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Assessing Addiction Stigma: Effects of Early Exposure to Familial Drug Abuse and Childhood Trauma

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Assessing Addiction Stigma: Effects of Early Exposure to Familial Drug Abuse and Childhood Trauma

A Thesis

Presented to the Faculty of the

Department of Psychology

West Chester University

West Chester, Pennsylvania

In Partial Fulfillment of the Requirements for the

Degree of

Master of Arts in Psychology

By

Rebecca L. Laconi

May 2020

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Acknowledgements

Special thanks to Dr. Michael Gawrysiak for all his guidance, patience and direction with this manuscript, and Daniel L. Loomis & Zachary E. Getz for their contributions to the data. Additional thanks to Dr. Stevie Grassetti and Dr. Ekeoma Uzogara for serving on the thesis committee.

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Abstract

Stigma continues to be a prevalent issue for individuals suffering from substance use disorder, contributing to ostracization and discrimination. Along with the psychological and social consequences of addiction, substance abuse has effects on family. Children often experience trauma and/or deficits because of a relative's problematic drug use. The impact of parental and familial drug abuse on children has been examined, however, an important, yet significantly less studied consequence is the effect of drug abuse on the child's level of stigma toward addiction. The present study examined stigma towards individuals suffering from addiction and trauma-exposure among college students (N=555). Survey items included the Perceived Stigma of Addiction Scale, the Adverse Childhood Experiences Scale, the Childhood Trauma Questionnaire, the Life Events Checklist, and the PTSD Checklist to assess the link between familial drug abuse, trauma experienced in childhood, and stigma toward addiction. Study hypotheses were that: overall, children who were raised in a household where a relative was abusing drugs/alcohol (FDAU-Yes) would be more likely to stigmatize addiction than those who were not (FDAU-No), these results would remain true even when controlling for trauma and PTSD symptoms, and that children who were raised in a household where an relative was abusing drugs/alcohol would experience higher levels of childhood trauma than those who were not. Group comparisons revealed that the FDAU-Yes group showed significantly higher levels of stigma than the FDAU-No group, even when controlling for trauma-exposure and PTSD symptoms. The FDAU-Yes group also experienced significantly more trauma and PTSD symptoms than the FDAU-No group.

keywords: addiction stigma, family drug abuse, childhood trauma

Table of Contents

List of Tables

List of Figures

Assessing Addiction Stigma: Effects of Early Exposure to Familial Drug Abuse and Childhood Trauma

Stigma Toward Mental Illness

Stigma against those suffering from a mental illness is not a new or localized issue, rather, its effects are documented worldwide (Winkler et al., 2015; Zalazar et al., 2018). It is a "process by which members of marginalized groups are labeled by other people as abnormal, shameful, or otherwise undesirable" (Michaels et al., 2017) and stems from a lack of sufficient information (Thornicroft, 2008). This stigma, coined public stigma (Corrigan & Penn, 1999; Corrigan & Watson, 2002), is a two-fold problem for the mentally ill. First, it is difficult living with a mental illness – sufferers experience symptoms that significantly impact their everyday functioning. Second, the common misconceptions of mental illness can contribute to the social exclusion of and discrimination against people living with them.

Consequences of Stigma Against Mental Illness

Specific types of stigma are common for people with a mental illness. First, *public stigma*, is simply the naïve reactions of the public when they ignorantly endorse prejudicial attitudes about a stigmatized group (Corrigan, 2004). Second, *discriminatory stigma*, a type of public stigma, is the negative behavior of others toward a marginalized group, that can adversely affect individuals in terms of finding employment and housing (Dinos et al., 2004; Haverfield & Theiss, 2016). This stigma can impact employers' willingness to hire people with mental illnesses; even when they are employed, they make significantly less in the same roles than those without a documented mental illness (Michaels et al., 2017). Another type of stigma experienced is called *disclosure stigma*, or individual's hesitance to reveal their struggles with mental illness due to fears of being rejected and marginalized (Haverfield & Theiss, 2016), which can affect people's willingness to seek treatment. Help-seeking behavior has been shown to be thwarted by

the common misconceptions around mental illness. Insufficient or incorrect information can lead to the inability to correctly recognize psychiatric symptoms within themselves and others along with the anticipation of public stigma should they receive a diagnosis.

People who eventually engage in mental healthcare usually seek out general practitioners rather than mental health professionals. This may be due to misconceptions about the efficacy of treatment offered by those in the mental health field, or about the etiology of the symptoms of mental disorders. A large study in Germany displayed certain attitudes about types of mental illnesses; most people believed that biological or "uncontrollable" forces caused schizophrenia, and therefore those suffering from it should be referred to someone who can treat mental illness. In contrast, depression was thought to be influenced by situational stressors (e.g., unemployment, marital conflict), and would therefore be better treated with help from a friend or loved one (Thornicroft, 2008). Even veterans are less likely to seek relief from PTSD symptoms; 60-77% of soldiers refused treatment due to anxiety around the public stigmatizing them (Thornicroft et al., 2007). Mental health stigma also contributes to health care disparities, with studies suggesting that those with mental illnesses are stigmatized even by people who are treating them. Hugo et. al (2001) demonstrated that professionals caring for schizophrenic and depressed patients expressed more negative attitudes toward outcomes than the general public.

Along with experiencing the effects of public stigma, persons with mental illness are at risk for *self-stigma* (i.e., internalizing these stereotypes and discrimination). Attitudes such as being dangerous or threatening are often internalized and lead to types of self-discrimination like self-imposed isolation. Isolation in particular has negative consequences to overall health and well-being, affecting self-esteem, self-efficacy, and self-worth (Corrigan & Rao, 2012). Self-stigmatization has been shown to cause a phenomenon called the "why try effect", which is a

direct product of low self-worth. Feelings of inadequacy or inefficiency result in perceiving themselves less worthy of opportunities, interfering with propensities for independence such as help-seeking behavior (Corrigan & Rao, 2012; Corrigan et. al, 2010; da Silveira et al., 2018).

Stigma and Addiction

Along with the physical, psychological, and social consequences of addiction, people who use illicit drugs also face stigma-related issues. Stigma is a prevalent difficulty for those struggling with a substance use disorder (SUD), however, there has been considerably less research on this population when compared to mental illness in general (Nieweglowski et al., 2018). Comparative studies aiming to survey public attitudes about mental illness have found that stigma is illness-specific (Angermeyer & Dietrich, 2006). When compared to other disorders such as schizophrenia and depression, drug and alcohol addiction have statistically significant differences in levels of rejection from society. This may be due to the unpredictable nature and aggression that the effects of drugs may produce, and, subsequently, other individuals' desires to self-distance themselves from these behaviors (Angermeyer & Dietrich, 2006).

