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THE EFFECTS OF CHILDHOOD TRAUMA AND STRESSORS ON PROBLEM BEHAVIORS: COPING AS A MODERATOR

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Bachelor of Arts in Psychology

Cleveland State University

May 2020

submitted in partial fulfillment of requirements for the degree

MASTER OF CLINICAL PSYCHOLOGY

at the

CLEVELAND STATE UNIVERSITY

May 2022

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THE EFFECTS OF CHILDHOOD TRAUMA AND STRESSORS ON PROBLEM BEHAVIORS: COPING AS A MODERATOR

HALLE C. LETIZIO

ABSTRACT

Childhood trauma and childhood stressors are extremely common, impacting two-thirds of children aged twelve to seventeen [Substance Abuse and Mental Health Services Administration (SAMHSA), 2019]. Whether these adversities are egregious or subtle, the impact of such adversities can last well beyond childhood and can extend into young adulthood. The current study aimed to determine if young adult substance use and criminal involvement are long-term effects of childhood trauma and childhood stressors. Another goal was to determine whether these effects could be alleviated to some extent with the utilization of positive coping mechanisms. In a diverse sample of young adults aged 18-30 (M_{age} = 25.00, SD = 3.59; 55.9% women, 42.8% men, 1.3% gender non-binary; 55.0% White, 45.0% non-White), results showed that childhood trauma associates with young adult crime and drug use, but not alcohol use, childhood stressors associate with young adult crime, but positive coping tactics do not moderate any of these relationships. Understanding the impact of childhood trauma and stressors and how they relate to high-risk and destructive behaviors (i.e., substance abuse and crime) later in their lives is critical to the development of services and programs that could provide better-directed prevention and intervention methods toward these behaviors. Further, understanding the coping strategies—specifically those that rely on cognitive and behavioral approach tactics—that decrease risk for these behaviors can provide better-directed support.

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CHAPTER I

INTRODUCTION

Young adulthood marks a significant period of transition, adjustment, growth, and development. For many young adults, this is also a time of high-stress situations, increased pressure to make decisions about their future, and a search for the self (Arnett, 2000). Because of these factors, it is common for adolescents and young adults to experiment and partake in certain problem behaviors. Jessor (1987) described problem behaviors as those that deviate from expected social and legal norms and behaviors that interfere with successful psychosocial development. Problem behaviors can include substance abuse, criminal behaviors, aggression, and many others. For example, substance abuse is a leading problem among young adults: 10% of young adults have an alcohol use disorder, 14% have a substance use disorder, and 8% have an illicit drug use disorder (American Addiction Centers, 2020). Involvement in misdemeanors and low-level crime is another common problem among young adults and is a known predictor of adult criminal behaviors (Juvenile Crime Facts, 2020). Further, these are likely to be of greater consequence during young adulthood as individuals seek education, employment, and settle into long-term romantic relationships (Arnett, 2000).

One common prior life experience that relates to problem behaviors in young adulthood is trauma. Extensive literature exists reviewing the shorter-term effects of trauma and trauma exposure, such as diminished social and emotional skills and diminished academic performance in the following years after a childhood trauma. There is also evidence for the lasting effects of childhood trauma on later adult mental health, such as depression and suicidal ideation (Hutchison, 2020). However, the existing literature lacks sufficient evidence on how childhood trauma associates with problem behaviors (i.e., substance abuse and criminality) during young adulthood. There are also gaps in the literature pertaining to childhood stressors—events that perhaps are not always recognized as trauma, but that still impact one's life and can be detrimental to their development and behavior. The current study will help lessen this gap by considering various stressors during childhood, such as medical trauma (e.g., extreme illness or injury), traumatic grief (e.g., death of a close friend or family member), and household dysfunction (e.g., divorce or separation of parents), in addition to more commonly studied trauma (i.e., childhood abuse or neglect; Oseldman, 2018). In addition to investigating various traumas and adversities and their connection to problem behaviors, namely substance abuse and criminality, this study will examine the role that positive coping strategies play in acting as protective factors against these behaviors, even in the aftermath of trauma.

CHAPTER II

LITERATURE REVIEW

Exposure to trauma is common among children and adolescents, impacting between 20 to 40% of all youth in the United States. Trauma is defined as a deeply distressing or disturbing experience that individuals either witness or experience (American Psychiatric Association [APA], 2013). In a meta-analysis conducted by Saunders and Adams (2014), among youth aged 0-18 years old, 8-12% have experienced sexual assault, 9-19% have experienced physical abuse or assault, up to 70% have witnessed traumatic violence, 20% have experienced the loss of a family member or friend due to homicide, and up to 25% have experienced a natural or man-made disaster. Felitti and colleagues (2019) introduced the term, Adverse Childhood Experiences (ACE), to categorize childhood trauma to better examine how they relate to the presence of health risks later in life, specifically causes of death in adults. Categories of ACEs included physical, psychological, and sexual abuse and neglect, as well as household dysfunction, such as living in a household with another who suffered from substance abuse or mental illness, living with an adult involved in criminal behavior or incarcerated, or witnessing violence toward their mother. Their initial results showed not only a strong association between ACEs and risk for disease and other leading causes of

death in adults, but also that many participants exposed to one category of abuse or household dysfunction were exposed to at least one other. Due to these findings, the researchers proposed the importance of considering combinations of ACE exposure (i.e., cumulative effects).

Research regarding the long-lasting effects of childhood traumas such as abuse and neglect is abundant, and there have been hundreds of studies that have examined the associations between these established forms of trauma and problem behaviors such as criminality and substance abuse. Childhood stressors (i.e., subtler forms of trauma or adversity that children face and are perhaps more common) have been studied far less, and the research surrounding long-lasting effects of these stressors, particularly on those aforementioned problem behaviors, is even more scarce. Trauma can take various forms and it can leave lasting impressions on those who experience it, especially when it occurs curing childhood or adolescence. This lasting impression on adolescents and how it impacts young adult outcomes, specifically outcomes with high prevalence rates among young adults (i.e., substance use and criminality) is important to understand. Recognizing and understanding different traumas—from the egregious traumas such as abuse, traumatic grief, or medical trauma to the subtler forms of trauma, such as household dysfunction or major family upheaval—is crucial in developing more effective trauma services, interventions, and prevention strategies for young adults. Studying a vast spectrum of traumas allows for further expansion of knowledge and understanding of the different stressors that are common among young adults, and how those that experience these stressors react to them differently.

The period of emerging adulthood is a transitional time for many individuals in their late teens and early 20s (Arnett, 2000). Sometimes, it is characterized by initiating or continuing involvement in problem behaviors (Jessor, 1987). These include substance abuse and criminal behaviors, or any behavior that is viewed as problematic or undesirable by society. Jessor (1987) argues that involvement in some of these behaviors act as rites of passage from adolescence to adulthood. These behaviors may be common during emerging adulthood, especially because problem behaviors are often co-occurring, and engagement in one may lead to engagement in others. Because of this, it is important to consider events that may trigger problem behaviors or increase their likelihood. Trauma, especially in childhood, is one of these triggers—particularly for substance abuse and criminality. It is important to understand to what extent childhood trauma associates with substance abuse and crime in emerging adulthood.

2.1 Trauma and the Connection with Substance Abuse

Childhood trauma has been significantly linked to early substance abuse. Substance abuse is the excessive consumption of alcohol and/or the use of illicit drugs, as well as suffering from impaired control because of a drug, unsuccessful attempts at discontinuing drug use, cravings associated with a drug, or being unable to fulfill obligations because of drug use. This definition is loosely based off of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, of criteria for a substance use disorder (APA, 2013). Substance abuse, as opposed to a substance use disorder, can mirror the criteria for a substance use disorder, but does not meet the threshold of a diagnostic disorder.

According to the International Society for Traumatic Stress Studies (ISTSS, 2021), 10-33% of adults worldwide who have survived accident-, illness-, or disaster-related trauma report alcohol abuse. Adolescent sexual assault victims are approximately four times more likely to experience alcohol, or marijuana abuse or dependence, and nine times more likely to experience illicit drug abuse or dependence. This increased risk is because the use of alcohol or drugs can provide temporary relief from trauma-related problems such as negative thoughts, feelings, bodily experiences, relationships with others, and behaviors. Further, these symptoms, which are often correlated with posttraumatic stress disorder (PTSD), increase risk for developing a substance use disorder (Chilcoat & Breslau, 1998), with 36%-52% of adults aged 18 or older with PTSD also meeting criteria for a comorbid alcohol use disorder (Roberts et al., 2015). In a study with college-aged students who experienced a traumatic event, including a motor vehicle accident, life-threatening illness, natural or human-made disaster, physical or sexual assault, and military combat, 60% reported using nonmedical prescriptions, which was significantly more users than those without a history of trauma (Ham et al., 2016).

Childhood trauma was also connected to abuse of several other drugs, including prescription drugs, injection drugs, and marijuana. Among middle and high school students and across three different developmental periods—adolescence (ages 11-21), emerging adulthood (ages 18-28), and adulthood (ages 24-34) (Quinn et al., 2016), abuse and neglect, parental incarceration, and being threatened with and experiencing violence associated with increased prescribed pain reliver misuse in emerging adulthood. Further, cumulative traumas (i.e., experiencing more than one type of these traumas) associated with increased adulthood prescribed pain reliver misuse. Both abuse and witnessed

violence were associated with injection drug use. Regarding marijuana, the National Comorbidity Replication Study (2018) found that 65% of adults with a lifetime diagnosis of PSTD reported higher lifetime marijuana use. Further, rates of marijuana use are higher among those with PTSD (14%) compared to those without (9%). These findings were echoed in the National Epidemiological Survey on Alcohol and Related Conditions, as lifetime PTSD and lifetime marijuana use were strongly associated (Buckner et al., 2018; Cougle et al., 2011). Further, Cougle and colleagues (2011) reported that both lifetime and current PTSD among adults were associated with increased daily marijuana use. These findings indicate the need for simultaneous marijuana-related and trauma-related interventions and treatment. Overall, prior research highlights associations between childhood trauma and prescription misuse, injection drug use, marijuana and alcohol use, and the presence of substance use disorders. Together, these findings indicate the need for trauma-informed interventions and preventions for substance abusers who have experienced trauma.

