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WHAT ARE THE RELATIONSHIPS BETWEEN ADVERSE CHILDHOOD EXPERIENCES AND AGE OF INITIATION OF SUBSTANCE USE?

Alisha Dozier

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WHAT ARE THE RELATIONSHIPS BETWEEN ADVERSE CHILDHOOD
EXPERIENCES AND AGE OF INITIATION OF SUBSTANCE USE?

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Social Work

by
Alisha Dozier
June 2020

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ABSTRACT

Child abuse and substance abuse are significant health problems in the United States and they negatively impact the physical, emotional, and biological health of millions of individuals. It is estimated that one in four children experience child abuse, which is a risk factor for the development of substance abuse problems later in life (U.S. Department of Health and Human Services [HHS], 2018). Rates of substance abuse are increasing nationally, making the relationship between child abuse and the development of substance abuse problems important to study.

This research project analyzes the relationship between adverse childhood experiences and subsequent age of initiation of substance use using convenience sampling and quantitative data analysis. Study findings indicate that there is a dose-related response between ACE scores and earlier ages of initiation of substance use. Notably, there is a high correlation between lower ages of initiation of substance use and substance abusers in the home, parental separation, and emotional neglect. This information can be used to guide clinical assessments and therapeutic interventions. In addition, it can be used to advocate for further research and policies that support at-risk and vulnerable adolescents.

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CHAPTER ONE

ASSESSMENT

Introduction

This study utilizes a positivist paradigm to statistically analyze quantitative data evaluating for a statistically significant correlational relationship between adverse childhood experiences and the subsequent age that drug or alcohol use is initiated. A literature review summarizes the relationships between adverse childhood experiences and early initiation of drug or alcohol use, explaining how the theory of human development can be used to understand the relationship. Lastly, the studies' benefit to the micro and macro field of social work in the areas of early childhood abuse and the field of substance abuse conclude the assessment chapter.

Research Question

The research question is: What are the relationships between adverse childhood experiences and the age of initiation of substance use? This research looks at the relationships between adverse childhood experiences and other variables, such as the type of illicit substances first used and current identified drug of choice. The independent variable is adverse childhood experiences (ACE) and the dependent variable is age of initiation of substance use. ACE are childhood events that create stressors in the home, they involve things like childhood abuse and neglect. ACE are quantitatively measured

utilizing the Adverse Childhood Experiences (ACE) questionnaire. The ACE questionnaire is a commonly used instrument in the field of mental health and social sciences that assesses for and calculates incidents of abusive experiences during childhood. The dependent variable, age of initiation of substance use, is the age that an individual first begins using a substance. For the purposes of this research, “substances” is defined as any substance that has a psychoactive effect on the user. According to the Breining Institute (2014), psychoactive substances are chemicals taken to change the way the user feels by altering the brain and nervous system, creating feelings of “euphoria, calmness, stimulation, lack of pain,” or any combination of such effects (p. 165). They are classified into five groups: stimulants, depressants, opioids, hallucinogens, and marijuana. They also include prescription medications and inhalants that have psychoactive properties (The Breining Institute, 2014).

The hypothesis for the study was that for participants with identified substance abuse problems there would be a dose-response correlational relationship between ACE scores and age of initiation of substance use resulting in the following:

1. A higher ACE score would correlate with earlier ages of initiation of substance use.

2. A higher ACE score would correlate with an individual identifying their current drug of choice as a substance posing more risks to user health and well-being.

The hypothesis is based on social work research that has established a dose-related response between ACE scores and a variety of negative short and long-term health outcomes, including an increased risk of illicit substance use and abuse (The Centers for Disease Control (CDC) and Prevention, 2016). This study was conducted to better understand the relationship between childhood risk factors and substance abuse problems later in life.

Paradigm and Rationale for Chosen Paradigm

This research is a positivist study built on the assumption that human behavior can be studied objectively to gather information about patterns of cause and effect relationships (Morris, 2013). Positivists study why humans behave in a certain way by collecting quantitative data surrounding the human experience. Gathered data is analyzed using statistics and probability to apply research findings to the general population (Morris, 2013). Positivism offers the benefit of reducing the influence of values and bias in research by limiting the researcher's interaction and engagement with study participants.

In this study, positivism was used to objectively measure human behavior using a modified version of the ACE questionnaire to collect information from participants about experiences of child abuse and substance use. The ACE questionnaire was developed by the CDC and Kaiser as a

diagnostic tool to objectively gather quantitative data about childhood trauma. This data can predict the patterns of human behavior and gauge individual risk of poor outcomes, such as an increased risk of substance abuse and addiction (CDC, 2016; Morris, 2013). According to a study by Olalekan Kazeem, the tool is “a reliable and valid index” and “appropriate for general descriptive purposes” with “findings showing that quantitative measurement of some aspects of adverse childhood experiences is possible with relatively simple methods” (2015, p. 21).

The use of a paradigm other than positivist would limit accuracy because engagement with study participants and the research site would hinder objectivity, potentially resulting in bias that might influence participant responses. Studies have demonstrated that it can be difficult to accurately measure abusive childhood experiences qualitatively because participants are commonly influenced by the researcher’s presence, and, because a significant number of individuals are unaware that they experienced abuse, or that it had negative impacts on their psychosocial wellbeing. The ACE questionnaire is a straightforward way to quickly gather quantitative data to understand complicated childhood histories of abuse (CDC and Prevention, 2016).

Literature Review

Social work literature has proven that there is a link between substance abuse and adverse childhood experiences, such as child abuse and neglect. This literature review will summarize research findings that illustrate how and

why severity and frequency of adverse childhood experiences and other biopsychosocial risk factors influence age of initiation of substance abuse, and the development of substance abuse related problems.