Schomerus et. al (2011), showed that people are less likely to endorse alcoholism and other forms of dependency (i.e., gambling and cocaine) as a legitimate mental illness. Research from this review found that those struggling with an alcohol addiction were much more likely to be held accountable and blamed for their circumstances than other mental illnesses and diseases. Alcoholism has been observed to elicit more reactions of anger, repulsion and irritation and less responses of empathy when compared to schizophrenia and depression and people are more likely to reject and avoid people with alcoholism when compared to other mental illnesses and medical diseases (Angermeyer & Dietrich, 2006; Schomerus et al., 2011). Common attitudes and

stereotypes held towards individuals that use illicit drugs are that they are “dangerous criminals”, “sinners”, “worthless”, and self-destructive (Nieweglowski et al., 2018).

Consequences of Addiction Stigma

While the rights of those suffering from a mental illness are largely supported, with laws governing to protect this population, the same cannot be said for those struggling with SUD. Stigma of addiction is likely exacerbated due to the illegality of certain substances, with illicit drug use being implicitly associated with criminal activity. Research has shown that people who endorse stronger punishments for drug use also display stigmatizing attitudes toward those who use them (Corrigan et al., 2017). Stigmatizing language is often unintentionally used in drug-use prevention interventions. These programs frequently make associations to criminal behavior, death, health implications, HIV contraction, and even terrorism in an attempt to curb substance use (Corrigan et al., 2017).

Stigma of addiction influences the understanding of certain laws. For example, under the American Disability Act (ADA), accommodations are guaranteed for certain populations, including those with a severe mental illness. Although SUD is classified as a mental illness in the *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition*, ADA protections for those with SUD are strongly restricted. Accommodations are only awarded to those who have successfully undergone treatment and are no longer using illicit substances. In contrast, the ADA allows protection of those persistently struggling with recovery from and symptoms of other severe mental illnesses (Corrigan et al., 2017).

Symptoms of severe substance abuse and intoxication area easily recognized (i.e., slurred speech, falling asleep in public, neglected hygiene, etc.) and may result in more easily stereotypical categorization of those who exhibiting such behaviors. Like others with mental

illnesses, individuals with SUD often internalize and accept the stigmatizing labels used to describe them (Corrigan, 2004; Corrigan & Rao, 2012; Matthews et. al, 2017). Being excluded by society leads to adapting self-exclusion behavior, leading to increased social isolation and increased vulnerability to drug use to avoid negative feelings of shame (Matthews et al., 2017).

Prevalence of Children Impacted by Parental Drug & Alcohol Abuse

Based on reports from the National Surveys on Drug Use and Health between 2009 and 2014, researchers found that about 1 in 8 children lived in households with at least one parent who had a problem with substance use in general, 1 in 10 children lived in households with at least one parent who suffered from an alcohol use disorder, and 1 in 35 children lived in households with at least one parent who had a problem with illicit/recreational drug use (Lipari & Van Horn, 2017).

Along with the psychological and physical consequences of addiction, substance abuse or misuse has effects on familial life. Parental substance abuse has detrimental effects on their child's well-being that persists into adulthood. A large body of research has determined that parental drug misuse is more likely to be linked to the development of emotional, behavioral, cognitive, and social problems in children (Kuppens et al., 2019). Children of adult users are more at risk of experiencing trauma than those children who do not live in a household affected by drugs and alcohol (Austin & Prendergast, 1991; Dunn et al., 2002). Prior research indicates that for each category of adverse childhood experiences (ACE) endorsed, being raised by an alcohol-dependent parent doubled the risk for that category (Dube et al., 2001). For example, having a parent who abused alcohol increased the likelihood of a child experiencing the emotional neglect, physical neglect, emotional abuse, physical abuse, and sexual abuse as

defined by the ACE. About 12% of children and teenagers in the United States meet the criteria for depression, and half of those have a parent who abuses substances (Ólafsdóttir et al., 2018).

In a review conducted by Young et. al (2007), the researchers reported the prevalence of affected children who are either (a) in child welfare services (CWS) whose parents are suffering from substance use disorders, or (b) at risk for abuse or neglect because their parents are in treatment for their drug abuse. However, few studies have been conducted to assess the level of parental drug use in homes where the child has not been removed. Gibbons et. al (2005) assessed caregivers' level of use and dependence on drugs in homes where CWS has been involved, but the child is still living at home. Results indicated that 11.1% of parents or caregivers who had custody of their children reported having a substance use problem, though this number is likely an underestimate due to the inaccuracies of reporting by child welfare workers and reluctance to disclose substance use. To assess the prevalence of parents in treatment, The California Treatment Outcome Project (CalTOP) examined outcomes across a wide range of variables for those in recovery from substance abuse. Sixty-two percent of participants had a child under 18 years, and thirty-seven percent had lost custody of their child (Hser et al., 2003).

In 2012, researchers found that children who were physically abused had a greater risk of abuse if their parent was suffering from substance abuse; this study reported that 1 in 5 children had a parent who were dependent on drugs, alcohol, or a combination of both. Additionally, of the 1.25 million children reported suffering from different types of neglect or abuse, 11% had parents who used drugs. Alcohol use was more likely to affect emotional abuse (22%), while drug misuse had an impact on emotional neglect (21%) (Sedlak et al., 2010). Households with one or both parents who meet criteria for SUD have a rate of over 50% for likelihood of child neglect and abuse (Dunn et al., 2002; Kelleher et al., 1994). In a study comparing parents who

used substances and those who did not, substance use was a significant predictor of child abuse and neglect, even when controlling for other variables. Parents who abused alcohol or substances were nearly three times more likely to have reported abusive behavior toward children and more than 4 times more likely to have reported neglectful behavior toward children relative to a comparison cohort (Kelleher et al., 1994). There has been evidence to suggest that parents who abuse substances have distinct characteristics and behavior that, when combined, increase the likelihood for child neglect; for example, the effects that drugs have on the parent, drug-seeking behavior, and the comorbidity of other mental illnesses (Dunn et al., 2002).

Effects of Parental Alcohol & Substance Abuse on Children

Infancy & Childhood. A wide range of developmental, psychological, and emotional problems have documented the deleterious effects of parental drug abuse on their children. The unpredictable behavior of parents and the chaotic nature of being raised in an environment with problematic substance use creates difficulty for children to develop appropriate strategies to gain attention and comfort in times of distress, making insecure attachment common (Tedgård et al., 2019). Mothers who struggle with substance use tend to assign intentionality to their infant's behavior and become hostile toward them, citing their children as "demanding". Their low attunement and responsiveness to their babies' signals may be a direct result of the shame and guilt they feel about their addiction and being unable to provide for their children. If the child's parents are the source of distress, seeking them out for comfort may increase the severity of anguish. This leads to the child experiencing an ongoing state of hyperarousal and anxiety, thus adopting maladaptive coping mechanisms to deal with their emotions (Tedgård et al., 2019).