Another form of childhood trauma, childhood sexual abuse, has been found to contribute to increased risk of substance use and mental health disorders (McCabe et al., 2022). The authors examined this relationship by investigating the prevalence and associations of childhood sexual abuse with suicide attempts, substance use, and mental health disorders as a function of sex assigned at birth (male and female), and sexual orientation (lesbian, gay, bisexual, straight, and unsure). In a national sample of 36,309 adults aged 18 and older, McCabe and colleagues found that childhood sexual abuse was most prevalent among sexual minorities, especially bisexual females. Among the entire sample, exposure to one or more forms of childhood sexual abuse was associated with

greater odds of lifetime suicide attempts, alcohol, tobacco, or other drug use disorder, and mental health disorders. These findings highlight that sexual minorities are at a greater risk for experiencing suicidality, substance abuse, and mental health disorders when they have been exposed to childhood sexual abuse.

Substance abuse has also been found to be a long-lasting effect of parental death, in a study conducted by Hamden and colleagues (2013). They were interested in examining how the death of a parent among youths would associate with the presence or onset of alcohol and substance abuse or dependence. They used a sample of adolescents and young adults aged 7-25, with a parent who died from suicide, accident, or sudden natural cause, as well as a comparison group of non-bereaved youths. The researchers found that the bereaved children were at around a 2.4 times higher risk for alcohol and substance abuse or dependence, compared to their nonbereaved counterparts. Childhood illness is another adversity that can have lasting effects on young adult substance use (Milam et al, 2015). The researchers of this study examined substance use behaviors of recently treated Hispanic and non-Hispanic childhood cancer survivors. These individuals were between the ages of 15 and 25 years and were previously diagnosed with some form of cancer between the ages of five and eighteen. The substance use behaviors that were investigated were cigarettes or marijuana use any time within the prior 30 days, and binge drinking (5 or more alcoholic drinks on the same occasion at least once in the prior 30 days). Substance use among the childhood cancer survivors in this study were lower than those in the general population. For example, among high school students nationwide, the percentages for those who smoked cigarettes, binged alcohol, or smoked marijuana were 15%, 21%, and 23%, respectively. Among those high

school aged individuals in this study (ages 15–17), the percentages were 0.0%, 0.0%, and 0.53%, respectively. Among young adults (ages 18–25) sampled nationwide, the percentage who smoked cigarettes or marijuana was 31% and 19%, respectively, versus 11.5% and 13.2% among similar aged childhood cancer survivors in the sample. Finally, the percentage who binged alcohol was 29% for those aged 18 to 20, and 43% for those aged 21 to 25, versus the 8.3% and 16.6% that this study produced. The researchers theorize that these results are due to cancer survivors being more mindful or concerned about their health, and therefore use fewer substances. Nevertheless, this study provides evidence that experiencing a major illness during childhood could have an impact on later substance abuse. While the results of this study are positive, meaning that in this sample illness resulted in less substance use, it begs the question of whether illness could also relate negatively to young adult substance use.

2.2 Trauma and the Connection with Crime

Crime is any behavior, defined by statutory or common law, as deserving of punishment (Durose & Mumola, 2004). A crime can be violent or nonviolent, with violent crimes being more severe and less common than nonviolent crimes. A violent crime is one in which the victim is harmed by or threatened with violence, including rape and sexual assault, robbery, assault, and murder (National Institute of Justice). A nonviolent crime is defined as property, drug, and public order offenses which do not involve a threat of harm or an actual attack upon a victim. The current study will focus on crime or criminality as defined by nonviolent crimes and violent crimes. According to Evans and Burton (2013), experiencing childhood trauma relates to engagement in violent and nonviolent crimes, as well as status offenses—an offense that is prohibited

only to a certain group of people, such as minors—among juveniles. Using self-report measures, the authors assessed for the relationship between several childhood trauma experiences—emotional neglect, physical neglect, physical abuse, emotional abuse, and sexual abuse—and total crime, nonviolent crime, violent crime, status offenses, and property crime. Results indicated some specific associations between trauma and criminality such that physical neglect and sexual abuse related to total crime; physical neglect related to property damage, and violent crime; physical neglect, emotional neglect, and sexual abuse significantly associated with nonviolent crime; and finally, physical and emotional neglect significantly predicted status offenses. Overall, the findings from this study demonstrated a positive correlation between the frequency of trauma and the frequency of crime, with physical neglect being the biggest indicator of crime.

A longitudinal study assessed the relationship between traumatic events and criminal acts among girls aged 18 or younger in the juvenile justice system over a 12-month period (Marsiglio et al., 2014). The authors also considered how the effect of traumatic events differed between those who entered treatment prior to high school versus after entry into high school, a critical period in adolescence. They found a significant relationship between trauma and criminality among girls who started treatment before entry into high school. The results indicated that the timing of the trauma may impact the course of future criminal activity. These findings suggest a need for more research on how early trauma exposure might impact other sensitive and transitional periods, to better understand this relationship between trauma and young adult criminality. The overlap of trauma exposure and criminal behavior was further

examined in a study conducted on a sample of both offending and non-offending adolescents (mean age of 14.5 years) (Adams et al., 2013). Specifically, this study examined adversities such as exposure to interpersonal violence, substance abuse, and major depressive episodes. Offending adolescents were more likely to have experienced PTSD and a greater number of traumatic events than non-offending adolescents. These associations are further evidence that criminality is highly correlated with trauma and post-traumatic stress disorder among adolescents.

Looking at childhood stressors, childhood parental death has been associated with adverse health, and social and educational outcomes. A study conducted by Berg and colleagues (2019) has taken this association a step further to investigate risk of violent crime in relation to childhood parental death in a large national cohort covering the entire Swedish population born in 1983–1993. The impact of parental death from both natural (e.g., disease) and external causes (e.g., homicide, suicide, accidents) on risk for violent crime from ages 15-30 years was examined. Results showed that violent crimes were more common in men and women with childhood experience of parental death, especially if that death was caused by a sudden or violent tragedy such as homicide, suicide, or an accident, compared with children without this experience. Results suggest that there is an effect of the death itself and that parental death, particularly when death is sudden and unexpected, should be considered a potentially traumatic childhood event. The importance of the findings is further emphasized by demonstrating the association between parental death from external causes and other adverse childhood experiences, which support the need for inclusion of parental death in a broader definition of this concept.

Prior research suggests that ACEs are related to adolescent health problems, and though rarely examined, it is likely that exposure to multiple ACEs would increase the likelihood of substance use, violence, and delinquency (Fagan & Novak, 2017). Whether or not the impact of ACEs on criminality varies by race is less certain. According to Fagan and Novak (2017), there is some evidence that Blacks experience more ACEs, but Whites are more negatively affected by them. However, other research suggests opposite relationships. Their study seeks to address gaps in the ACEs literature by examining the relationship between ACEs and adolescent criminality among high-risk youths aged 4-6. Specifically, they wanted to know to what extent does the prevalence of ACEs differ according to race, and to what extent does the association between ACEs and adolescent substance use, violence, and arrest differ by race. Further, the study extends prior research by examining the association between ACEs and adolescent problem behaviors according to youth race, in an attempt to explain why youth may be involved in criminal behaviors. Participants were selected based on having a history of maltreatment or considered at risk for maltreatment based on factors such as parents' low socioeconomic status. In this racially diverse sample, White children were more likely than Black children to experience most of the ACEs included in the analysis, and they had a higher mean number of ACEs. Further, the results indicated that the impact of the total number of ACEs on various forms of crime was statistically significant for Black adolescents in all but one model (predicting violence), but no significant relationships were found among Whites. This study is unique in that it is one of the first to examine race differences in the occurrence of ACEs and in their impact on criminality, and because it assessed four different types of criminality—alcohol use,

marijuana use, violence, and arrest, focusing on the types of behaviors known to vary by race during adolescence.

The studies outlined in the previous sections all focus on adolescents (ages 18 or younger), or all adults (ages 18 or older). What is missing from the literature is more focused research on young adults/early adulthood. This age range is so important because it is characterized as emerging adulthood (Arnett, 2000), a period that is a sensitive and high-risk time for individuals, making participation in problem behaviors much more likely (Jessor, 1987). Further examining this age range can provide a better understanding of the different ways young adults deal with adversity from their childhood, while also finding their way during such an instrumental period in their life and balancing the changes that come with this period.

2.3 Coping with Trauma

Use of positive and negative coping mechanisms might exacerbate or ameliorate the effects criminality. According to stress-coping theories (Lazarus & Folkman, 1984), how individuals cope after and react to stressful events is a key factor in the long-term implications of such stress. Stress and coping theory (Lazarus & Folkman, 1984) emphasizes the importance of two processes—appraisal and coping—as moderators of the relationship between a person and their environment. This theory can be related to trauma in that a when a traumatic or stressful event happens, and a person appraises or evaluates their situation, which may spark feelings of fear, anger, anxiety, or sadness. Following these feelings, individuals will find ways to manage or lessen their distress (adaptive or maladaptive coping). Much of the previous literature on coping after trauma focuses on how children use both positive (adaptive) and negative (maladaptive) coping

strategies at a young age or shortly after the traumatic experience. However, the literature lacks robust empirical evidence on how young adults actively and positively cope with trauma years after it happened. Further, there is a lack of information pertaining to the consequences of a lack of positive/adaptive coping or protective factors later in life. This dual struggle—childhood trauma and the transition to emerging adulthood—can be instrumental in the development of problem behaviors, particularly if positive coping strategies are not engaged. For this reason, an examination the association between childhood trauma and later problem behavior during emerging adulthood—and how this association may be mitigated by a wide range of adaptive coping strategies—is much needed.