Substance Abuse as a Social Problem in the United States

Substance abuse continues to be a growing problem in the United States. In 2011 the United States Department of Justice projected that illicit drug use cost the economy \$193 billion, indicating that the widespread problem is impacting millions of children, families, and communities (2011). A 2014 publication on the Substance Abuse and Mental Health Services Administration website indicated that 27 million children over the age of 11 or approximately 1 out of every 10 Americans had used illicit drugs within the prior month, a number which has reportedly risen annually since 2002 (CDC and Quality, 2015). Substance abuse has a negative ripple effect throughout society, contributing to child abuse, poverty, crime, homeless, unemployment, illness, and death. Physically, substance abuse damages almost every organ in the body, and increases the user's risk of heart failure, cancer, HIV and hepatitis (CDC and Quality, 2015). The opiate epidemic has continued to make headlines and death rates continue to skyrocket. Between the years of 2016 and 2017, the number of opiate deaths per minute increased from 115 to 131 (National Institute on Drug Addiction, 2018). The mounting substance abuse crisis in America warrants further research and understanding if it is to be appropriately addressed.

The Origins of a Substance Abuse Problem

While the origins of substance abuse and the trajectory of addiction are often interrelated and complicated to understand, there is a series of biological, psychological, and environmental risk factors that increase an individual's chances of developing a substance use problem. Biological risk factors include a family history of addiction and comorbidity factors such as a diagnosis of ADHD, anxiety, or depression (Shonkoff & Garner, 2012). Psychological risk factors include personality traits, specifically, impulsive individuals have been found to be particularly vulnerable, as are those who are sensation seeking and sensitive to stress. Aggressive behavior is also an identified risk factor, as is age, with the initiation of substance abuse during adolescence correlating with higher rates of addiction. Environmental risk factors include excessive stress, parental substance abuse, availability of drugs or alcohol, lack of parental supervision, poor attachment with primary caregivers or other family members, or a lack of positive relationships with others (Otten, Mun, Shaw, Wilson & Dishion, 2018). Peer groups also play an influential role, particularly during adolescence. Peers who associate with substance users are at increased risk and they often use drugs or alcohol to socialize and bond with other peers (Charles, Mathias, Acheson, Bray, Ryan, Lake, Liang & Dougherty, 2015; Wilson & Widom, 2008). Other risk factors for substance abuse include living in a community or neighborhood with high rates of poverty, lower levels educational attainment, and unemployment

(HHS, 2003; Hemovich & Crano, 2009). Nonetheless, it is important to keep in mind that these risk factors do not result in addiction; instead, they are linked to an increased vulnerability to the development of a substance use problem.

Child Abuse as a Social Problem in the U.S.

Like substance abuse, child abuse and neglect are a significant social problem in the United States. According to a 2016 review by the HHS, one in four children in the United States suffer from abuse or neglect at some point in their lives, and one in seven reported experiencing it within the past year (Center for Disease Control and Prevention, 2018; Finkelhor, Turner, Shattuck, & Hamby, 2015). It is estimated that in one year, child abuse and child fatalities cost the U.S. economy \$124 billion dollars, sacrificing the lives of approximately five children every day, a number that has increased 7.4% since 2012 (Child Welfare Information Gateway, 2018; Mercy, Saul, Turner, & McCarthy, 2011). Child abuse contributes to negative short-term and long-term consequences, ensuing negative biological and psychological changes that contribute to negative internalizing and externalizing behaviors. Child abuse and neglect are also risk factors for the development of a substance abuse problem, and the dynamic relationships between these two issues are important to understand.

Child Abuse as a Risk Factor for Substance Abuse

The psychological and behavioral consequences of child abuse and related environmental stressors double as risk factors for the development of

substance abuse and addiction. The psychological implications of child abuse are serious, and there is substantial comorbidity between mental health and substance abuse. Research has found that by the age of 21, 80% of child abuse victims have a diagnosed mental health condition, further troubling, 60% of individuals who abuse drugs or alcohol also have a mental health condition (Silverman, Reinherz, & Giaconia, 1996; Elements Behavioral Health, 2013). The relationship is difficult to discern, and some believe that individuals with mental health problems use to feel better, while other believe substance abuse problems create biological and behavioral changes that contribute to mental health problems. What is known is that child abuse and chronic childhood stressors alters the developing child's brain by flooding it with cortisol. High levels of cortisol contribute to poor decision making and impulsivity, cognitive delays, and difficulty with emotional regulation (Center on the Developing Child, 2007). High levels of cortisol can permanently alter a child's developing personality, temperament, and cognitive functioning, increasing psychological risk factors for future substance abuse (HHS, 2003).

Abusive home environments are chaotic and unsafe, and parental care is often inconsistent and unpredictable, damaging attachment and bonds between family members. According to the HHS, parental substance abuse can increase drug exposure and availability and create misperceptions about the acceptability of drug or alcohol use (2003). Furthermore, violence in the home, ineffective parenting and psychological abuse result in unhealthy

internalizing and externalizing behaviors. Internalizing behaviors can include depression, suicide attempts, anxiety and withdrawal; externalizing behaviors consist of aggression, poor peer relationships and impulse control problems. The social and behavioral consequences create a snowball effect, and if not addressed early in life, result in poor relationships with others and limited support systems, low educational attainment, poverty, and unemployment (HHS, 2003).

The Relationship Between ACE and Age of Initiation of Substance Abuse

Adverse childhood experiences increase the risk of the early initiation of substance use and addiction to drugs or alcohol. There is an association between the number of adverse childhood experiences, and the gravity of childhood trauma in relation to the age of initiation of substance abuse (Taplin, Saddichha, Li, & Krausz, 2014). For each adverse experience, individuals are 2-4 times more likely to initiate early substance abuse, likewise, individuals with more than five adverse childhood experiences are 7-10 times more likely to develop future substance abuse problems (Dube, Felitti, Dong, Chapman, Giles & Andra, 2003). Adverse childhood experiences are not only related to earlier ages of initiation of substance use, but also riskier methods of drug use and increased risk that adolescents will experience addiction and develop a substance use disorder (Charles et al., 2015; Taplin et al., 2014; Tonmyr, Draca, Crain, & MacMillan, 2011).

