård, E., Råstam, M., & Wirtberg, I. (2019). An upbringing with substance-abusing parents: Experiences of parentification and dysfunctional communication. *Nordisk Alkohol & Narkotikatidskrift*, *36*(3), 223-247. <https://doi.org/10.1177/1455072518814308>

- Torrejón-Guirado, M. C., Baena-Jiménez, M. Á., Lima-Serrano, M., de Vries, H., & Mercken, L. (2023). The influence of peer's social networks on adolescent's cannabis use: A systematic review of longitudinal studies. *Frontiers in Psychiatry, 14*, 1306439. <https://doi.org/10.3389/fpsyt.2023.1306439>
- U. S. Department of Health and Human Services. (2024). *Stigma and discrimination*. National Institutes of Health. <https://nida.nih.gov/research-topics/stigma-discrimination>
- Volkow, N. D., & Blanco, C. (2023). Substance use disorders: a comprehensive update of classification, epidemiology, neurobiology, clinical aspects, treatment and prevention. *World Psychiatry, 22*(2), 203–229. <https://doi.org/10.1002/wps.21073>
- Yang, L. H., Wong, L. Y., Grivel, M. M., & Hasin, D. S. (2017). Stigma and substance use disorders: an international phenomenon. *Current Opinion in Psychiatry, 30*(5), 378–388. <https://doi.org/10.1097/YCO.0000000000000351>
- Yudko, E., Lozhkina, O., & Fouts, A. (2007). A comprehensive review of the psychometric properties of the Drug Abuse Screening Test. *Journal of Substance Abuse Treatment, 32*(2), 189–198. <https://doi.org/10.1016/j.jsat.2006.08.002>
- World Health Organization (WHO) (2001). *AUDIT: The Alcohol Use Disorders Identification Test: guidelines for use in primary health care*. <https://www.who.int/publications/i/item/WHO-MSD-MSB-01.6a>
- Welsh, J. W., Shentu, Y., & Sarvey, D. B. (2019). Substance use among college students. *FOCUS, 17*(2), 117–127. <https://doi.org/10.1176/appi.focus.20180037>
- Zhou, H., Rentsch, C. T., Cheng, Z., Kember, R. L., Nunez, Y. Z., Sherva, R. M., Tate, J. P., Dao, C., Xu, K., Polimanti, R., Farrer, L. A., Justice, A. C., Kranzler, H. R., & Gelernter, J. (2020). Association of OPRM1 functional coding variant with opioid use disorder. *JAMA Psychiatry, 77*(10), 1072. <https://doi.org/10.1001/jamapsychiatry.2020.1206>