For example, the association between childhood abuse and neglect and adult substance use and psychological distress was mediated by avoidant coping and educational attainment (Meeyoung et al., 2007). Specifically, avoidance related to more substance use and distress, whereas educational attainment associated with decreased substance use and distress after trauma. Further, in a study conducted on female assault survivors, results showed that those who were both highly reliant on avoidant coping and highly reactive to reminders of their trauma were at the greatest risk of developing symptoms of PTSD (Pineles et al., 2011). These results suggest that an overreliance on avoidant coping strategies— particularly among individuals who show an increased reactivity to trauma reminders—is a potential interference with natural trauma recovery.

Another way to conceptualize coping is adaptive coping and maladaptive coping. Some examples of adaptive coping are emotional support, humor, positive thinking, and cognitive restructuring, and some examples of maladaptive coping are emotional

numbing, escape, and rumination. A study was conducted to determine if adaptive coping interacted with maladaptive coping to predict levels of depression in three samples of females—never-depressed girls, never-depressed adult women, and currently depressed women (Thompson et al., 2010). The researchers found that among the adolescent, non-depressed girls, and among the non-depressed women, the relationship between maladaptive coping and depressive symptoms was stronger when levels of adaptive coping were low. Higher levels of adaptive coping appeared to act as a protective factor in the presence of maladaptive coping. In the depressed women sample, there was less of an interaction between adaptive and maladaptive coping in relation to depressive symptoms. These findings highlight the need for further research pertaining to adaptive coping strategies to determine the role they may play in lessening the effects of depression and other mental illnesses, but also the extent to which they may help individuals deal with trauma in a healthy way.

Other researchers have investigated the role of coping and how it impacts one's posttraumatic experiences. Shaw and colleagues (2005) examined how coping mechanisms such as spirituality and religion can promote posttraumatic growth after trauma. In their review, the authors summarized that religious beliefs are often an instrumental resource for trauma survivors in recovery, through either the finding of new spiritual beliefs or the strengthening and deepening of previously existing ones. This study provides evidence that individuals can manage their trauma in positive ways and through positive outlets to grow and improve their quality of life. Another study focused on methods of coping among children following a traumatic injury (fractures, strains, sprains, contusions, head injuries, and organ injuries) and their subsequent development

of post-traumatic stress symptoms (Marsac et al., 2013). Children were assessed for their utilization of ten coping mechanisms including adaptive coping tactics (problem solving, emotion regulation, cognitive restructuring, social support) and maladaptive coping strategies (distraction, social withdrawal, wishful thinking, self-criticism, blaming others, and resignation). Results showed that children reported a mean of six out of the ten coping strategies, with wishful thinking, seeking social support, distraction, blaming others, and cognitive restructuring being the most frequently reported. Findings also showed that children who utilized more avoidant (social withdrawal) or negative (resignation) coping mechanisms, related to a greater likelihood of developing post-traumatic stress symptoms. These results provide evidence that children utilize both active or positive coping skills, as well as negative coping skills when dealing with a traumatic injury. It also highlights that negative and avoidant coping relates to greater post-traumatic stress and possibly other negative outcomes. However, the positive coping mechanisms may act as protective factors after trauma experiences. One study evaluated positive coping mechanisms as protective factors and their association with resiliency and posttraumatic growth among college students who were childhood victims of physical violence or sexual abuse (Schaefer et al., 2018). Results showed that greater family support, optimism, and religious coping led to higher resilience, and both optimism and religious coping led to higher posttraumatic growth.

CHAPTER III

CURRENT STUDY

The purpose of this study is to examine the effects of childhood and adolescent trauma—both trauma and stressors—on later problem behaviors, namely substance abuse and involvement in violent and nonviolent crime, during emerging adulthood. Furthermore, the second goal is to better understand how use of positive or adaptive coping strategies may protect from problem behaviors despite a history of trauma. It is often theorized that the presence of adaptive coping mechanisms, such as strong social support, positive reframing, or meditation, after childhood trauma may decrease the propensity for substance use and criminal acts. Understanding the impact of childhood trauma on participation in high-risk and destructive behaviors, such as substance abuse and crime, is critical to the development of services and programs that could provide better-directed prevention and intervention methods toward these behaviors. Further, understanding the coping mechanisms that decrease risk for these behaviors can provide better-directed support. This study will examine adults aged 18-30 years old in order to better understand how individuals reflect on their childhood traumas and stressors. It is also intended to see if these young adults have since found useful adaptive coping

strategies to help them deal with the effects of those adversities, or if they have since become involved with problem behaviors as a result.

The goal of this study is to expand upon the research that currently exists about childhood trauma, its connection to substance abuse and involvement in violent or nonviolent crime, and the role of coping by examining various types of traumas, various methods of positive coping, and by using a young adult sample that retrospectively reflects on their trauma and their current coping strategies—rather than looking broadly at all adults aged 18 and older, or looking at adolescents younger than 18. The current study proposes two hypotheses between traumatic experiences in one's childhood and adolescence and young adult substance abuse and criminality. This study will also examine the moderating effect of coping mechanisms on these main effects.

2.4 Hypotheses

1A: Traumatic events and traumatic stressors in one's childhood will associate with increased substance abuse and involvement in crime in young adulthood.

1B: Positive coping strategies will moderate the effects of traumatic events and stressors on young adulthood substance abuse and involvement in crime, such that positive coping will associate with less substance abuse and less criminality after trauma.

CHAPTER IV

METHOD

4.1 Procedures

Data were collected virtually from young adults (ages 18-30) who live in the United States. Participants were recruited through Qualtrics panels. Qualtrics conducted all recruitment, data collection, and participant compensation, and provided quality, non-fraudulent responses that met specified quotas for gender, age, and region across the United States, to ensure a diverse sample. The quotas were: United States adults between the ages of 18 and 30; 48% men, 52% women, and natural fallout of non-binary adults; and residing in the following geographic locations: 17% Northeast, 21% Midwest, 24% West, and 38% Southwest. Procedures were intended to recruit respondents of various racial and ethnic backgrounds and across gender identity. Qualtrics sent an email to their panelists requesting their participation.

After clicking on the invitation, individuals were guided through the consent process. After consenting, participants completed an online survey that included a series of established questionnaires on prior trauma, violent and nonviolent (property and interpersonal) crimes, drug and alcohol use, and positive/adaptive coping mechanisms. The survey included a question at the beginning that asked participants to confirm that

they would respond to the items thoughtfully and honestly. It also included an attention check about halfway through that dictated which answer choice the participants should endorse, ensuring that proper thought and attention was given. The survey was completed on a personal smartphone, tablet, or computer, and the order of the individual measures that made up the survey were randomized for each participant. After survey completion, participants were provided with debriefing materials (National Hopeline Center, National Suicide Prevention, and National Crisis phone numbers), and were reassured that their responses would remain confidential. Qualtrics then provided a de-identified dataset of finished quality completes. In contract with Qualtrics, Qualtrics compensated participants a modest sum for their participation.

4.2 Participants

Qualtrics provided a de-identified dataset of 516 participants that were screened prior to analyses. However, a number of participants (n = 112) did not correctly complete the survey's attention check, bringing the sample down to 404. After then filtering out participants who answered nonsensically to some of the open-ended questions, the sample was at 396. A final check for extreme outliers on the measures' scores, and a removal of 8 individuals who identified as gender non-binary, resulted in a final sample of 359 individuals. This sample was 55.9% women, 42.8% men, 1.3% gender non-binary, with a mean age of 25.09 years, *SD* = 3.59. Fifty-five percent of the sample was White, 22.3% were Black, 9.0% were Biracial, 5.4% were Asian American, 4.1% were Hispanic, 1.4% were Native American, 1.4% were multi-racial, 0.3% were Middle Eastern, and 0.3% were Other. In terms of sexual orientation, the sample was 80.3% heterosexual (straight), 13.9% bisexual, 1.4% gay, 1.1% lesbian, 0.8% queer, and 2.5% other. Around

37.2% of participants were from the Southern region of the United States, 23.1% lived in the Midwest, 21.9% lived in the West, and 17.8% lived in the Northeast. Finally, looking at annual income for the sample, 27.0% earned less than $20,000 per year, 29.3% earned between $20,000 and $44,999 per year, 30.5% earned between $45,000 and $92,999 per year, 7.5% earned between $93,000 and $139,999 per year, 2.6% earned between $140,000 and $149,000 per year, 1.7% earned between $150,000 and $199,999 per year, and 1.4% earned above $200,000.

4.3 Measures

Childhood Trauma. Childhood trauma was evaluated using two surveys to provide insight into various forms of trauma, specifically child abuse, medical trauma, traumatic grief, and household dysfunction. The Adverse Childhood Experiences (ACE) questionnaire is a 10-item survey that assesses a person's experiences with adverse childhood experiences, such as abuse, neglect, domestic violence, and household dysfunction (see Appendix A; Felitti et al., 2019). Each item asked about experiences with these incidents during the first 18 years of their life. The items pertained to psychological, physical, or sexual abuse/neglect, witnessing violence against the mother, living with household members with substance abuse problems, mental illness or suicidality, or prior or current imprisonment, and parental divorce/separation. Responses for this measure were dichotomous (yes/no), and were scored as no = 0, yes = 1. Reliability for this scale in this sample was ($\alpha = .823$).