Literature has shown that stressors in the home related to child abuse and neglect increase the risk of earlier initiation of substance use. A study by Charles et al. revealed that adolescents who experienced higher rates of childhood stressors also initiated substance abuse at earlier ages (2015). Parental abuse is the highest risk factor for adolescent drug use because it creates numerous stressors in the home, such as financial instability, family problems, crime, peer problems and academic issues (Charles et al., 2015). The more of these stressors experienced between the age of 11-15, the more likely adolescents are to begin using substances prior to the age of 15. In homes with significant family stressors, the average age of onset of substance use is 13.5, with more than half adolescents using more than one substance (Charles et al., 2015). Not only does child abuse influence early initiation of drug use, but it also increases the likelihood of addiction that lasts into adulthood. Adults who were abused and neglected as children are more likely to have polysubstance abuse and to use more heavily and frequently, with more negative outcomes than individuals who did not experience child abuse (Widom, Marmorstein, & White, 2006).

A child's home environment and up-bringing shapes who they become as adults. It influences their self-worth, attitudes and belief systems, attachment, internalizing and externalizing behaviors, as well as relationships with others. All these factors play a critical role in an individual's chances of developing substance use problems. Despite this knowledge, there is very

little research that differentiates how specific forms of child abuse influence the age of initiation of drug use, which makes this study a potentially valuable contribution to the field of social work.

This chapter discussed the social burdens of substance abuse and child abuse in the United States. In addition, it outlined how the biological, psychological, and social consequences of child abuse also increase the risk of developing a substance abuse problem. Lastly, it explored the relationships between severity and frequency of child abuse and the subsequent age in which substance use is initiated

Theoretical Orientation

Human Development Theory is a theoretical orientation that can be used to understand how and why ACE serve as risk factors for the development of a substance use problem. A popular human development theory is Erikson's Psychosocial Development Theory, which outlines eight specific psychosocial life stages divided up by age ranges from birth to death. Each psychosocial stage has an identified developmental crisis that the individual faces prior to maturing into subsequent stages (Charles, Reynolds, & Gatz, 2001). According to Erikson, when a developmental crisis isn't resolved, it has consequences for subsequent developmental stages. However, regardless of if a psychosocial crisis was resolved, individual social and biological factors continue to push individuals through subsequent psychosocial stages.

Erikson's first stage of human development is basic trust versus mistrust. This stage occurs during infancy and trust is developed when an infant's basic needs are consistently met. The second developmental stage is autonomy versus doubt, this occurs during the second year of life when children begin to test out abilities and assert independence. Initiative versus guilt is the third stage, occurring between ages three to five, marked by inquisition and curiosity in the quest to establish their purpose in life. Between ages six and twelve children experience industry versus inferiority crises as they begin to independently complete tasks and accomplish things valued in society, resulting in feelings of competency (Dunkel & Sefcek, 2009).

The developmental crises spanning from infancy to twelve years old are difficult to successfully navigate without the support of a stable caregiver. For children in abusive and neglectful homes, these psychosocial developmental stages may fall short. From infancy to early childhood, children rely on caregivers to meet their basic needs for food, safety, and emotional support. When these needs are not consistently met, the world becomes an unsafe place where others cannot be relied on, this can result in mistrust and attachment problems. Furthermore, if a child is in an emotionally abusive home with rigid parenting practices, limited autonomy will create self-doubt and poor self-esteem. If a child is not encouraged to take initiative, they will develop feelings of shame and inadequacy.

A pivotal developmental stage is identity versus role confusion, which occurs during teenage years as youth transition into adulthood. Transitioning from childhood into adulthood requires an understanding of personal values and morals. Teens start to define who they are and who they want to be. The sixth developmental stage occurs during young adulthood and consists of intimacy versus isolation. It is important to have a good understanding of personal identity to navigate this stage, which is rewarded with open and caring relationships and healthy boundaries. The seventh developmental stage is generativity versus stagnation, occurring in middle adulthood. This is the time for settling down into relationships, raising children and building careers. Generativity produces a sense of belonging and connection with others and the community. The final stage of development is integrity versus despair. This occurs during the end of the lifespan and is marked by reflection of the past and an assessment of accomplishments.

If early developmental stages are not met, it can hinder subsequent development and influence maladaptive behaviors into adulthood. The lack of a strong family support system during teenage years robs youth of the opportunity to build on their past to direct their future. As they progress into later stages in life, inadequate attachment during infancy will cause suspicion in relationships, resulting in physical and emotional isolation (Zastrow & Kirst-Ashman, 2016). Trying to build a future on a foundation weakened by a stressful, abusive, and neglectful childhood is difficult, and creates

feelings of inferiority, shame, and depression. Erikson's psychosocial developmental theory offers insight into how child abuse can negatively influence development, which results in psychological, environmental, and social risk factors that increase vulnerability to addiction. In addition, it sheds light on how ACE and substance use can have distinctly different impacts depending on the age in which it occurs.

Contribution of Study to Micro and Macro Social Work Practice

This study offers micro and macro practitioners with information about how adverse childhood experiences influence the initiation of substance use. Finding a correlational relationship would indicate a dose-related response between ACE scores and earlier ages of the initiation of substance use. Practitioners could implement ACE questionnaires during screenings and assessments in a variety of settings. The ACE questionnaire would provide practitioners with a quick summary of an individual's complex history. This information could be used to guide treatment and offer targeted interventions that address each client's unique vulnerability factors. The ACE questionnaire can also be used by practitioners working with adolescents. The ACE score could effectively gauge and identify at-risk youth who would benefit from substance abuse treatment.