Children of alcohol-dependent parents scored significantly lower on tests of IQ, perception, and emotional and behavioral issues (Bennett, Wolin, & Reiss, 1998). When

comparing these children to others who did not have a parent who abused alcohol, they reported lower levels of self-esteem, and were found to have a stronger external locus of control. A child who has a strong external locus of control believes that their successes or failures come from forces outside their control, rather than internal forces such as their determination or other personality traits (DiCicco et. al, 1984). Children experiencing neglect as a result of substance abuse will often infer that they are not liked, unwanted, and unloved, and will adopt this view of themselves (Tedgård et al., 2019).

Mothers and their children who live in households struggling with alcohol reported higher levels of depressive symptoms than those families who do not (Moos & Billings, 1982; Rolf et. al, 1988). Almost all detrimental effects overlap between children of alcohol and other substance users, except in one specific way. Children in families struggling with drug abuse have an added layer of dealing with the illegality of the substance, promoting secrecy, stigma, and fears of their parents being incarcerated (Austin & Prendergast, 1991). In a study comparing children of substance users to children whose parents did not abuse drugs and alcohol, researchers found that the early childhood environment was significantly more dysfunctional in these families. They experienced higher rates of isolation, due to stigmatized rejection and self-imposed secrecy and boundaries. This in turn reduced the levels of community help and support, further increasing strain on family life (Kumpfer & Demarsh, 1986).

Adolescence & Adulthood. Children of substance abusers are frequently faced with different types of adversity that last well into adulthood. In a study assessing the effects of parental drug use on adolescents' personality, Elkins et. al (2004) found that (1) adolescents whose parents abused alcohol had lower scores of well-being and higher scores of negative emotion, stress reaction, aggression, and alienation; and (2) adolescents whose parents abused

drugs had higher scores of social potency, and lower scores of constraint, control, and harm avoidance when compared to a control group. Adult children of parents chemically dependent on alcohol are found to have common problems such as: severe self-judgments; taking oneself too seriously; inability to connect; constantly seeking approval; being excessively responsible; and an unflinching need for control (Austin & Prendergast, 1991).

In fact, the children in these homes are often found adopting "roles", such as "the responsible child", in which they showcase developmentally inappropriate levels of maturity and responsibility. These roles are used as maladaptive coping mechanisms and may reflect an effort to hide from the true reality and pain experienced, or to assert control over a situation in which they have none. These role-reversals, in which the child assumes responsibility of the parent, are adopted as a means of taking care of their own, their parents', and even siblings' needs in response to their parents' inability to meet them (Tedgård et al., 2019). The adoption of these roles can last into adulthood, in which they negatively impact relationships by becoming unflinchingly rigid in their use (Austin & Prendergast, 1991). Achieving emotional intimacy in personal relationships may be difficult, and a sense of mistrust and insecurity may form due to past experiences with their parents (Ólafsdóttir et al., 2018). Adult children of substance abusers are also at an increased risk to develop problems with drugs and alcohol themselves (Darke et al., 2017; Shand et al., 2011; Taplin et al., 2014).

Effects of Other Relatives' Drug & Alcohol Abuse

Emerging research suggests that sibling drug use must be considered when examining the impacts on children. In one study conducted by Brook, Brook, & Whiteman (1999), researchers found that older brothers' drug use was positively associated with the younger brothers' own drug use. Additionally, Children whose grandparents misuse substances also influence their

overall well-being. Stein, Newcomb & Bentler (1993) showed that, even though they were not living together, grandparent's drug use significantly impacted several behavioral problems in young boys, including hyperactivity, psychosomatic symptoms, and social deficiencies. Additionally, research has found that other family members' (defined as aunts, uncles, siblings, and grandparents) drug use increased the risk of adolescents' drug use (Brook et. al, 2001; Pilatti et. al, 2014) and behavioral problems such as response inhibition impulsivity (Dougherty et. al, 2015) and propensity for discount of delayed rewards (Acheson et. al, 2011).

Predictors of Familial Stigma

Emerging research helps to explain how the stigmatization of relatives' drug use or other mental illness influences children. For example, parents' alcohol severity has been shown to positively associate with discriminative stigma and disclosure stigma for female adult children (Haverfield & Theiss, 2016). Corrigan et. al (2006) discovered that adopted shame of mental illness varies by family role with differences noted for parents, siblings, and children of the person suffering from a psychiatric disorder. Parents may experience strain on finances, emotions, work and relationships due to their child's mental illness, and are even blamed for their suffering, while siblings are held responsible for the treatment of their mental illness (Corrigan & Nieweglowski, 2019). Children of adults with mental illnesses are not uncommonly viewed as "contaminated" by association (Corrigan et al., 2006).

Experts have begun to postulate the predictors for and development of stigma toward mental illness. One popular theory is the one of familiarity, or the knowledge of, and experience with mental illness. A recent review (Corrigan & Nieweglowski, 2019) observed significant associations between public stigma and familiarity. Results showed that of 26 studies assessing public stigma toward generically defined mental illness, 19 of these found an inverse

relationship. That is, that more familiarity with mental illness decreased the amount of public stigma. However, 5 of these studies found the opposite, where more familiarity was associated with more public stigma.

In order to make sense of these findings, they proposed a U-Shape Curve (see Fig. 1), that asserts that public stigma decreases as a person moves from having no or limited experience with mental illness, to knowing acquaintances, to knowing coworkers or friends. However, the association between stigma and familiarity seems to reverse, when the relationship becomes more intimate, such as knowing a family member with a mental illness (Corrigan & Nieweglowski, 2019). Two groups were defined as having a more intimate relationship with a person suffering from mental illness: family members, including children, and mental health care workers. For the purposes of the present study, the theory taken from Corrigan & Nieweglowski's research will be used to focus on family members, and not mental health workers. Corrigan and Nieweglowski (2019) propose that (1) the burden of living with a person with mental illness, and (2) the adopted stigma of family members of a person with mental illness contribute to the family's own levels of stigma toward mental illness.

Most research has focused on parental stigma toward children with mental illnesses. A study conducted by Moses (2010) found that about half of adolescents diagnosed with a mental illness experienced stigma from their family members. Additional research has found that family members are more likely to endorse attitudes of public stigma (i.e., "When the person with mental illness and I are in public, I pretend that we are not related") when they feel a greater level of burden (van der Sanden et al., 2016). However, no qualitative research has been conducted on children's level of stigma when they themselves were raised in a household with a parent or other relative struggling with the effects of SUD or other mental illness.

The Current Study

The present study aims to delve into the important issue of the stigma of addiction by assessing the role of exposure to familial drug abuse. We aim to fill the gaps in the research by examining whether exposure to a relative's drug abuse during childhood affects the child's level of addiction stigma later in life. In line with Corrigan & Nieweglowski's u-shaped familiarity theory, due to the trauma and burden experienced as a result of their parent's, sibling's, or other relative's drug abuse, it is hypothesized that these children affected by drug abuse will evidence greater stigmatizing attitudes toward addiction.

The study hypothesis are as follows: (1) children who grew up in a household where their parent, sibling, or other relative abused alcohol or other substances will evidence higher levels of stigma toward addiction than children who did not, (2) these differences will be observed even after controlling for PTSD symptoms and trauma exposure, and (3) these children would have higher levels of trauma experienced in childhood.