Additionally, the Childhood Traumatic Events Scale (CTES) questionnaire is a 6-item survey that was modified to assess subtler forms of childhood adversities. The CTES was reduced to only 4 items that supplement the ACE measure by getting at stressors

including experiencing the death of a close friend or family member, being the victim of violence, and being extremely ill or injured. The final item asks if the participant has experienced "any other major upheaval" that they feel has significantly impacted their childhood/life. While the ACE and CTES ask similar questions, the utilization of both for this study was necessary because it enables us to examine various forms of stressors. To remain consistent among both trauma questionnaires, the items for the CTES were altered to ask about experiences before the age of 18, rather than before the age of 17, which is used in the original measure (Pennebaker & Susman, 2013). The responses for these measures were dichotomous (yes/no), and were scored as no = 0, yes = 1. Responses of the two measures were summed individually to provide a cumulative ACE (trauma) score, which ranged from 0 to 10, and a cumulative CTES (stressor) score, which ranged from 0 to 4. Reliability for this scale in this sample was (α = .318), and while this value is poor, it is likely because only four items were used instead of the original six.

Violent and Nonviolent Crime. Criminal behaviors, specifically property and interpersonal crimes, were evaluated using the Crime and Violence Scale (CVS) (Dennis et al., 2006). For this study, the short version (only two out of the three subscales) was used to assesses a person's involvement with violent and nonviolent crimes (see Appendix A) and was made up of 14 items. The Property Crimes Scale includes items pertaining to damaging property, stealing/receiving stolen goods, and burglary, while the Interpersonal Crimes Scale includes items pertaining to more violent crimes such as assault, murder, and rape. The original measure prompt is, "During the past 12 months, how many times have you…" but was changed to be "During the past 12 months, have you…" to dichotomize the responses into 0 (indicating they have not done this) and 1

(indicating they have done this). Participants were scored a 1 for each item they endorse, creating a total score of crime involvement ranging from 0-14. The reliability for the original measure is good (α = .91) (Conrad et al., 2010), and in this study's sample, reliability is good as well (α = .72).

Substance Abuse. Substance use, specifically, drug and alcohol use, was measured using two surveys. The Drug Use Disorders Identification Test (DUDIT) is an 11-item survey that assesses for drug-related problems in an individual. Participants were asked a series of questions pertaining to possible drug use, including items about the nature and frequency of drug-related behaviors (Berman et al., 2007) (See Appendix A). The first question simply asked if participants use any drugs, and if the response was no, they were automatically prompted to the next measure of questions and were not asked any of the remaining DUDIT items. These participants were given a score of 0 on the total measure. Response options differed for the remaining items. Questions that asked about how often individuals used drugs or participated in a drug behavior had response options of *Never* (score of 0) to *Daily or almost every day* (score of 4). Items that asked about the effects of one's drug use, such as "Have you or someone else been hurt because of your drug use," had the response options of *No* (score of 0), *Yes, but not in the last year* (score of 2), and *Yes, in the last year* (score of 4). Finally, there was one item that asked how many drugs they use in one sitting when they use drugs, which had response options of *1 or 2* (score of 0) to *7 or more* (score of 4). A sum score was created for alcohol-related behaviors (scores ranging 0-36). The DUDIT shows excellent reliability with a Cronbach's alpha > .90 (Hildebrand, 2015), and this study's sample produced good reliability for this measure (α = .86). The Alcohol Use Disorders Identification Test

(AUDIT) is a 10-item survey that examines individual alcohol consumption, drinking behaviors, and alcohol-related problems. Participants were asked a series of questions about the nature and frequency of alcohol-related behaviors (Saunders et al., 1993) (Appendix A). The first question asked if participants drink any alcohol, and if the response was no, they were automatically prompted to the next measure of questions and were not asked any of the remaining AUDIT items. These participants were given a score of 0 on the total measure. Response options differed for the remaining items. Questions that asked about how often individuals participated in a drinking behavior had response options of *Never* (score of 0) to *Daily or almost every day* (score of 4). Items that asked about the effects of one's drinking, such as *Have you or someone else been injured because of your drinking*, had the response options of *No* (score of 0), *Yes, but not in the last year* (score of 2), and *Yes, in the last year* (score of 4). Finally, there was one item that asked how many drinks they have in one sitting when they drink alcohol, which had response options of *1 or 2* (score of 0) to *10 or more* (score of 4). A sum score was created for alcohol-related behaviors (scores ranging 0-42). Reliability of the AUDIT (Cronbach's alpha) is 0.55 (Kallman, 2014), and this study's sample produced even better reliability for this measure ($\alpha = .90$).

Positive Coping Mechanisms. Positive coping was evaluated using the Brief-COPE (Carver, 1997), a 28-item survey that identifies ways individuals handle and cope with hardships and negative experiences. This measure included questions about both positive coping strategies, and the degree to which they perform them. For this study, participants only completed questions from four of the scales (8 items), which were positive reframing, religion, emotional support, and instrumental support. There were

significant (r = .313 - .700, p < .001) correlations between religion and instrumental support, religion and emotional support, religion and positive reframing, instrumental support and emotional support, instrumental support and positive reframing, and emotional support and positive reframing. These scales were chosen because they are forms of either positive reappraisal—which is a form of cognitive approach coping—or forms of seeking guidance or support—which are tactics of behavioral approach coping (Holahan et al., 2017). Further, these specific coping mechanisms were supported in Schafer et al.'s 2018 study that showed that support, optimism, and religion led to posttraumatic growth. Respondents rated items on a 4-point Likert scale, ranging from *I haven't been doing this at all* (score of 0) to *I've been doing this a lot* (score of 3) (See Appendix A). Each of the four subscales consisted of two items, and total scores range from zero to six, giving a maximum cumulative score of 24 for adaptive coping. Higher scores indicate greater utilization of adaptive coping. Together, the four subscales of positive reframing, religion, emotional support, and instrumental support were combined to form an adaptive coping scale, which has good reliability, measured by Cronbach's alpha (α = .84).

CHAPTER V

RESULTS

This study includes two predictors of childhood trauma (an ACE score referred to as childhood trauma and a CTES score referred to as childhood stressors), three outcome variables (alcohol use, drug use, and crime involvement), and a potential moderator variable (positive coping mechanisms). Childhood trauma was calculated by summing the scores from the ten items of the Adverse Childhood Experiences, and childhood stressors was calculated by summing the scores from the four Childhood Traumatic Events Scale items. Positive coping was calculated by summing the scores of the four adaptive coping subscales that were utilized from the original measure. Criminality, drug use, and alcohol use were calculated by summing the items from each scale to create a cumulative score for each measure.

First, descriptive analyses were conducted to check for skewness and kurtosis of the crime, drug use, and alcohol use variables, with none of the outcome variables having skew values outside the bounds of -2 and +2, nor did they have kurtosis values outside the bounds of -7 and +7 (Byrne, 2010; Hair et al., 2010). Multicollinearity assumptions were met, as tolerance values were greater than .9, and all Variance Inflation Factor (VIF) values were just above 1.0. Covariates of age, gender (dummy-coded—56.6%

women, coded as 1 and 43.4% men, coded as 0), and race (dummy-coded—55.0% white, coded as 0 and 45.0% non-white, coded as 1) were controlled for, based on initial bivariate correlations (see Tables 1-3). These bivariate correlations showed that age, race, childhood trauma, childhood stressors, and positive coping were all significantly associated with criminality. Additionally, age, childhood trauma, and childhood stressors were significantly correlated with drug use. Age, gender, and positive coping were significantly correlated with alcohol use. Other significant associations included childhood trauma with age, childhood trauma with gender, gender with race, childhood stressors with childhood trauma, and positive coping with childhood trauma

Multiple hierarchical regressions were used to test the proposed hypotheses and determine the relationship(s) between childhood trauma/childhood stressors and substance abuse (alcohol and drug), childhood trauma/childhood stressors and crime, and the potential moderating effects of positive coping mechanisms (see Figure 1). The predictor variables, childhood trauma and positive coping, were converted to Z-scores to ensure the measures are on the same scale, thus allowing for the creation of the interaction term. An *a priori* power analysis indicated that to achieve power at or above 0.80 (.05), $f^2 = 0.15$, a sample of at least 150 participants was required, so the final sample of 367 individuals well exceeded this number. To reduce the chances of Type 1 error, a Bonferroni correction was applied to the analyses, which resulted in the significance cutoff being $p < 0.017$, rather than $p < 0.05$.

5.1 Violent and Nonviolent Crime

A series of hierarchical multiple regression was employed to test the hypothesized relationships. The first step of the regression with childhood trauma, childhood stressors,

and positive coping entered together produced a significant amount of the variance in criminality, $R^2 = .264$, $F(2, 352) = 21.009$, $p < .001$. These results show that after controlling for age, gender, and race, childhood trauma ($\beta = 0.361$, $p < .001$) and childhood stressors ($\beta = 0.136$, $p = 0.14$) both significantly impact criminality, supporting Hypothesis 1A. In other words, as experiences of childhood trauma and childhood stressors increased, experiences with crime also increased. Further, positive coping was not associated with criminality ($\beta = -0.104$, $p = .025$). In the next step, the interaction terms for childhood trauma and positive coping and childhood stressors and positive coping were entered, accounting for an insignificant, additional 0.2% of the variance in criminality $\Delta R^2 = .002$, $\Delta F\ (1, 350) = 0.382$, $p = .683$. Contrary to Hypothesis 1B, positive coping did not significantly moderate the relationship for either childhood trauma ($\beta < .001$, $p = .999$) or childhood stressors ($\beta = -0.040$, $p = .466$).