On a macro level, the research findings can be used to educate stakeholders and the community about the ACE scores and their implications for short and long-term outcomes. This research project offers the potential to

track ACE scores and utilize the data to advocate for policies that support at-risk and vulnerable adolescents. The psychological, physiological, and behavioral consequences of adverse childhood experiences can be further researched, and new evidenced based practices developed to intervene with adolescents at risk of developing substance abuse problems.

Summary

Research over the past twenty years has established a link between adverse childhood experiences and the development of substance abuse problems. Studying this link using a positivist paradigm is an objective approach to collecting quantitative data that can be statistically analyzed and applied to the general population. Human Development theories explain how social, biological and psychological factors influence child development and increase the risk of developing a substance abuse problem. This study can offer deeper understanding of correlations between adverse childhood experiences and substance abuse patterns. This information can be used on the micro and macro level to improve practice, advocate for policy changes, and disseminate knowledge about the implications of ACE scores which can be used to guide future research to improve practice.

CHAPTER TWO

ENGAGEMENT

Introduction

This chapter provides information on the research study sites, Narcotics Anonymous and Alcoholics Anonymous self-help support groups. The chosen method for engaging with study site gatekeepers is explained and potential barriers addressed. How the researcher prepared for gathering data is summarized as was the use of technology, and the potential diversity issues, ethical issues, and political issues.

Research Site

This study took place along the coast of California at a Narcotics Anonymous (NA) meeting and an Alcoholics Anonymous (AA) meeting. NA and AA are a worldwide fellowship of 12-step community self-help groups created by addicts, with the goal of helping addicts to achieve sobriety. According to NA literature, “all members of a group are addicts, and all drug addicts are eligible for membership” and “as a group the single goal is to help drug addict’s recovery through application of the Twelve Steps of Narcotics Anonymous” (NA, 1997, p.2).

Study participants were solicited from two pre-identified groups, one being an AA group and the other being an NA group. The groups chosen for the research are considered “home groups.” The researcher attended a

monthly AA and NA meeting that was designated as an “open meeting.” A “home group” was chosen because those attending often have longer periods of sobriety and the group provides “a stable recovery base” attended by “a core of regular committed members” (NA, 2017, p.4). This ensured that recruited participants had longer periods of sobriety and built in support systems, both of which reduced the likelihood that the difficult questions on the ACE survey would trigger a negative reaction. An “open” meeting was attended because they are designed for guests, with the NA literature describing them as “opportunities to members of the community to see for themselves what it is about and to ask questions” (NA, 2017, p. 6). AA and NA are self-governed and has rotating elected officers with limited terms. At the chosen research site, the elected secretary was the designated gatekeeper, in charge of organizing the meeting and maintain attendance.

Engagement Strategies for Gatekeepers at Research Site

Engagement with the gatekeepers began with the researcher attending a NA group and an AA group. The meeting secretary was the primary gatekeeper, and she was introduced to the research topic, purpose, and intent of the study. Other AA and NA elected officers were also incorporated into the conversation with this researcher. Officers were informed of the potential benefit the study could have for individuals struggling with addiction by increasing knowledge surrounding vulnerable populations and better targeting interventions and improving outcomes.

Access to participants was discussed with stakeholders. In efforts to respect AA and NA's traditions of remaining neutral in relation to opposing or supporting outside organization, this researcher did not openly solicit member participation during the meeting, instead, members were asked individually at the meeting closure. Gatekeepers were involved in deciding how to distribute and collect participants surveys. They were also reassured that all surveys would be stored in a secure locations and members identifies would remain confidential, and no identifiable data collected.

Any additional areas of concerns and/or barriers were addressed, and questions answered. There was no identified need for further engagement with participants at the research site after the collection of surveys.

Self-Preparation

In preparation for the study, a comprehensive literature review was completed. The literature review provided the researcher with information about child abuse and substance abuse that was used to ensure research was conducted ethically and protected the wellbeing of participants.

The researcher focused on learning more about AA and NA traditions, specifically those related to anonymity and the organization's philosophy on outside agency representatives engaging with AA and NA members. Learning about the AA and NA culture and their philosophical guidelines ensured that traditions were respected, and that the researcher maintained appropriate boundaries while engaging with study site participants.

Prior to beginning research, the survey instrument was shared with the research advisor and all recommended changes were made to reduce the risk of participant harm or discomfort. The informed consent form and debriefing form were completed and accompanied the questionnaire. The human subject's application was also completed and submitted for IRB review. The IRB review ensured that the research project would be conducted ethically and mitigate the potential for participant harm. In addition, the SPSS software was downloaded for data input and data evaluation. A locking briefcase was purchased to store all participant information in a secure and confidential fashion.

Diversity Issues

AA and NA participants remain confidential, therefore, obtaining precise information about participant diversity is difficult. In 2015, NA published a national membership survey documenting that 72% of members were employed, gender was closely divided, ethnicity was largely reflective of local demographics and the average age of members was 48 years old (2016). The membership survey also indicated that participant ethnicity closely represented local demographics. The study site is in largely Caucasian community, with whites making up 70.9% of population. Therefore, most participants likely shared the researcher's ethnicity, limiting this potential diversity issue. There was no information available on AA or NA members

education levels or socio-economic conditions, so these diversity issues are unclear.

Diversity issues were largely related to the study participants being unfamiliar with the researcher, whom is a non-addict and a guest in their facility, in addition, there was mistrust about how their personal information would be used. These issues were mitigated by sharing my history of working professionally as a substance abuse treatment provider, and our mutual passion for helping individuals recover from addiction. Additionally, study participants were informed that no identifiable information would be collected, and confidentiality protected.