Methods

Procedures

The present study used online survey methods to anonymously collect data from students attending a large Mid-Atlantic University. Students are required to participate in research to fulfill course requirements. Students are notified of options for research participation through SONA systems. Participants in the present study voluntarily elected to participate in the present study by selecting this option over other available studies. After reviewing the study description and providing electronic documentation of informed consent, participants completed an online assessment battery (see below) requiring approximately 15-30 minutes to complete.

This survey data was taken from a larger study (N=734) examining college students'

level of trauma and risk and protective factors for subsequent drug use. Survey data was collected via SONA-systems or an emailed link through Qualtrics from the principal investigator, Dr. Michael Gawrysiak. The first wave of the study included data from 458 students; of these participants, 81 were removed according to the exclusion parameters set by the researchers at the time of collection. Eighteen participants were omitted for not providing any answers (with exception for demographic questionnaire items). Thirty-four participants were removed due to completing the survey in less than 900 seconds. Before data collection, it was determined that completing the assessment battery (i.e., answering all questions) without taking the time to read any questionnaire items required approximately 600 seconds (10 minutes). A cut-off was determined (i.e., 900 seconds) to omit anyone that was likely completing the questionnaires without reading the questionnaire items.

Response validity was also controlled for by inclusion of three “dummy” questions to ensure the participants were thoroughly reading each questionnaire item. Each of these “dummy” questions instructed the participant to select a specific response (i.e., “for this question, you should indicate a response of 5, very much so”). Inclusion criteria was required that participants answer two of the three dummy questions to be included in study analyses. Twenty-nine additional participants were omitted from analyses for answering 2 or more dummy questions incorrectly.

The second wave of data collection was received and reviewed using the same methods as the first. A total of 276 students completed the measures, and 47 were omitted from the data (n=33 removed for dummy question responses; n=12 removed for completion time; n=2 removed for failing to endorse consent to be included in the study). After data cleaning for both waves of the study, a total of 606 participants were retained for analyses.

Demographics

Of the final 606 participants, 566 were included in the present study. 40 subjects were omitted due to insufficient data collected (i.e., less than 75% response rate) on the measure of interest, the PSAS. After completing procedures to identify outliers, another 11 subjects were removed due to age outliers (27-39), making the final sample 555. The sample largely consisted of Non-Hispanic Whites (*n* = 409; 73.7%), followed by African-Americans (*n* = 59; 10.6%), Hispanics/Latinx (*n* = 36; 6.5%), Asian/Asian-Americans (*n* = 21; 3.8%), American Indian/Alaskan Native (*n* = 3; 0.5%), and "other" (*n* = 26; 4.7%). Participants mostly selected female (*n* = 431; 77.7%) as their identified gender, followed by male (*n* = 119; 21.4%) and non-binary (*n* = 4; 0.7%). The age ranged from 18 to 25 (*M* = 19.42, *SD* = 1.31).

Measures

The Perceived Stigma of Addiction Scale (PSAS; Luoma et al., 2010) is an 8-item measure used to assess the participants' perceived stigma of addiction. It is rated on a 4-point likert scale, from "strongly disagree" to "strongly agree". Participants were asked to select which statement they most agreed with on questions such as "Most people would willingly accept someone who has been treated for substance use as a close friend" and "Most people would accept someone who has been treated for substance use as a teacher of young children in a public school". Scores range from 8 to 32, with higher scores indicating stronger levels of perceived stigma. The PSAS has good internal consistency ($\alpha = .73$; present study, $\alpha = .74$) (Luoma et al., 2010).

The Adverse Childhood Experiences (ACE; Felitti et. al, 1998) is a questionnaire originally created to assess the relationship between adverse childhood experiences (e.g., abuse, neglect) and adult health risks and behaviors. This measure asks subjects to answer questions

related to childhood trauma experienced during the first 18 years of their lives. It consists of 10 questions, such as “Did a parent or other adult in the household ...often or very often push, grab, shove, or slap you?”. If a participant selects “yes”, a 1 is entered; all responses marked “yes” are added up to calculate the ACE score. The higher the score, the more childhood adversity was experienced (Felitti et al., 1998). For the purposes of our study, the question “While you were growing up, during your first 18 years of life… Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?” was used to assess exposure to relatives’ drug use for final analyses. Any participant who selected “yes” to this question was counted as having experienced familial drug and/or alcohol use in childhood, and any participant who selected “no” was counted as not having experienced familial drug and/or alcohol use. Henceforth, each group will be defined as “Familial-Drug-Alcohol-Use-Yes” (FDAU-Yes), and “Familial-Drug-Alcohol-Use-No” (FDAU-No) in this manuscript.

The Childhood Trauma Questionnaire-Short Form is a 28-item measure derived from the original CTQ (Bernstein et al., 2003), a 70-item measure used to assess trauma in childhood or adolescence experienced across five domains: emotional and physical abuse, sexual abuse, and emotional and physical neglect. Items are rated on a 5-point likert scale; choices range from “never true” to “very often true” (1 = never true; 2 = rarely true; 3 = sometimes true; 4 = often true; 5 = very often true). Points for each scale are added to produce a score of a maximum of 25. The total childhood trauma score is calculated by adding the total of each scale, with the highest possible score being 125. Higher scores indicate more trauma experienced during childhood and/or adolescence. In a study to assess validation, each scale of the CTQ-SF showed strong internal consistency, with alpha coefficients ranging from .61-.95 across four different samples (present study, emotional abuse $\alpha = .88$; physical abuse $\alpha = .78$; sexual abuse $\alpha = .94$; emotional

neglect α = .89; physical neglect α = .74; CTQ total α = .81) (Bernstein et al., 2003).

The Life Events Checklist (LEC; Gray et al., 2004) is a 17-item measure used to assess the participant's level of exposure to a wide range of traumatic experiences. It is rated on a 5-point likert scale (1 = happened to me, 2 = witnessed it, 3 = learned about it, 4 = not sure, and 5 = does not apply). Experiences accounted for include natural disasters, physical assault, sexual assault, and fire/explosion, among others. For the purposes of our study, total scores were calculated for the response "happened to me" only (Gray et al., 2004).

The Posttraumatic Stress Disorder Checklist (PCL-5; Blevins et al., 2015) is used to assess the severity of symptoms for posttraumatic stress disorder as defined by the DSM-5. Respondents are asked to identify how often they have experienced each symptom in the past month, such as "avoiding memories, thoughts, or feelings related to the stressful experience" from 0 (not at all) to 4 (extremely). Two studies were conducted to validate the measure; both study 1 (α = .94) and study 2 (α = .95) showed strong internal consistency (present study, α = .95) (Blevins et al., 2015).