5.2 Drug Use

The next regression, with both childhood trauma, childhood stressors, and positive coping entered together, produced a significant amount of the variance in drug use, $R^2 = .157$, $F(2, 352) = 10.967$, $p < .001$. These results show that after controlling for age, gender, and race, childhood trauma ($\beta = 0.376$, $p < .001$) significantly impact drug use, but childhood stressors did not ($\beta = -0.021$, $p = .716$), only partially supporting Hypothesis 1A. In other words, as experiences of childhood trauma (measured by ACE score) increased, experiences with drugs also increased. Positive coping was not associated with drug use ($\beta = -0.032$, $p = .516$). In the next step, the interaction terms for childhood trauma and positive coping and childhood stressors and positive coping were entered, accounting for an insignificant, additional 0.4% of the variance in drug use, ΔR^2

= .004, ΔF (1, 350) = .807, p = .447. Once again, contrary to Hypothesis 1B, positive coping did not significantly moderate the relationship for either childhood trauma (β = 0.073, p = .215) or childhood stressors (β = -0.053, p = .366).

5..3 Alcohol Use

Finally, the last regression, with both childhood trauma, childhood stressors, and positive coping entered together, produced a significant amount of the variance in alcohol use, R^2 = .092, F(2, 352) = 5.925, p < .001. However, after examining further, the results show that after controlling for age, gender, and race, childhood trauma (β = .146, p = 0.020) and childhood stressors (β = -0.121, p = 0.048, did not significantly impact alcohol use, rejecting Hypothesis 1A. Positive coping was also not associated with alcohol use (β = 0.104, p = .042). In the next step, the interaction terms for childhood trauma and positive coping and childhood stressors and positive coping were entered, accounting for an insignificant, additional 0.4% of the variance in alcohol use, ΔR^2 = .004, ΔF (1, 350) = .842, p = .432. Once again, contrary to Hypothesis 1B, positive coping did not significantly moderate the relationship for either childhood trauma (β = 0.040, p = .511) or childhood stressors (β = 0.035, p = .567).

CHAPTER VI

DISCUSSION

This study focused on the potential association between two forms of childhood trauma (trauma, stressors) and involvement in violent and/or nonviolent crime, drug use, and alcohol use, as well as whether positive (adaptive) coping strategies can moderate these effects. The first hypothesis stated that traumatic events and/or stressors in one's childhood would lead to increased substance use and crime in young adulthood. The results partially supported this hypothesis, as traumatic childhood events were associated with increased criminal involvement and increased drug use, but not increased alcohol use. Childhood stressors were associated with increased criminal involvement, but not increased drug or alcohol use. On the other hand, the second hypothesis, which stated that positive coping strategies would moderate the effects of trauma—positive coping will associate with decreased substance abuse and decreased crime in young adulthood—was not supported. Childhood trauma with positive coping had no significant interactions with crime, drug, or alcohol use, and childhood stressors with positive coping also had no significant interactions with crime, drug, or alcohol use.

The first hypothesis for this study was that traumatic events and traumatic stressors in one's childhood would associate with increased substance abuse and

involvement in violent and/or nonviolent crime in young adulthood. Both childhood trauma and stressors had significant relationships with involvement in violent or nonviolent crime. These findings are in line with previous research regarding childhood trauma and delinquency, as Evans and Burton (2013), also found that experiencing childhood trauma—specifically neglect and abuse—relates to violent and nonviolent criminal activity. Since the current study used a cumulative trauma score, rather than different scores for each type of trauma, it can be inferred that the more instances of trauma experienced, the more likely it is that one will engage in crime. This is why it is so important to consider all forms of adversity including childhood stressors, which also had a significant association with criminality.

The second hypothesis was that positive coping strategies would moderate the effects of traumatic events on young adulthood substance abuse and involvement in crime, such that positive coping will associate with less substance abuse and less criminality after trauma. Initial correlations did reveal that there was a significant negative correlation between criminality and positive coping, meaning as utilization of positive coping tactics increased, criminality decreased. Surprisingly, however, there was also a significant positive correlation between alcohol use and positive coping, meaning as utilization of positive coping tactics increased, alcohol use also increased. An explanation for this correlation may be that participants used alcohol as a coping mechanism, while also utilizing tactics based off of positive reframing, religion/spirituality, instrumental support or emotional support. Despite these initial correlations, positive coping was not found to moderate the hypothesized relationships. This lack of interaction could be for a few reasons. One of the strongest possibilities is

that individuals may use drugs as a coping mechanism to handle their trauma (ISTSS, 2021). The use of drugs can provide temporary relief from trauma-related problems such as negative thoughts, feelings, bodily experiences, relationships with others, and behaviors. If this were the case, participants would have endorsed experiencing trauma, and they would have endorsed some drug use but might not have endorsed any of the positive coping items. Along the same lines of this possible explanation, another theory is that the individuals in this sample may use negative coping mechanisms or avoidance strategies rather than positive coping mechanisms, which were not examined in this particular study. A third possible explanation for these results is that there was too much time in between the traumatic event(s) and the participation in the study. As shown in Tables 4-6, age accounted for a significant amount of the variance for all three of the outcome variables, indicating that age plays a role in the relationship between childhood trauma/adversity and young adult crime and substance abuse. For example, if someone experienced their trauma during early childhood—perhaps before the age of ten—but then participate in this study when they are now 30 years old, they may have either moved on from their trauma and no longer need to utilize any coping strategies, or they may not remember how they dealt with their trauma as too many years have passed.

6.1 Implications and Future Directions

While the results did not necessarily support the hypotheses as anticipated, there is still valuable information that can be taken from this study. This study provides further evidence that childhood trauma and adversity does impact criminality and drug use throughout a person's young adult life. To combat these effects, it is important to implement interventions to traumatic and stressful experiences by providing children with

the help and services they need, such as trauma-focused cognitive behavioral therapy, removal of the child from an unsafe or traumatic home if necessary and possible, or finding ways to help them cope with their trauma in a healthy and positive way (SAMHSA, 2019). Caregivers can help children and adolescents cope with their trauma by ensuring the child is safe at home and at school, by allowing the child time to recover and heal from their trauma, and when necessary, find them the mental health treatment they need. By implementing these tactics early on in a child's life or shortly after the adversity is experienced, involvement in substance use and criminality can be avoided and prevented.

More specifically, trauma-informed care and interventions for criminal offenders is needed. Trauma-informed care seeks to realize the impact of trauma and understand paths for recovery, recognize the signs and symptoms of trauma, integrate knowledge about trauma into procedures and practices, and most importantly, avoid re-traumatization (Trauma-Informed Care Implementation Resource Center, 2021). Trauma is a serious issue in the offender population, whether it be adults or juveniles. Many offenders have been physically, sexually, and emotionally abused throughout their lives (Martin et al., 2015). The high rates of preexisting trauma are often compounded by additional trauma once these individuals are detained or incarcerated. It is important to incorporate approaches from a trauma-informed lens to help those with a trauma history process their past. By incorporating trauma-informed care into prisons, jails, and juvenile detention centers, there is a higher likelihood of reducing violence and aggression among offenders (Martin et al., 2015). Use of trauma-informed care will allow offenders to address more deeply rooted emotional issues connected to their traumas and use coping

skills more effectively to promote their rehabilitation during incarceration and upon reentry into society.

Future researchers may find it beneficial to investigate whether negative/avoidant coping strategies act as a moderating variable for the relationships between childhood trauma and criminality or substance use, since the positive/adaptive coping mechanisms examined in this study did not provide the desired results. Additionally, further inspection of other forms of positive or adaptive coping mechanisms, outside of the ones used for this study, may be beneficial. This might clarify the types of coping tactics that are detrimental to a child's behavior, and would give parents, teachers, or others an idea of what to look out for in children, in order to hopefully help them avoid criminal involvement or substance abuse.

6.2 Limitations

As with any research study, there are some possible limitations. Since the study was conducted using an online survey, there is always the chance that respondents answered randomly or did not to read the questions. Although nearly 150 participants were filtered out of the final sample for nonsensical answers, as outliers, or for not passing the attention check, some invalid participants may not have been properly filtered from the dataset. In addition, participants may have been reluctant to answer honestly, given the fact that this could have been a sensitive topic to some participants. For example, some participants may have worried that their answers would not be kept confidential, despite being assured that they would be. Specifically, participants under the age of 21 may have been reluctant to admit to drinking than those who were above 21—because underage alcohol consumption is illegal. This reluctance may have impacted the

scores and results of the alcohol use disorder measure. However, if those participants were worried about endorsing items that indicate illegal activity, they would likely be hesitant to endorse any illegal activity, which would mean that scores for crime and drug use would be skewed as well, which was not the case. As mentioned before, the age range used in this study is a possible limitation, because if too much time has passed between the trauma and the participation in this study, individuals might have moved on from their trauma, they may already be in involved in therapy or other interventions, or they just might not be able to recall the coping strategies they utilized as they experienced their trauma. Finally, as this is a cross-sectional study, only correlations between childhood trauma or childhood stressors and criminality and substance use can be implied, not causality.

6.3 Conclusions

Childhood trauma and childhood stressors are extremely common, impacting two-thirds of children aged twelve to seventeen (SAMHSA, 2019). These adversities include the egregious adversities such as abuse, assault, neglect, or witnessing violence, but also include the subtler forms such as the sudden loss of a loved one, serious accidents or life-threatening illnesses, natural disasters, or any event that can be uprooting to a child's life. The impact of such adversities can last well beyond childhood and can extend into young adulthood and adulthood, making the research on these lasting effects so important and worthwhile. The current study intended to help determine factors related to young adult substance use and crime by investigating the long-term effects that childhood trauma and childhood stressors can have. Another goal was to determine whether these effects could be alleviated to some extent with the utilization of positive coping mechanisms.