Ethical Issues

The primary ethical issues in this research project were related to ensuring that no harm was done to clients, confidentiality was protected, and informed consent was provided to participants. Prior to beginning research, the study was submitted and approved by the Institutional Review Board. This review ensured there were no ethical issues or potential for participant harm. The research questionnaires ask questions about childhood abuse and neglect, which is a sensitive topic that can bring up uncomfortable emotions for participants. To reduce the potential for harm, the ACE questionnaire was used. This questionnaire has the benefit of simple yes or no answers to questions about ACE. For example, “did you often feel that your family did not support each other, look out for each other or feel close to each other,” as

opposed to using stigmatizing or emotionally triggering words like “abuse.” Participants did not have to disclose or discuss any of their difficult childhood experiences with the researcher. The yes or no questionnaire responses were added up and a numerical score indicated the number of ACE. Questionnaires were completed in a self-help setting with trusted peers, this helped participants feel safe and supported while completing the questionnaires. In addition, prior to beginning the questionnaire, participants were provided with informed consent and told about the sensitive nature of the ACE questionnaire. This gave participants the opportunity to opt out in advance, preventing unnecessary emotional upset. Finally, as an added precaution, the debriefing statement provided to participants included local mental health and substance abuse resources available should participants need support.

The informed consent provided to participants explained the purpose of the study, how data would be gathered and used, and the safeguards in place to protect their information. Additionally, clients were fully informed that their participation was voluntary and that they could withdraw at any time. To ensure participants did not feel pressured to participate, survey questionnaires were left at a table next to the meeting secretary. By limiting the researcher’s personal interaction with AA and NA members, participants had more autonomy to decide if they wanted to participate in the research or not. Questionnaires were numbered 1-30 to track response rates, and no names or

other identifiable information was collected. All collected questionnaires were stored in a secure location.

Political Issues

The major political issues surrounding child abuse and substance abuse is related to treatment approaches, the need to serve at-risk-populations and funding for intervention and prevention services. This research project is designed to determine if there is a correlation between adverse childhood experiences and the age of initiation of substance use. The NA research site was only designed to treat addicts, and it is stated in their traditions that “they have no affiliation outside Narcotics Anonymous, as a group they express no opinion on outside issues,” and, “their public relations policy is based on attraction rather than promotion” (NA, 1997). Therefore, the research findings and implications pose no political threats to the organization, nor the study participants.

However, if the research finds a clear correlation between specific forms of ACE and earlier initiation of substance use, it provides an opportunity for additional research and for expansion of intervention efforts to reach identifiable, high-risk adolescents. Political issues could arise if research indicates the need to expand substance abuse treatment services to at-risk-youth, such as child welfare dependents, juvenile probation, schools, or youth behavioral health treatment programs. There may be a future need to re-allocate funds to at-risk-youth, conduct additional research, and improve

substance abuse intervention and treatment approaches and programs to meet the needs of identified at-risk youth.

The Role of Technology in Engagement

During the engagement period technology played a limited role. Cell phones were used to communicate with gatekeepers, and computers were used to prepare and print questionnaires and informed consent handouts. Additionally, the computer programs Microsoft word, Microsoft excel, and SPSS were used to input and analyze quantitative data and other important information.

Summary

A large part of the engagement phase for this research proposal involved collaboration with study site gatekeepers. There were extensive precautions taken to ensure no harm was done to clients, confidentiality was protected, and informed consent provided to participants. Relevant political and ethical issues, as well as applicable diversity issues were acknowledged and addressed.

CHAPTER THREE

IMPLEMENTATION

Introduction

This chapter provides information about the NA and AA self-help groups chosen as the research study sites. In addition, the criteria for selection of study participants will be discussed. The use of convenience sampling in this research project will be reviewed, and the negative implications this sampling method can have on validity explained. The reliability and validity of ACE questionnaire used for data collection will be examined. The phases of data collection, data recording and data analyzing will be reviewed, and the use of bivariate inferential statistics expanded on. At the end of the chapter, the process of study termination and the communication of study findings will be summarized.

Study Participants

This research explored ACE and age of initiation of substance abuse, making the population of interest substance abusing individuals. AA and NA groups consist of members who self-identify as having drug or alcohol problems, therefore, NA and AA members were chosen to be study participants. The NA and AA group that was used to select participants was a home group, which is ideal because a home group consists of members who have longer periods of sobriety and members who regularly attend.

According to a NA membership survey in 2015, individuals who attend NA largely represent the demographics of the local community. The community where this study took place is represented by a population that is 70.9% Caucasian, 22.2% Hispanic, 2.2% Black, 1.3% Asian, and 3.6% other (NA; U.S. Census, 2019). The 2015 NA membership survey also revealed that the characteristics of 12-step members closely align with community characteristics. Therefore, it is likely that the study participants from the chosen NA and AA study site will also closely represent local community members.

Selection of Participants

This study utilizes a descriptive design to test for statistically significant correlation between the independent variable, ACE scores, and the dependent variable, age of initiation of substance use. A descriptive design was used to generalize study findings beyond the participants in the study (Morris, 2014). However, generalizing study findings requires random sampling, and randomly sampling substance abusers in the general population would require significant resources unavailable to this researcher. Therefore, convenience sampling was used to select participants from the study site. Study participants were selected from an NA and AA home group, and it was reported by the study site secretary that the members had long periods of sobriety and regularly attended meetings. Selecting study participants using convenience sampling is not ideal because there is no external validity,

meaning that research findings cannot be accurately applied to the larger population. Therefore, any identified correlations between age of initiation of substance abuse and ACE scores is only representative of AA and NA members, not all substance abusing individuals. Nonetheless, the information obtained from the research is important because it provides information about how ACE scores and specific forms of childhood stressors influence future behavior and substance abuse patterns.

Data Gathering

The independent and dependent variable data for this study was collected using the self-administered ACE questionnaire, which can be referenced in appendix A. The ACE questionnaire is a 10 question self-reporting instrument developed in 1995 by Centers for Disease Control and Prevention (CDC) and Kaiser Permanente. The ACE questionnaire is widely used to measure childhood stressors, such as parental separation, parental incarceration, general neglect, physical, sexual, emotional abuse, and emotional neglect (CDC, 2019). Over the years, several studies have confirmed that the questionnaire is a highly reliable retrospective measure of ACE. Nonetheless, there are factors that can negatively influence validity. For example, Hardt and Rutter (2004) found that sometimes individuals have a difficult time recalling traumatic childhood incidents, and that some participants may be unaware that their childhood experiences were abusive. Lastly, the

researchers found that a participant's mood while completing the ACE questionnaire can influence answers.