Analyses

Analyses were conducted using the Statistical Package for the Social Sciences (SPSS®). Missing data was removed by implementing listwise deletion. First, descriptive statistics and internal consistency coefficients for the measures used were calculated. Second, Pearson correlation coefficients were examined for all measures of interest. Third, group differences in scores between the FDAU-Yes and FDAU-No were assessed by conducting independent samples t-tests. Finally, analyses of covariance were conducted to control for trauma when examining group differences. Significance levels were set to .05.

Results

Descriptive statistics for the measures of interest are reported in Table 1. No statistically significant differences were detected between the FDAU-Yes group and FDAU-No group for age, ethnicity, or gender.

Group comparisons revealed significant differences between FDAU-Yes group (n = 116, M = 23.78, SD = 3.28) and the FDAU-No group (n = 385, M = 22.99, SD = 3.03) for stigma of addiction (PSAS); $t(499) = 2.417$, $p = .016$ (see Table 1). A one-way ANCOVA was conducted to compare the FDAU-Yes (105) FDAU-No (364) scores on the PSAS while controlling for trauma, measured as total traumas exposed to via the LEC (see Table 2). There was a significant difference in mean scores [$F(1,1) = 7.518$, $p = .006$] on the PSAS. Comparing the estimated marginal means showed that students in the FDAU-Yes group (M = 23.93) had higher addiction stigma scores (PSAS) than those in the FDAU-No group (M = 22.97). A one-way ANCOVA was also performed to assess the differences between the FDAU-Yes (111) and FDAU-No (354) groups on the PSAS when controlling for PTSD symptoms, measured with the PCL-5 (see Table 2). There was a significant difference in mean scores [$F(1,1) = 4.430$, $p = .036$] on the PSAS. Comparing the estimated marginal means showed that students in the FDAU-Yes group (M = 23.75) scored higher on the PSAS than those in the FDAU-No group (M = 23.02).

There were significant differences between the two groups for scores on measures of trauma (see Table 1). For the CTQ, the FDAU-Yes group (n = 105, M = 40.09, SD = 12.29) compared to FDAU-No group (n = 353, M = 33.11, SD = 11.76) had significantly higher scores on total trauma (CTQ); $t(164) = 5.155$, $p < .001$. The 105 subjects in the FDAU-Yes (M = 10.14, SD = 4.50) also scored significantly higher; $t(156) = 4.844$, $p < .001$; on the Emotional Abuse scale of the CTQ than the 353 in the FDAU-No group (M = 7.77, SD = 4.02). There were significant differences between the 105 participants in the FDAU-Yes group (M = 6.33, SD =

3.70) compared to the 353 in the FDAU-No group (*M* = *5.47*, *SD* = 2.59); those in the FDAU-Yes group had higher scores than those in the FDAU-No group on the Sexual Abuse scale of the CTQ; $t(127) = 2.253$, $p = .026$. The 105 in the FDAU-Yes group (*M* = 9.72, *SD* = 3.92) reported higher scores than the 353 in the FDAU-No group (*M* = 7.94, *SD* = 3.93) on the Emotional Neglect scale of the CTQ; $t(456) = 4.057$, $p < .001$. The FDAU-Yes group (*M* = 7.56, *SD* = 3.25) also scored significantly higher than the FDAU-No group (*M* = 5.87, *SD* = 1.88) on the Physical Neglect scale of the CTQ; $t(125) = 5.070$, $p < .001$. No significant differences were found between the two groups on the scores for the Physical Abuse scale; $t(456) = 1.041$, $p = .298$.

Significant differences were observed between the two groups for scores on the LEC and PCL-5 (see Table 1). The 105 participants in the FDAU-Yes group (*M* = 2.51, *SD* = 1.95) reported more adverse life experiences (LEC) than the 364 in the FDAU-No group (*M* = 1.92, *SD* = 1.68); $t(467) = 3.017$, $p = .003$. Between the 111 in the FDAU-Yes group (*M* = 26.36, *SD* = 18.06) and the 354 in the FDAU-No group (*M* = 18.44, *SD* = 15.40), the FDAU-Yes group scored significantly higher PTSD symptoms (PCL-5); $t(163) = 4.173$, $p < .001$.

Pearson's correlation coefficients were analyzed to assess relationships between the measures of interest (see Table 3). A weak correlation was found between the PSAS (*M* = 23.23, *SD* = 3.12), and the ACE (*M* = 1.63, *SD* = 1.84), $r = .118$, as well as between the PSAS, $r = .105$, and the Physical Abuse Scale (PAS) of the CTQ (*M* = 6.03, *SD* = 2.44).

For the ACE, moderate relationships were found for the LEC (*M* = 2.02, *SD* = 1.71), $r = .415$, the PCL (*M* = 20.11, *SD* = 16.40), $r = .461$, the PAS, $r = .435$, and the Sexual Abuse Scale (SAS) of the CTQ (*M* = 5.64, *SD* = 2.58), $r = .306$. Strong relationships were found for the CTQ (*M* = 34.30, *SD* = 11.82), $r = .673$, the Emotional Abuse Scale (EAS) of the CTQ (*M* = 8.18, *SD* = 4.12), $r = .642$, the Emotional Neglect Scale (ENS) of the CTQ (*M* = 8.22, *SD* = 3.94), $r =$

.572, and the Physical Neglect Scale (PNS) of the CTQ (*M* = 6.20, *SD* = 2.36), *r* = .505. For the LEC, weak associations were found for the SAS, *r* = .191, the ENS, *r* = .295, and the PNS, *r* = .278. Moderate associations were found for the PCL, *r* = .422, the CTQ, *r* = .384, the EAS, *r* = .355, and the PAS, *r* = .309.

The PCL showed weak correlations when compared to the PAS, *r* = .253, and the SAS, *r* = .190. Moderate correlations were found when compared to the CTQ, *r* = .449, the EAS, *r* = .428, the ENS, *r* = .410, and the PNS, *r* = .344.

Discussion

As hypothesized, children who grew up in a house where their parent, primary caregiver or other relative abused recreational drugs or alcohol endorsed more stigmatizing attitudes toward addiction that those children who did not. These results are partially supported by Corrigan & Nieweglowski's (2019) theory of the relationship between familiarity and stigma; that is, that the more intimacy and familiarity you share with the person who has a mental illness (in this case drug or alcohol misuse), the more likely you are to engage in stigmatizing behaviors. These findings remain true even when controlling for trauma experienced and posttraumatic stress symptoms, suggesting that exposure to a relative's drug use is a significant predictor of a child's level of stigma of addiction, irrespective of trauma. Familial drug use may be a key factor in the development of public stigma overall. Due to the new nature of this research, follow up studies are needed to replicate this finding.

As expected, we found that children who grew up with a parent, caregiver or other relative abusing drugs or alcohol experienced more trauma overall than children who did not. These results are supportive of the literature discussing the impacts of parental drug use. Children in the "yes" group scored higher on all measures of trauma and PTSD symptoms, apart

from the Physical Abuse Scale of the CTQ showing no significant differences. This finding is surprising, as prevalence rates have shown a large amount of physical abuse reported in the homes of substance users (Dakil et al., 2012; Dube et al., 2001; Dunn et al., 2002; Kelleher et al., 1994).