Understanding the impact of childhood trauma, stressors, and adversities on children and how they relate to participation in high-risk and destructive behaviors (i.e., substance abuse and crime) later in their lives, is critical to the development of services and programs that could provide better-directed prevention and intervention methods toward these behaviors. Further, understanding the coping strategies—specifically those that rely on cognitive and behavioral approach tactics—that decrease risk for these behaviors can provide better-directed support.

REFERENCES

Adams, Z., McCart, M., Zajac, K., Danielson, C., Sawyer, G., Saunders, B., & Kilpatrick, D. (2013). Psychiatric problems and trauma exposure in nondetained delinquent and nondelinquent adolescents. *Journal of Clinical Child & Adolescent Psychology, 42*(3), 323–331. https://doi-org.proxy.ulib.csuohio.edu/10.1080/15374416.2012.749786

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. American Psychologist, 55(5), 469–480. https://doi.org/10.1037/0003- 066X.55.5.469

Bal, S., van Oost, P., de Bourdeaudhuij, I., & Crombez, G. (2003). Avoidant coping as a mediator between self-reported sexual abuse and stress-related symptoms in adolescents. *Child Abuse and Neglect, 27*(8), 883–897. doi:10.1016/S0145-2134(03) 00137-6.

Berg, L., Rostila, M., Arat, A. (2019). Parental death during childhood and violent crime in late adolescence to early adulthood: a Swedish national cohort study. *Palgrave Commun* 5, 74. https://doi.org/10.1057/s41599-019-0285-y

Berman, A. H., Bergman, H., Palmstierna, T., & Schlyter, F. (2007). DUDIT — *The Drug Use Disorders Identification Test, MANUAL Version 1.1*. Stockholm: Karolinska Institute, Department of Clinical Neuroscience, Section for Alcohol and Drug Dependence Research.

Bernstein, D., & Fink, L. (1998). Childhood trauma questionnaire: A retrospective self-report manual. San Antonio, TX: The Psychological Corporation.

Buckner, J. D., Jeffries, E. R., Crosby, R. D., Zvolensky, M. J., Cavanaugh, C. E., & Wonderlich, S. A. (2018). The impact of PTSD clusters on cannabis use in a racially diverse trauma-exposed sample: An analysis from ecological momentary assessment. *American Journal of Drug & Alcohol Abuse, 44*(5), 532–542. https://doi-org.proxy.ulib.csuohio.edu/10.1080/00952990.2018.1430149

Byrne, B. M. (2010). Structural equation modeling with AMOS: Basic concepts, applications, and programming. New York: Routledge.

Carver, C. S. (1997). You want to measure coping but your protocol is too long: Consider the brief cope. *International Journal of Behavioral Medicine, 4*(1), 92-100. doi:10.1207/s15327558ijbm0401_6

Chen, J., Su, J., Adkins, A., Mountcastle, S.B., & Dick, D.M. (2019). Interpersonal potentially traumatic events and risky sexual behaviors among college students: Moderating effects of physical activity. *College Student Journal, 53*(4), 490-509.

Chilcoat, H. D., & Breslau, N. (1998). Investigations of causal pathways between PTSD and drug use disorders. *Addictive Behaviors, 23*(6), 827–840.

Conrad, K. J., Riley, B. B., Conrad, K. M., Chan, Y. F., & Dennis, M. L. (2010). Validation of the Crime and Violence Scale (CVS) against the Rasch measurement model including differences by gender, race, and age. *Evaluation review, 34*(2), 83–115. https://doi.org/10.1177/0193841X10362162

Cougle, J. R., Bonn-Miller, M. O., Vujanovic, A. A., Zvolensky, M. J., & Hawkins, K. A. (2011). Association of posttraumatic stress disorder and cannabis use supported in

national sample. *Psychology of Addicted Behaviors, 25*(3), 554-558. doi:10.1037/e513902012-004

Dennis, M. L., Chan, Y. F., & Funk, R. R. (2006). Development and validation of the GAIN Short Screener (GSS) for internalizing, externalizing and substance use disorders and crime/violence problems among adolescents and adults. *The American Journal on Addictions, 15* (Suppl 1), 80–91. https://doi.org/10.1080/10550490601006055

Diaz, A., Shankar, V., Nucci-Sack, A., Linares, L. O., Salandy, A., Strickler, H. D., Burk, R. D., & Schlecht, N. F. (2020). Effect of child abuse and neglect on risk behaviors in inner-city minority female adolescents and young adults. *Child Abuse & Neglect*, 101, N.PAG. https://doi-org.proxy.ulib.csuohio.edu/10.1016/j.chiabu.2019.104347

Dube, S. R., Williamson, D. F., Thompson, T., Felitti, V. J., & Anda, R. F. (2004). Assessing the reliability of retrospective reports of adverse childhood experiences among adult HMO members attending a primary care clinic. *Child Abuse & Neglect, 28*(7), 729–737. https://doi.org/10.1016/j.chiabu.2003.08.009

Durose, M.R. & Mumola, C.J. (2004) Profile of nonviolent offenders exiting state prisons. *U.S. Department of Justice.* Retrieved from https://bjs.ojp.gov/content/pub/pdf/pnoesp.pdf

Elliot, D. S., Huizinga, D., & Ageton S. S. (1985). Explaining delinquency and drug use. Beverly Hills, CA: Sage.

Evans, C. B. R., & Burton, D. L. (2013). Five types of child maltreatment and subsequent delinquency: Physical neglect as the most significant predictor. *Journal of Child*

& *Adolescent Trauma*, 6(4), 231–245. https://doi-org.proxy.ulib.csuohio.edu/10.1080/19361521.2013.837567

Fagan, A. & Novak, A. (2017). Adverse childhood experiences and adolescent delinquency in a high-risk sample: A comparison of white and black youth. Youth Violence and Juvenile Justice, 16(4), 395-417. https://doi-org.proxy.ulib.csuohio.edu/10.1177/1541204017735568

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (2019). REPRINT OF: Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine, 56*(6), 774–786. https://doi-org.proxy.ulib.csuohio.edu/10.1016/j.amepre.2019.04.001

Hair, J., Black, W. C., Babin, B. J. & Anderson, R. E. (2010) Multivariate data analysis (7th ed.). Upper Saddle River, New Jersey: Pearson Educational International.

Ham, L. S., Wiersma-Mosley, J. D., Feldner, M. T., Melkonian, A. J., Milner, L. A., & Lewis, S. F. (2016). Posttraumatic stress symptoms and nonmedical prescription drug use among college students with trauma exposure. *Journal of Dual Diagnosis, 12(*1), 43–54. https://doi-org.proxy.ulib.csuohio.edu/10.1080/15504263.2016.1146556

Hamdan, S., Melhem, N. M., Porta, G., Song, M. S., & Brent, D. A. (2013). Alcohol and substance abuse in parentally bereaved youth. *The Journal of Clinical Psychiatry*, *74*(8), 828–833. https://doi.org/10.4088/JCP.13m08391

Hildebrand, M. (2015). The psychometric properties of the Drug Use Disorders Identification Test (DUDIT): A review of recent research. *Journal of Substance Abuse Treatment, 53,* 52-59. https://doi.org/10.1016/j.jsat.2015.01.008.

Holohan, C.J., Ragan, J.D., & Moos, R.H. (2017) Stress. *Neuroscience and Biobehavioral Psychology*. https://doi.org/10.1016/B978-0-12-809324-5.05724-2

Hutchison, M., Russell, B. S., & Wink, M. N. (2020). Social-emotional competence trajectories from a school-based child trauma symptom intervention in a disadvantaged community. Psychology in the Schools, 57(8), 1257–1272. https://doi-org.proxy.ulib.csuohio.edu/10.1002/pits.22388

International Society for Traumatic Stress Studies. (2021). Traumatic stress and substance abuse problems.

Jessor, R. (1987). Problem-behavior theory, psychosocial development, and adolescent problem drinking. *British Journal of Addiction, 82*(4), 331–342. https://doi-org.proxy.ulib.csuohio.edu/10.1111/j.1360-0443.1987.tb01490.x

Källmén, H., Wennberg, P., Ramstedt, M., & Hallgren, M. (2014). The psychometric properties of the AUDIT: a survey from a random sample of elderly Swedish adults. *BMC Public Health, 14*(1), 2216–2225. https://doi-org.proxy.ulib.csuohio.edu/10.1186/1471-2458-14-672

Khantzian, E. J. (1985). The Self-medication hypothesis of addictive disorders: Focus on heroin and cocaine dependence. *American Journal of Psychiatry, 142*(11), 1259–1264. doi:10.1176/ajp.142.11.1259

Lazarus, R., & Folkman, S. (1984). Stress, appraisal and coping. New York: Springer.

Littleton, H., & Grills, A. (2019). Changes in coping and negative cognitions as mechanisms of change in online treatment for rape-related posttraumatic stress disorder. *Journal of Traumatic Stress, 32*(6), 927-935.

Marsac, M. L., Donlon, K. A., Winston, F. K., & Kassam, A. N. (2013). Child coping, parent coping assistance, and post-traumatic stress following pediatric physical injury. *Child: Care, Health & Development, 39*(2), 171–177. https://doiorg.proxy.ulib.csuohio.edu/10.1111/j.1365-2214.2011.01328.x

Marsiglio, M., Chronister, K., Gibson, B., & Leve, L. (2014). Examining the link between traumatic events and delinquency among juvenile delinquent girls: A longitudinal study. Journal of Child & Adolescent Trauma, 7(4), 217–225. https://doi-org.proxy.ulib.csuohio.edu/10.1007/s40653-014-0029-5

Martin, M. S., Eljdupovic, G., McKenzie, K., & Colman, I. (2015). Risk of violence by inmates with childhood trauma and mental health needs. *Law and Human Behavior, 39*, 614–623.