The ACE questionnaire measures adversity by assigning a point for each participant response that indicates an adverse experience. ACE scores can range from 0, no adverse experiences, to 10, the highest score possible. An individual's ACE score can be used to assess risk, and research has established that ACE scores have a dose-response relationship, meaning the higher a participant's ACE score, the more likely they are to have negative health outcomes. Specifically, there is extensive research findings that support a "strong relationship between ACE and substance use disorders" (ACE, 2018).

In this study, the researcher altered the standard ACE questionnaire by collecting additional participant information. Data for the dependent variable was collected by asking participants to indicate the age of initiation of substance use. In addition, the questionnaire collected data on participant age, gender, the first type of substance they used, and their current drug of choice. By analyzing the type of substance initially used, current drug of choice, and route of administration, correlations between ACE scores and level of risk taken while using substances could be measured.

Phases of Data Collection

Data collection was first initiated by engaging with identified gatekeepers at an open NA meeting and an open AA meeting. NA and AA

membership is confidential, so gatekeepers referenced twelve step tradition for guidance. Access was granted after it was determined that the organization supports cooperation with outside representatives who are engaging with the purpose of helping fellow addicts.

On the day that the NA and AA meeting was attended, the researcher arrived early to set-up and prepare study materials. In addition, the researcher touched base with gatekeepers to confirm AA and NA traditions would be respected during engagement and data collection. Gatekeepers attempted to mitigate pressure to participate by generically announcing the presence of a guest interested in talking with fellow addicts after the meeting. After the generic introduction, the meeting was held, and the researcher stayed and observed as a guest.

At the closure of the meeting, members who chose to stay and engage with the researcher were informed of the researcher's status as a student of CSUSB MSW program, and educated on the purpose, goals, and potential contributions of the study. Participants were informed that their confidentiality was protected by excluding any identifiable information from the collected questionnaires.

Members who were interested in completing a questionnaire were first provided with informed consent, briefed on the content of the questionnaire, and cautioned about the sensitive nature of the questionnaire. Any questions or concerns were clarified in advance, and the researcher ensured

that members were aware participation was voluntary. In addition, participants were told that they could stop taking the survey at any time and write an X over their questionnaire prior to turning it in. This gave participants the opportunity to anonymously withdraw at any time.

Study participants were then given the one-sided self-administered ACE questionnaire and provided with a writing utensil and tri-fold privacy barriers to protect confidentiality. When participants completed the questionnaire, they were asked to fold them in half and to put them in a designated manila envelope. While members completed questionnaires, the researcher waited outside of the facility, and as members exited, they were given a debriefing statement. The debriefing statement provided information on the student's research advisor, personal contact information, follow-up details and local resources available to support their emotional wellbeing in the instance that they found the questionnaire distressing.

Following the collection of all questionnaires, they were placed into a locking briefcase and transported to an office with a locking door. The researcher attended a total of one NA meetings and one AA meeting to collect a total of 30 questionnaires. After data was recorded, study questionnaires were paper shredded and destroyed.

Data Recording

The unit of analysis is individuals and the unit of observation is the study site participants. A correlational survey was used to collect the following

participant data: ACE scores, current age, gender, age of initiation of substance use, type of substance used, current drug of choice and route of administration. Each questionnaire was numbered, beginning with one and sequentially increasing until a total of thirty completed questionnaires were collected. Data was then inputted into SPSS for analysis using descriptive statistics. Data was reviewed for errors several times before and after it was inputted into the system. There were approximately ten occasions that required the researcher to cross-reference data on participant surveys to ensure data was accurately recorded.

Data Analysis Procedures

Once all data had been collected and reviewed for accuracy, it was inputted into SPSS to begin the process of quantitative analysis. SPSS evaluated central tendencies. SPSS was also used to evaluate the distribution of numerical data, or the distribution around the central tendency. Standard deviation was calculated, and a small standard deviation confirmed that the central tendency was an accurate value representation of the data.

The next step was testing the hypothesis using bivariate inferential parametric statistics. In this study the independent variable, ACE scores, and the dependent variable, age of initiation of use, were both ratio variables. Therefore, a Pearson r correlational test was used to evaluate for a linear correlation between the independent and dependent variables. SPSS was used to evaluate the data to either prove or disprove a statistically significant

correlation between ACE scores, age of initiation of substance use, type of substance used and current drug of choice to either support or null the hypothesis.

Summary

In this chapter, the population of interest was identified as adults with substance abuse problems. Study participants were solicited from NA and AA groups using convenience sampling, limiting external validity. The process of collecting quantitative data from study participants via a self-administered ACE questionnaire was explained. The process of inputting the collected data into the SPSS software and analyzing the data using bivariate inferential statistics with a Pearson r test was explained. In addition, utilizing the data to determine if there is a statistically significant linear correlational relationship between variables was discussed. Lastly, information about how study participants could access research findings was shared.

CHAPTER FOUR

EVALUATION

Introduction

In this chapter, the demographics for study participants will be summarized and the collected data will be analyzed. A Pearson r correlational coefficient will be used to interpret data and measure for a statistically significant relationship between childhood abuse and age of initiation of substance use. Data evaluation will provide information about the relevant contributions this study can offer to the micro and macro field of social work.

Data Analysis

This study consisted of 30 participants. The ages of the participants ranged from 21 years to 64 years old and 60% of the participants were between the ages of 25-44. Males made up 23.3 % of study participants, while females made up 76.7 % (reference Table 1). The average age of initiation of substance abuse was 13.7 years old and the average ACE score of participants was 5.13. At the initiation of substance abuse, 46.7 % of the participants first tried alcohol, 40%, marijuana, 10%, stimulants and one participant used prescription pills.