Limitations & Future Directions

Sample Size. This study has several limitations, the biggest being the differences in sample sizes between the two groups. The amount of "yes" responses to the ACE question: "While you were growing up, during your first 18 years of life… Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?" is significantly smaller than responses marked "no". However, even with this small sample size, findings were still significant, suggesting a true relationship between familial drug use and addiction stigma. Further expansion on this research should aim to examine groups of equal size, specifically recruiting for children who grew up in a household with substance users. Our sample size consisted of college students voluntarily completing the study to receive course credit, and these results may not be generalizable to other populations outside college-aged participants. Most of the participants were non-Hispanic white females, limiting the generalizability to other demographically different groups.

Identification of Relatives. This study makes assumptions about the relationship of the child to the substance user, that is, that it is most likely a relative. The question used to identify children who were impacted by familial drug use is not salient enough to prove that it was their relatives abusing substances. Since it asks, "Did you live with *anyone* who was a problem drinker or alcoholic or who used street drugs?" it is not possible to conclude this person was related to them. It may have been a friend, or, for example, a mother's boyfriend, however, the

phrasing of the question (e.g., “While you were growing up, during your first 18 years of life…”) lets us make inferences to whom it may be; that is, it is likely to be a relative. The other ACE question used to assess parental drug use was considered for identifying these children in our sample, however, it was determined to not be accurate enough. It asks “While you were growing up, during the first 18 years of your life… Did you often feel that… You didn’t have enough to eat, had to wear dirty clothes? **OR** Your parents were too drunk or high to take care of you?”. If this question were used for analyses, it would be difficult to determine whether children had parents who were abusing drugs or alcohol. Future research could use a modified version of the ACE, where questions are phrased separately, or the content is more specific to parents or other relatives, not just anyone the child lived with for the first 18 years of their life.

Assessing Addiction Stigma. The scale used to assess addiction stigma levels (PSAS) was chosen for its length and straightforward questions. This scale measures perceived stigma, and phrases questions in terms of “Most people would accept someone who has been treated for substance abuse as a teacher of young children in a public school”, and not “I” statements. We would have liked to use a scale that asks questions with “I” statements, however, the PSAS is unique in that it is the few of its kind to measure public stigma. Most scales assessing the stigma of addiction are either (1) given to substance users to examine their level of self-stigma, (2) not specific to the type of public stigma (i.e., other mental illnesses are included with SUD), or (3) otherwise unavailable to the researchers. Furthermore, due to the sensitive nature of this topic, people may be less likely to be truthful if presented with questions that reflect “I” statements. Expanded research may choose to use a modified version of the PSAS, replacing the word “most” with “I”.

Conclusions

The results of this study are important, as there is a dearth of research in this area. Further investigation should focus more specifically on children who have experienced familial drug use by using assessments that ask questions directly pertaining to this topic. This research could be expanded further by looking at the consequences of the child's development of addiction stigma, for example, whether these attitudes translate into discriminatory behavior. Familial drug use significantly impacts children's well-being and its consequences demand advances in research and advocacy. Future research should examine the role of the relative regarding the consequences of drug use on the child (i.e., parent vs. grandparent vs. sibling).

Addiction stigma is an emerging consequence of familial drug use that could be a key pathway in predicting the development of public stigma. As discussed, stigma toward addiction has been shown to have negative consequences for those affected, including discrimination that directly influences policies, adoption of these attitudes leading to self-stigma, and further isolation and difficulties in dealing with their substance use. By identifying predictors of the development of this stigma we may begin to establish appropriate target interventions for prevention and reduction.

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Appendix

Tables

Table 1

Demographics & Clinical Measures

Characteristics	Whole Sample	FDAU-Yes	FDAU-No	Diff.
Age (year), *n*	551	115	382	n.s.
Mean (SD)	19.42 (1.314)	19.52 (1.320)	19.38 (1.308)	
Range	18-25	18-25	18-25	
Ethnicity, *n* (%)	554	115	385	n.s.
Caucasian	409 (73.7%)	82 (16.4%)	289 (57.8%)	
African-American	59 (10.6%)	15 (3.0%)	37 (7.4%)	
Hispanic/Latinx	36 (6.5%)	10 (2.0%)	22 (4.4%)	
Asian-American	21 (3.8%)	0 (0%)	18 (3.6%)	
Am. Indian/Alaskan	3 (0.5%)	1 (0.2%)	2 (0.4%)	
Other	26 (4.7%)	7 (1.4%)	17 (3.4%)	
Gender, *n* (%)	554	115	385	n.s.
Female	431 (77.7%)	92 (18.4%)	298 (59.6%)	
Male	119 (21.4%)	22 (4.4%)	84 (16.8%)	
Non-binary	4 (0.7%)	1 (0.2%)	3 (0.6%)	
Total PSAS score, *n*	555	116	385	*
Mean (SD)	23.13 (3.12)	23.78 (3.28)	22.99 (3.03)	
Range	12-32	14-30	12-32	
Total CTQ score, *n*	512	105	353	**
Mean (SD)	34.89 (12.09)	40.09 (12.29)	33.11 (11.76)	
Range	24-106	25-76	24-106	
CTQ EmoAbuse Scale, *n*	512	105	353	**
Mean (SD)	8.41 (4.25)	10.14 (4.50)	7.77 (4.02)	
Range	4-25	5-22	4-25	
CTQ PhysAbuse Scale, *n*	512	105	353	n.s.
Mean (SD)	6.09 (2.42)	6.33 (2.08)	6.04 (2.59)	
Range	4-22	5-14	5-22	
CTQ SexAbuse Scale, *n*	512	105	353	*
Mean (SD)	5.67 (2.66)	6.33 (3.70)	5.47 (2.59)	
Range	4-25	4-25	4-25	
CTQ EmoNeg Scale, *n*	512	105	353	**

Mean (SD)	8.42 (4.01)	9.72 (3.92)	7.94 (3.93)	
Range	4-24	4-20	4-24	
CTQ PhysNeg Scale, *n*	512	105	353	**
Mean (SD)	6.27 (2.38)	7.56 (3.25)	5.87 (1.88)	
Range	5-19	5-19	5-18	
Total LEC score, *n*	522	105	364	**
Mean (SD)	2.07 (1.77)	2.51 (1.95)	1.92 (1.68)	
Range	0-13	0-13	0-8	
Total PCL-5 score, *n*	519	111	354	**
Mean (SD)	20.46 (16.52)	26.36 (18.06)	18.44 (15.40)	
Range	0-68	0-68	0-63	

Note. All group differences were assessed using independent samples T-Tests and Chi-Square.
n.s. = no significant differences.
*$p < .05$.
**$p < .01$.