McCabe, S. E., Hughes, T. L., Beal, S., Evans-Polce, R. J., Kcomt, L., Engstrom, C., West, B. T., Veliz, P., Leary, K., McCabe, V. V., & Boyd, C. J. (2022). Sexual orientation differences in childhood sexual abuse, suicide attempts, and DSM-5 alcohol, tobacco, other drug use, and mental health disorders in the US. *Child Abuse & Neglect*, *123*, N.PAG. https://doi-org.proxy.ulib.csuohio.edu/10.1016/j.chiabu.2021.105377

Meeyoung, M., Farkas, K., Minnes, S., & Singer, L. T. (2007). Impact of childhood abuse and neglect on substance abuse and psychological distress in adulthood.

Journal of Traumatic Stress, 20(5), 833–844. https://doi-org.proxy.ulib.csuohio.edu/10.1002/jts.20250

Milam, J., Slaughter, R., Meeske, K., Ritt-Olson, A., Sherman-Bien, S., Freyer, D. R., Kuperberg, A., & Hamilton, A. S. (2016). Substance use among adolescent and young adult cancer survivors. *Psycho-oncology*, *25*(11), 1357–1362. https://doi.org/10.1002/pon.3958

Moore, A.A., Overstreet, C., Kendler, K.S., Dick, D.M., Adkins, A., & Amstadter B., (2017). Potentially traumatic events, personality, and risky sexual behavior in undergraduate college students. *Psychological Trauma: Theory, Research, Practice, and Policy*, *9*(I): 105-112.

N.A. "Substance Abuse Statistics among Young Adults." *American Addiction Centers*, 3 Jan. 2020, americanaddictioncenters.org/rehab-guide/addiction-statistics/young-adults.

National Institute of Justice. (n.d.). *Violent crime*. National Institute of Justice. Retrieved https://nij.ojp.gov/topics/crimes/violent-crime

Oseldman. (2018). Trauma types. https://www.nctsn.org/what-is-child-trauma/trauma-types.

Pennebaker, J.W. & Susman, J.R. (2013). Childhood Trauma Questionnaire. Measurement Instrument Database for the Social Science.

Pineles, S. L., Street, A. E., Resick, P. A., Griffin, M. G., Mostoufi, S. M., & Ready, C. B.(2011). Trauma reactivity, avoidant coping, and PTSD symptoms: A moderating

relationship? *Journal of Abnormal Psychology, 120*(1), 240–246. https://doi-org.proxy.ulib.csuohio.edu/10.1037/a0022123

Quinn, K., Boone, L., Scheidell, J. D., Mateu-Gelabert, P., McGorray, S. P., Beharie, N., Cottler, L. B., & Khan, M. R. (2016). The relationships of childhood trauma and adulthood prescription pain reliever misuse and injection drug use. Drug & Alcohol Dependence, 169, 190–198. https://doi-org.proxy.ulib.csuohio.edu/10.1016/j.drugalcdep.2016.09.021

Read, J.P., Radomski, S., Borsari, B. (2015). Associations among trauma, posttraumatic stress, and hazardous drinking in college students: Considerations for intervention. *Current Addiction Reports, 2*(1):58-67. Doi: 10.1007/s40429-015-0044-0.

Saunders, B. E., & Adams, Z. W. (2014). Epidemiology of traumatic experiences in childhood. *Child and Adolescent Psychiatric Clinics of North America,* 23(2), 167–vii. https://doi.org/10.1016/j.chc.2013.12.003

Saunders, J., Aasland, O., Babor, T., de la Fuente, J., & Grant, M.(1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption-II. *Addiction, 88*, 791–804. doi:10.1111/j.1360-0443.1993.tb02093.x

Schaefer, L. M., Howell, K. H., Schwartz, L. E., Bottomley, J. S., & Crossnine, C. B. (2018). A concurrent examination of protective factors associated with resilience and posttraumatic growth following childhood victimization. *Child Abuse & Neglect, 85*, 17–27. https://doi-org.proxy.ulib.csuohio.edu/10.1016/j.chiabu.2018.08.019

Shaw, A., Joseph, S., & Linley, P. A. (2005). Religion, spirituality, and posttraumatic growth: a systematic review. *Mental Health, Religion & Culture, 8*(1), 1–11. https://doi-org.proxy.ulib.csuohio.edu/10.1080/1367467032000157981

Substance Abuse and Mental Health Services Administration (SAMHSA). (2019). Recognizing and treating child traumatic stress. *National Child Traumatic Stress Initiative.* https://www.samhsa.gov/child-trauma/recognizing-and-treating-child-traumatic-stress

Thompson, R. J., Mata, J., Jaeggi, S.M., Buschkeuhl, M., Jonides, J., & Gotlib, I.H. (2010). Maladaptive coping, adaptive coping, and depressive symptoms: Variations across age and depressive state. *Behav Res Ther. 48*(6), 459-466. doi: 10.1016/j.brat.2010.01.007

Trauma-Informed Care Implementation Resource Center. (2021). What is trauma-informed care? *Center for Health Care Strategies.* https://www.traumainformedcare.chcs.org/what-is-trauma-informed-care/

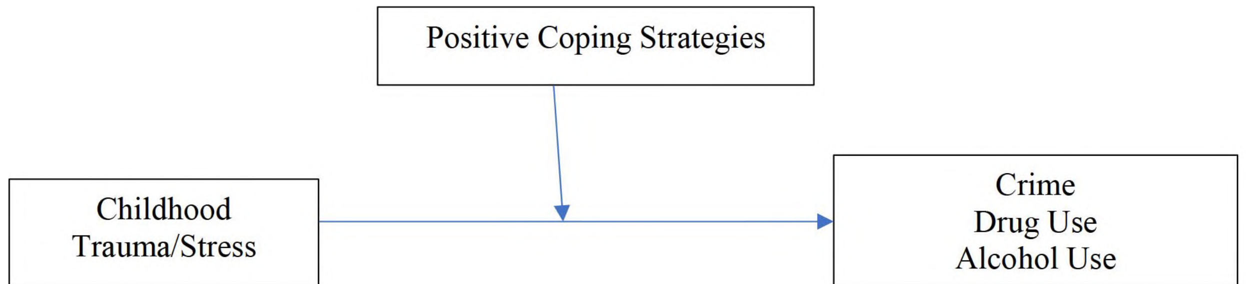
Walters, G. D. (2018). Positive and negative social influences and crime acceleration during the transition from childhood to adolescence: The interplay of risk and protective factors. *Criminal Behaviour & Mental Health, 28*(5), 414–423. https://doi-org.proxy.ulib.csuohio.edu/10.1002/cbm.2088

Walton, G., Co, S., Milloy, M.-J., Qi, J., Kerr, T., & Wood, E. (2011). High prevalence of childhood emotional, physical and sexual trauma among a Canadian cohort of HIV-seropositive illicit drug users. AIDS Care, 23(6), 714–721. https://doi-org.proxy.ulib.csuohio.edu/10.1080/09540121.2010.525618

102. Juvenile Crime Facts. (2020, January 22). JM | Department of Justice. https://www.justice.gov/archives/jm/criminal-resource-manual-102-juvenile-crime-facts

APPENIDX A

Figure 1. Moderation of positive coping on the relationship between childhood trauma and/or stressors and young adult crime, drug use, and alcohol use.



APPENDIX B

Table 1. Descriptive statistics and bivariate correlations of criminality.

	1	2	3	4	5	6	7
1. Criminality	-						
2. Participant age	**.160****	-					
3. Participant race	**-.148****	-.055	-				
4. Participant gender	.034	.013	**-.140****	-			
5. Childhood trauma	**.424****	**.097***	-.070	**.151****	-		
6. Childhood stressors	**.315****	-.036	-.036	.043	**.542****	-	
7. Positive (adaptive) coping	**-.137***	-.000	.026	.000	**-.100***	.018	-
M or %	1.44	25.09	0.443	1.14	2.30	0.98	11.78
(SD)	(1.91)	(3.57)	(0.497)	(0.99)	(2.32)	(0.92)	(5.77)

Note. Bold indicates statistically significant associations * $p < .05$; ** $p < .01$; Gender was dummy-coded to be 0 = Men, 1 = Women;
Race was dummy-coded to be 0 = White, 1 = Non-white. N = 359.

Table 2. Descriptive statistics and bivariate correlations of drug use.

	1	2	3	4	5	6	7
1. Drug use	-						
2. Participant age	**.154****	-					
3. Participant race	.003	-.055	-				
4. Participant gender	-.040	.013	**-.140****	-			
5. Childhood trauma	**.363****	**.097***	-.070	**.151****	-		
6. Childhood stressors	**.173****	-.036	-.036	.043	**.542****	-	
7. Positive (adaptive) coping	-.070	-.000	.026	.000	**-.100***	.018	-
M or %	3.67	25.09	1.09	1.14	2.30	0.98	11.78
(SD)	(8.51)	(3.59)	(1.56)	(0.99)	(2.32)	(0.92)	(5.77)

Note. Bold indicates statistically significant associations * $p < .05$; ** $p < .01$; Gender was dummy-coded to be 0 = Men, 1 = Women; Race was dummy-coded to be 0 = White, 1 = Non-white. N = 359.

Table 3. Descriptive statistics and bivariate correlations of alcohol use.