Table 1.

Gender of Study Participants

<u>Gender</u>	<u>Frequency (%)</u>
Male	7 (23.3)
Female	23 (76.7)

The hypothesis for this research project was that there would be a dose-response correlational relationship between ACE scores and age of initiation of substance use resulting in the following:

3. A higher ACE score would correlate with earlier ages of initiation of substance use.
4. A higher ACE score would correlate with an individual identifying their current drug of choice as a substance that poses increased risks to the user health and well-being.

The hypothesis was tested using a Pearson r correlation to measure the relationship between age of initiation of substance use and total ACE score.

Table two can be referred for the data findings that the relationship is statistically significant (Pearson $r = -.526$, $P = .003$). The hypothesis that there was a dose-response correlation relationship between a younger age of initiation of substance use and increased adverse childhood experiences was supported.

Table two summarizes the data on the correlation between age of initiation of use and participant's ACE scores. The average age of initiation of substance use in participants with ACE scores between 0-3 was 16.2, decreasing to 13.2 years old for those with ACE scores between 4-6 and further decreasing to 11.9 years old in participants with ACE scores between 7-10.

Table 2.

The Average Age of Initiation of Substance use by ACE Score Range

ACE Score	Average Age
0-3	16.2
4-6	13.2
7-10	11.9

The second part of the hypothesis was that higher ACE scores would correlate with participants using substances in a way that increased risks to their health and well-being. Participants who identified marijuana or alcohol as their drug of choice were excluded from this analysis because they can't not be used intravenously, which poses the most risk to an individual's health. For participants with ACE scores between 7-10, 23.3 % identified smoking their drug of choice, 13% identified intravenous administration, and none identified snorting.

For those with ACE scores between 4-6, 62% smoked, 25% used intravenously, and 12.5% snorted. For those with ACE scores between 0-3, 42.9% identified smoking, 28.6% identified snorting, 12.5 % identified using IV, and 12.5 % identified taking opiate based prescription pills orally.

These findings did not support the hypothesis, with more users with mid-range ACE scores using intravenously, and more users smoking with mid-range ACE scores. However, this data may be unreliable because participants who used alcohol and marijuana were excluded from the data, which changed the number of participants used within each range. With only ten participants per range of ACE scores, this would significantly skew the numbers creating invalid results. The current identified drug of choice can also not be relied on to indicate which categories use substance associated with more user risk because five participants did not provide an answer to the question about their current drug of choice, writing in either “sober” or identifying “none” as their current drug of choice, this was due to a poorly written question. Despite these research flaws, a summary of the available information surrounding currently identified participant drug of choice showed that the majority used methamphetamines, identified by 72% of participants, followed by 8% identifying marijuana, 8% identifying alcohol, 4% identifying prescription pills and 4% identifying heroin.

Notable findings are a strong correlation between specific forms of child abuse and the development of substance abuse problems. First, there is a strong correlation between living with someone who had a drug or alcohol problem and

higher ACE scores. For participants with ACE scores between 7-10, 100% identified living with someone who had a problem with drugs or alcohol, decreasing to 50% when compared to participants with mid-range ACE scores, between 4-6, and finally 40% of those with ACE scores between 0-3. Furthermore, 80% of participants identified experiencing parental separation, 73.3% identified experiencing emotional abuse, 66.7% identified experiencing emotional neglect, and 66.3% identified living with an individual with a substance abuse problem.

There was also a strong correlation between having parents were separated or divorced and higher ACE scores. All participants with ACE scores between 7-10 had parents who were separated or divorced, decreasing to 90% among participants with mid-range ACE scores, between 4-6, and finally 50% of those with ACE scores between 0-3.

Data also indicated a link between participants who experience emotional neglect and higher ACE scores. All participants with ACE scores between 7-10 felt emotionally neglected, 60% of participants with ACE scores between 4-6 and 40% of participants with ACE scores between 0-3.

Table 3.

Types of ACE Experienced by Participants

Type of ACE	ACE Range		
	0-3	4-6	7-10
1. Did a parent or other adult in the household often...swear at you, insult you, put you down, or humiliate you?	40	90	90
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?	0	50	80
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 have oral, anal, or vaginal sex with you?	20	30	80
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? I think that kids are annoying (R)	40	60	100
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?	0	20	70
6. Were your parents ever separated or divorced?	50	90	100
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?	0	10	60
8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?	40	50	100
9. Was a household member depressed or mentally ill or did a household member attempt suicide?	10	50	60
10. Did a household member go to prison?	10	20	40

Finally, participants living with individuals struggling with addiction had higher rates of abuse in all categories. Most notably, they were 19.8% more likely to have been sexually abused, 9.3% more likely to have experienced physical abuse, 9.47% more likely to have separated parents, and 8.25% more likely to have a caregiver who went to prison. There was also a high incidence of emotional abuse, with 79% reporting that they had experienced emotional abuse and 68.2% reporting that they did not feel loved, important, special or like the family looked out for each other and supported each other.

Table 4.

Rates of ACE for Participants Living with Someone who was a Problem Drinker or who used Street Drugs

Question #:	Participants living with substance abusers	All study participants
1, Emotional Abuse	78.95%	73.33%
2. Physical Abuse	52.63%	43.33%
3. Sexual Abuse	63.16%	43.33%
4. Emotional Neglect	68.42%	66.67%
5. General Neglect	36.84%	30%
6. Parental separation	89.47%	80%

7. Domestic violence in the home	31.58%	23.33%
8. Substance abuse in the home	100%	63.33%
9. Household member with mental illness	47.37%	40%
10. Household member incarceration	31.58%	23.33%

Data Interpretation

The results from this study resemble a comprehensive study completed by Charles et al. (2015) examining the correlation between adolescent stressors experienced in families with substance use disorders and age of initiation of substance abuse. The study by Charles et al. (2015) found that for adolescent raised in a home with a family history of SUD and various childhood stressors, the average age of initiation of use was 13.5 years old, similar to results of this study finding the average of initiation of 13.7 years old. This study found that the types of abuse most strongly correlated with earlier ages of initiation of substance abuse were parental separation. Results from this study indicate that substance abuse in the home was the strongest predictor of early initiation of substance use and higher ACE scores. The study by Charles et al. is more

reliable because it is a larger study, and the questionnaire less confusing, with less room for error.