Table 2

Analyses of Covariance

	SS	*df*	*MS*	*F*
LEC				
Covariate	.60	1	.60	.062
ACE8	72.98	1	72.98	7.518
Error	4523	466	9.70	
PCL-5				
Covariate	11.70	1	11.70	1.222
ACE8	42.40	1	42.40	4.430
Error	4422	462	9.57	

Table 3

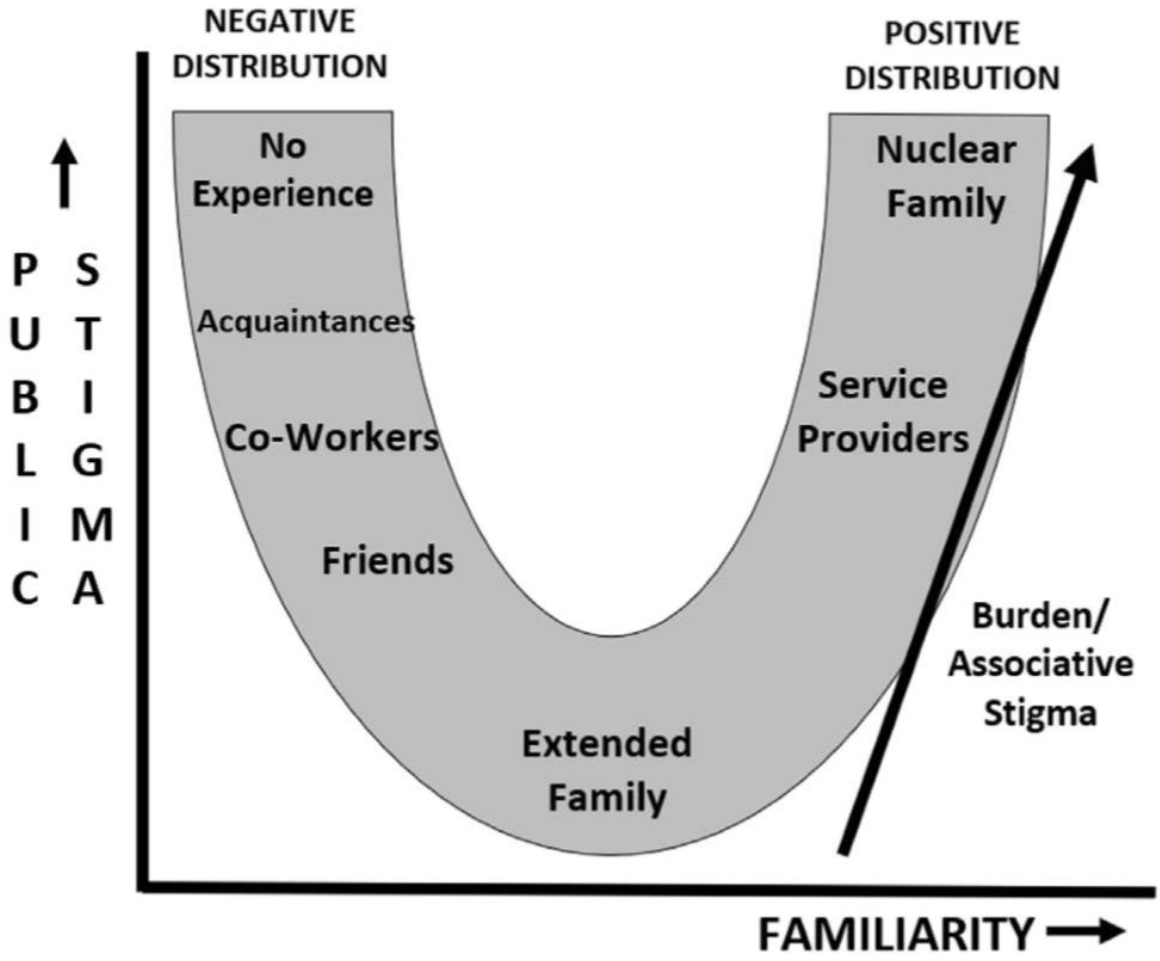
Correlation Coefficients

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. PSAS	23.23	3.12									
2. ACE	1.63	1.84	.118*								
3. LEC	2.02	1.71	.022	.415**							
4. PCL	20.11	16.40	.068	.461**	.422**						
5. CTQ	34.30	11.82	.074	.673**	.384**	.449**					
6. CTQE.Ab.	8.18	4.12	.047	.642**	.355**	.428**	.887**				
7. CTQP.Ab.	6.03	2.44	.105**	.435**	.309**	.253**	.719**	.576**			
8. CTQS.Ab.	5.64	2.58	-.001	.306**	.191**	.190**	.483**	.273**	.268**		
9. CTQE.Neg.	8.22	3.94	.060	.572**	.295**	.410**	.860**	.744**	.476**	.205**	
10. CTQP.Neg.	6.20	2.36	.080	.505**	.278**	.344**	.745**	.555**	.470**	.227**	.614**

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

Figures

Fig. 1. The U-shaped Relationship between public stigma and familiarity (Corrigan & Nieweglowski, 2019).



Measures

Perceived Stigma of Addiction 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.

1. Most people would willingly accept someone who has been treated for substance use as a close friend.

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

2. Most people believe that someone who has been treated for substance use is just as trustworthy as the average citizen.

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

3. Most people would accept someone who has been treated for substance use as a teacher of young children in a public school.

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

4. Most people would hire someone who has been treated for substance use to take care of their children.

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

5. Most people think less of a person who has been in treatment for substance use.

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

6. Most employers will hire someone who has been treated for substance use if he or she is qualified for the job.

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

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

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

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

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

Adverse Childhood Experiences

Adverse Childhood Experience (ACE) Questionnaire

Finding your ACE Score ra hbr 10 24 06

While you were growing up, during your first 18 years of life:

1. Did a parent or other adult in the household **often** …
   Swear at you, insult you, put you down, or humiliate you?
   or
   Act in a way that made you afraid that you might be physically hurt?
   Yes No If yes enter 1 _____

2. Did a parent or other adult in the household **often** …
   Push, grab, slap, or throw something at you?
   or
   Ever hit you so hard that you had marks or were injured?
   Yes No If yes enter 1 _____

3. Did an adult or person at least 5 years older than you **ever**…
   Touch or fondle you or have you touch their body in a sexual way?
   or
   Try to or actually have oral, anal, or vaginal sex with you?
   Yes No If yes enter 1 _____

4. Did you **often** feel that …
   No one in your family loved you or thought you were important or special?
   or
   Your family didn't look out for each other, feel close to each other, or support each other?
   Yes No If yes enter 1 _____

5. Did you **often** feel that …
   You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?
   or
   Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?
   Yes No If yes enter 1 _____

6. Were your parents **ever** separated or divorced?
   Yes No If yes enter 1 _____

7. Was your mother or stepmother:
   Often pushed, grabbed, slapped, or had something thrown at her?
   or
   Sometimes or often kicked, bitten, hit with a fist, or hit with something hard?
   or
   Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?
   Yes No If yes enter 1 _____