	1	2	3	4	5	6	7
1. Alcohol use	-						
2. Participant age	**.192****	-					
3. Participant race	.002	-.055	-				
4. Participant gender	**-.173****	.013	**-.140****	-			
5. Childhood trauma	.058	**.097***	-.070	**.151****	-		
6. Childhood stressors	-.054	-.036	-.036	.043	**.542****	-	
7. Positive (adaptive) coping	**.087***	-.000	.026	.000	**-.100***	.018	-
M or %	4.94	25.09	1.09	1.14	2.30	0.98	11.78
(SD)	(7.27)	(3.59)	(1.56)	(0.99)	(2.32)	(0.92)	(5.77)

Note. Bold indicates statistically significant associations * $p < .05$; ** $p < .01$; Gender was dummy-coded to be 0 = Men, 1 = Women; Race was dummy-coded to be 0 = White, 1 = Non-white. N = 359

Table 4. Linear regression results for criminality in association with childhood trauma, childhood stressors, and moderator, after controlling for age, gender, and race.

	Model 1			Model 2		
	B (SE)	β	*p*	B (SE)	β	*p*
Constant	.006 (.647)	-	.992	.011 (.649)	-	.987
Age	**.072 (.025)**	**.135**	**.004**	**.072 (.025)**	**.135**	**.004**
Race	.176 (.178)	.046	.322	.170 (.179)	.044	.344
Gender	**-.393 (.090)**	**-.204**	**< .001**	**-.393 (.090)**	**-.204**	**< .001**
Childhood trauma	**.694 (.108)**	**.361**	**< .001**	**.690 (.108)**	**.359**	**< .001**
Childhood stressors	**.259 (.105)**	**.136**	**.014**	**.259 (.105)**	**.136**	**.014**
Positive (adaptive)coping	-.198 (.088)	-.104	.025	-.203 (.088)	-.107	.022
Childhood trauma x Positive coping	-	-	-	-9.813E-5 (.105)	.000	.999
Childhood stressors x Positive coping	-	-	-	-.078 (.107)	-.040	.466
Model	**$R^2 = 0.264$, $\Delta R^2 = 21.5\%$, $p < .001$**			$R^2 = 0.265$, $\Delta R^2 = 0.2\%$, $p = .683$		

Note. Model 1 is after controlling for the covariates, Model 2 is after adding the interaction terms. Bold indicates statistically significant associations.

Table 5. Linear regression results for drug use in association with childhood trauma, childhood stressors, and moderator, after controlling for age, gender, and race.

	Model 1			Model 2		
	B (SE)	β	*p*	B (SE)	β	*p*
Constant	-2.68 (3.08)	-	.386	-2.47 (3.09)	-	.424
Age	**.284 (.118)**	**.119**	**.016**	.280 (.118)	.118	.018
Race	.386 (.848)	.023	.649	.285 (.852)	.017	.738
Gender	-.810 (.429)	-.094	.060	-.804 (.429)	-.094	.062
Childhood trauma	**3.22 (.514)**	**.376**	**< .001**	**3.21 (.515)**	**.375**	**< .001**
Childhood stressors	-.182 (.499)	-.021	.716	-.169 (.499)	-.020	.736
Positive (adaptive)coping	-.272 (.418)	-.032	.516	-.271 (.420)	-.032	.519
Childhood trauma x Positive coping	-	-	-	.610 (.499)	.073	.215
Childhood stressors x Positive coping	-	-	-	-.463 (.510)	-.053	.366
Model	**$R^2 = 0.157$, $\Delta R^2 = 13.2\%$, $p < .001$**			$R^2 = 0.161$, $\Delta R^2 = 0.4\%$, $p = .447$		

Note. Model 1 is after controlling for the covariates, Model 2 is after adding the interaction terms. Bold indicates statistically significant associations.

Table 6. Linear regression results for alcohol use in association with childhood trauma, childhood stressors, and moderator, after controlling for age, gender, and race.

	Model 1			Model 2		
	B (SE)	β	*p*	B (SE)	β	*p*
Constant	-2.31 (2.74)	-	.400	-2.24 (2.74)	-	.415
Age	**.358 (.105)**	**.176**	**.001**	**.356 (.105)**	**.175**	**.001**
Race	-.185 (.753)	-.013	.806	-.191 (.756)	-.013	.801
Gender	**-1.43 (.381)**	**-.194**	**< .001**	**-1.42 (.381)**	**-.194**	**< .001**
Childhood trauma	1.07 (.457)	.146	.020	1.09 (.457)	.149	.018
Childhood stressors	-.879 (.443)	-.121	.048	-.873 (.443)	-.121	.050
Positive (adaptive)coping	.757 (.371)	.104	.042	.789 (.372)	.109	.035
Childhood trauma x Pos. coping	-	-	-	.292 (.443)	.040	.511
Childhood stressors x Pos. coping	-	-	-	.260 (.453)	.035	.567
Model	$R^2 = 0.092$, $\Delta R^2 = 2.4\%$, $p = .029$			$R^2 = 0.096$, $\Delta R^2 = 0.4\%$, $p = .432$		

Note. Model 1 is after controlling for the covariates, Model 2 is after adding the interaction terms. Bold indicates statistically significant associations.

APPENDIX C

Scales & Measures

Adverse Childhood Experiences Questionnaire

Directions: Select "Yes" or "No" in response to the following questions.

While you were growing up, during your first 18 years of life: Did a parent or other adult in the household often …

1. 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?
2. Push, grab, slap, or throw something at you? Or ever hit you so hard that you had marks or were injured?

While you were growing up, during your first 18 years of life: Did an adult or person at least 5 years older than you ever…

3. 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?

While you were growing up, during your first 18 years of life: Did you often feel that …

4. 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?
5. 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?

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

6. Were your parents ever separated or divorced?
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?
8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?
9. Was a household member depressed or mentally ill or did a household member attempt suicide?
10. Did a household member go to prison?

APPENDIX D

Scales and Measures

Childhood Traumatic Events Scale

For the following questions, answer each item that is relevant. Be as honest as you can. Each question refers to any event that you may have experienced prior to the age of 18*.

1. **Prior to the age of 18, did you experience a death of a very close friend or family member?**
2. **Prior to the age of 18, were you the victim of violence (child abuse, mugged or assaulted -- other than sexual)?**
3. **Prior to the age of 18, were you extremely ill or injured?**
4. **Prior to the age of 18, did you experience any other major upheaval that you think may have shaped your life or personality significantly?**

**Note: Change from original scale. Changed from age 17 to age 18 to better coincide with ACE measure.*

APPENDIX E

Scales & Measures

Crime and Violence Scale

The following questions ask whether or not you have engaged in a general conflict, or in a specific property, interpersonal, or drug crime.

Property Crime Scale
13. Purposely damaged or destroyed property that did not belong to you?
14. Bought, received, possessed, or stolen goods?
15. Passed bad checks, forged, or altered a prescription, or took money from an employee? 16. 16. Taken something from a store without paying for it?
17. Other than from a store, taken money or property that didn't belong to you?
18. Broken into a house or building to steal something or just to look around?
19. Taken a car that didn't belong to you?

Interpersonal Crime Scale
20. Used a weapon, force, or strong-arm methods to get money or things from a person?
21. Hit someone or gotten into a physical fight?
22. Hurt someone badly enough they needed bandages or a doctor?
23. Used a knife or gun or some other thing, like a club, to get something from a person?
24. Made someone have sex with you by force when they did not want to have sex?
25. Been involved in the death or murder of another person (including accidents)?
26. Intentionally set a building, car, or other property on fire?

APPENDIX F

Scales & Measures

Drug Use Disorders Identification Test

How often do you use drugs other than alcohol?	Never	Once a month or less often	2-4 times a month	2-3 times a week	4 times a week or more often
Do you use more than one type of drug on the same occasion?	Never	Once a month or less often	2-4 times a month	2-3 times a week	4 times a week or more often
How many times do you take drugs on a typical day when you use drugs?	0	1-2	3-4	5-6	7 or more
How often are you influenced heavily by drugs?	Never	Less often than once a month	Every month	Every week	Daily or almost every day
Over the past year, have you felt that your longing for drugs was so strong that you could not resist it?	Never	Less often than once a month	Every month	Every week	Daily or almost every day
Has it happened, over the past year, that you have not been able to stop taking drugs once you started?	Never	Less often than once a month	Every month	Every week	Daily or almost every day
How often over the past year have you taken drugs and then neglected to do something you should have done?	Never	Less often than once a month	Every month	Every week	Daily or almost every day
How often over the past year have you needed to take a drug the morning after heavy drug use the day before?	Never	Less often than once a month	Every month	Every week	Daily or almost every day

How often over the past year have you had guilt feelings or a bad conscience because you used drugs?	Never	Less often than once a month	Every month	Every week	Daily or almost every day
Have you or anyone else been hurt (mentally or physically) because you used drugs?	No		Yes, but not over the past year		Yes, over the past year
Has a relative or a friend, a doctor or a nurse, or anyone else, been worried about your drug use or said to you that you should stop using drugs?	No		Yes, but not over the past year		Yes, over the past year

APPENDIX G

Scales & Measures

Alcohol Use Disorders Identification Test

Questions	0	1	2	3	4
How often do you have a drink containing alcohol?	Never	Monthly or less	2-4 times a month	2-3 times a week	4 or more times a week
How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more
How often do you have six or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily

How often during the last year have you been unable to remember what happened the night before because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year
Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year

APPENDIX H

Scales & Measures

Brief-COPE

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

	I haven't been doing this at all	A little bit	A medium amount	I've been doing this a lot
I've been getting emotional support from others.	0	1	2	3
I've been getting help and advice from other people.	0	1	2	3
I've been trying to see it in a different light, to make it seem more positive.	0	1	2	3
I've been getting comfort and understanding from someone.	0	1	2	3
I've been looking for something good in what is happening.	0	1	2	3
I've been trying to find comfort in my religion or spiritual beliefs.	0	1	2	3
I've been trying to get advice or help from other people about what happened.	0	1	2	3
I've been praying or meditating.	0	1	2	3