8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?
   Yes No If yes enter 1 _____

9. Was a household member depressed or mentally ill or did a household member attempt suicide?
   Yes No If yes enter 1 _____

10. Did a household member go to prison?
    Yes No If yes enter 1 _____

Now add up your "Yes" answers: _____ This is your ACE Score

Childhood Trauma Questionnaire - Short Form

CTQ

Name: _____

Age: _____ Sex: _____

Ready Score® Answer Document

When I was growing up ...	Never True	Rarely True	Sometimes True	Often True	Very Often True
1. I didn't have enough to eat.	●	●	●	●	●
2. I knew that there was someone to take care of me and protect me.	●	●	●	●	●
3. People in my family called me things like "stupid," "lazy," or "ugly."	●	●	●	●	●
4. My parents were too drunk or high to take care of the family.	●	●	●	●	●
5. There was someone in my family who helped me feel that I was important or special.	●	●	●	●	●
6. I had to wear dirty clothes.	●	●	●	●	●
7. I felt loved.	●	●	●	●	●
8. I thought that my parents wished I had never been born.	●	●	●	●	●
9. I got hit so hard by someone in my family that I had to see a doctor or go to the hospital.	●	●	●	●	●
10. There was nothing I wanted to change about my family.	●	●	●	●	●
11. People in my family hit me so hard that it left me with bruises or marks.	●	●	●	●	●
12. I was punished with a belt, a board, a cord, or some other hard object.	●	●	●	●	●
13. People in my family looked out for each other.	●	●	●	●	●
14. People in my family said hurtful or insulting things to me.	●	●	●	●	●
15. I believe that I was physically abused.	●	●	●	●	●
16. I had the perfect childhood.	●	●	●	●	●
17. I got hit or beaten so badly that it was noticed by someone like a teacher, neighbor, or doctor.	●	●	●	●	●
18. I felt that someone in my family hated me.	●	●	●	●	●
19. People in my family felt close to each other.	●	●	●	●	●
20. Someone tried to touch me in a sexual way, or tried to make me touch them.	●	●	●	●	●
21. Someone threatened to hurt me or tell lies about me unless I did something sexual with them.	●	●	●	●	●
22. I had the best family in the world.	●	●	●	●	●
23. Someone tried to make me do sexual things or watch sexual things.	●	●	●	●	●
24. Someone molested me.	●	●	●	●	●
25. I believe that I was emotionally abused.	●	●	●	●	●
26. There was someone to take me to the doctor if I needed it.	●	●	●	●	●
27. I believe that I was sexually abused.	●	●	●	●	●
28. My family was a source of strength and support.	●	●	●	●	●

Life Events Checklist-5

LEC-5 Standard

Instructions: Listed below are a number of difficult or stressful things that sometimes happen to people. For each event check one or more of the boxes to the right to indicate that: (a) it happened to you personally; (b) you witnessed it happen to someone else; (c) you learned about it happening to a close family member or close friend; (d) you were exposed to it as part of your job (for example, paramedic, police, military, or other first responder); (e) you're not sure if it fits; or (f) it doesn't apply to you.

Be sure to consider your *entire life* (growing up as well as adulthood) as you go through the list of events.

Event	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
1. Natural disaster (for example, flood, hurricane, tornado, earthquake)						
2. Fire or explosion						
3. Transportation accident (for example, car accident, boat accident, train wreck, plane crash)						
4. Serious accident at work, home, or during recreational activity						
5. Exposure to toxic substance (for example, dangerous chemicals, radiation)						
6. Physical assault (for example, being attacked, hit, slapped, kicked, beaten up)						
7. Assault with a weapon (for example, being shot, stabbed, threatened with a knife, gun, bomb)						
8. Sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)						
9. Other unwanted or uncomfortable sexual experience						
10. Combat or exposure to a war-zone (in the military or as a civilian)						
11. Captivity (for example, being kidnapped, abducted, held hostage, prisoner of war)						
12. Life-threatening illness or injury						
13. Severe human suffering						
14. Sudden violent death (for example, homicide, suicide)						
15. Sudden accidental death						
16. Serious injury, harm, or death you caused to someone else						
17. Any other very stressful event or experience						

LEC-5 Standard (12 April 2018) National Center for PTSD Page 1 of 1

Posttraumatic Stress Disorder Checklist

PCL-5

Instructions: Below is a list of problems that people sometimes have in response to a very stressful experience. Please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

In the past month, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing, and unwanted memories of the stressful experience?	0	1	2	3	4
2. Repeated, disturbing dreams of the stressful experience?	0	1	2	3	4
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?	0	1	2	3	4
4. Feeling very upset when something reminded you of the stressful experience?	0	1	2	3	4
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?	0	1	2	3	4
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	0	1	2	3	4
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?	0	1	2	3	4
8. Trouble remembering important parts of the stressful experience?	0	1	2	3	4
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?	0	1	2	3	4
10. Blaming yourself or someone else for the stressful experience or what happened after it?	0	1	2	3	4
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	1	2	3	4
12. Loss of interest in activities that you used to enjoy?	0	1	2	3	4
13. Feeling distant or cut off from other people?	0	1	2	3	4
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?	0	1	2	3	4
15. Irritable behavior, angry outbursts, or acting aggressively?	0	1	2	3	4
16. Taking too many risks or doing things that could cause you harm?	0	1	2	3	4
17. Being "superalert" or watchful or on guard?	0	1	2	3	4
18. Feeling jumpy or easily startled?	0	1	2	3	4
19. Having difficulty concentrating?	0	1	2	3	4
20. Trouble falling or staying asleep?	0	1	2	3	4

PCL-5 (14 August 2013) National Center for PTSD Page 1 of 1

IRB Approval

WCU
WEST CHESTER UNIVERSITY

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Protocol ID # 20191008E
This Protocol ID number must be used in all communications about this project with the IRB.

TO: Michael Gawrysiak

FROM: Nicole M. Cattano, Ph.D.
Co-Chair, WCU Institutional Review Board (IRB)

DATE: 10/4/2019

Project Title: Risk and Protective Factors Associated with Drug-Alcohol Use Among College Students: Examining Trauma Exposure and Posttraumatic Stress

Date of Approval: 10/4/2019

☒**Expedited Approval**

This protocol has been approved under the new updated 45 CFR 46 common rule that went in to effect January 21, 2019. As a result, this project will not require continuing review. Any revisions to this protocol that are needed will require approval by the WCU IRB. Upon completion of the project, you are expected to submit appropriate closure documentation. Please see www.wcupa.edu/research/irb.aspx for more information.

Any adverse reaction by a research subject is to be reported immediately through the Office of Research and Sponsored Programs via email at irb@wcupa.edu.

Signature:

Co-Chair of WCU IRB

WCU Institutional Review Board (IRB)
IORG#: IORG0004242
IRB#: IRB00005030
FWA#: FWA00014155