The most notable findings in this study is the high correlation between lower ages of initiation of substance use and the presence of substance abusers in the home, parental separation, and emotional neglect. All participants with high range ACE scores (7-10) experienced parental separation, lived in a home with adults struggling with substance abuse and suffered from emotional neglect. These findings are consistent with substance abuse research which indicates youth exposed to substance abuse in the home are three to almost eight times more likely to initiate substance use early, increase rates of use quicker, and develop a substance use disorder (Charles et al., 2015). Parental substance abuse patterns influence adolescent use due to both biological and environmental factors. Identified influential biological traits include “greater sensitivity to rewards, greater impulsivity and antisocial tendencies and more externalizing behaviors” (Charles et al., 2015, p. 1955). In publicized literature, and in this study, substance abuse in the home is associated with higher rates of other forms of child abuse, and extra stressors in the home, which can influence biological changes in a developing child’s brain that increase vulnerability to substance abuse (Taplin, Saddichha, Li, & Krausz, 2014). Influential environmental factors include access and exposure to drugs and alcohol, poor caregiver supervision and limited support, combined with increased incidents of additional forms of child abuse (Charles et al., 2015).

Results from this study surrounding the increase in additional forms of child abuse in households that abuse drugs and alcohol can be reviewed in table five below. Another possible explanation for earlier initiation of substance abuse among youth exposed to youth in the home can be attributed to the drug-relevant memory associations youth form overtime. These formed memory associations cause “implicit/spontaneous associative processes and executive reflective/control processes” that predispose youth to being easily triggered into subconsciously making impulsive and spontaneous decisions when exposed to high-risk drug and alcohol situations (Ames, Xie, Shono & Stacy, 2016, p. 853).

The second significant finding in this study is the strong correlation between family disruption and early initiation of substance use. All participants with ACE scores between 7-10 were from a disrupted home, closely followed by 90 % of mid-range ACE scores (4-6), and 50 % of participants with low ACE scores (0-3). There is extensive literature highlighting the relationship between parental separation and the development of high-risk substance abuse patterns among youth, however, the strength of the correlation found in this study was unexpected. Hemovich and Crano (2009) have explored the correlation between parental separation and early initiation of substance abuse and found that youth living in single-parent home experience more “emotional distress, negative behavior, delinquency and drug use” (p. 2100). This may be partially rooted in the increased strains of parental separation, often related to parental discord, financial difficulties and the reduced presence of a supportive caregiver (Needle,

Su, & Doughty, 1990; Sartor, Lynskey, Heath, Jacob, & True, 2007). These added strains impair a caregiver's capacity to positively parent their children, contributing to negative parent-child interactions, indirectly influencing the early onset of substance use (Otten et al., 2018). There are inherently more risk factors for early initiation of substance use in single parent homes, particularly single-headed female households. Common risk factors include caregiver's abusing drugs or alcohol to cope with stress, limited financial resources, unsafe housing, limited opportunities to provide children with educational and extracurricular opportunities, barriers to providing children with adequate supervision, and residing in neighborhoods with negative peer influences, crime, and accessibility of drugs and alcohol (Hemovich & Crano, 2009).

The third significant finding in this study is that participants who experienced emotional neglect during childhood were significantly more likely to initiate use at a younger age and have higher ACE scores overall. All participants with ACE scores between 7-10 experienced emotional neglect, followed by 60% of participants with ACE scores between 4-6, and 40% of participants with ACE scores between 1-3. Emotional neglect was defined as feeling unimportant, unloved, unsupported, and a lack of connection with others in the family. Emotional neglect, specifically parental rejection, precedes the development of substance abuse problems and contributes to depression, behavioral disorders and conduct problems (Khaleque & Rohner, 2002). A study by Taplin et al.(2014) similarly found that physical and emotional neglect were the form of child abuse

most strongly correlated with earlier ages of intravenous drug use. These findings highlight the often-overlooked importance of healthy relationships between caregivers and their children.

The interpretation of this data should be evaluated in consideration of study limitations. There was a small study population and convenience sampling was used to select study participants from the same NA/AA groups with little diversity. The data that supports the hypothesis that there would be a connection between higher ACE scores and lower ages of initiation of use is consistent with other research findings, and can offer some additional information surrounding specific forms of abuse more strongly correlated with lower ages of initiation of use.

However, the hypothesis that higher ACE scores would be correlated with riskier methods of drug use yielded unreliable data due to errors in the study questionnaire designed. The question “what is your current drug of choice” was not specific enough and resulted in five participants reporting that their current drug of choice was none, or currently sober. Some participants also answered this question by listing more than one drug of choice, making it difficult to differentiate which they used more frequently, and how that substance was administered. Other problems with the question “how do you administer your drug of choice,” was the fact that answers could not be evaluated in relation to the identified drug of choice for the five study participants with invalid answers. For example, the participants who did not list a current drug of choice, but did

answer how they administered their drug of choice, there was no way to evaluate the level of risk this posed to their health because it could not be connected to an identified substance (i.e., were they smoking marijuana or heroin?). Therefore, the hypothesis “higher ACE scores would correlate with participants using substances in a way that increased risks to their health and well-being” cannot be analyzed.

Implication of Findings for Micro and/or Macro Practice

Social work practitioners at all levels can use the findings from this study to better target substance abuse interventions and provide high-risk youth with services. Data from this study indicates the average age of initiation of substance use for children with high range ACE scores is 11.9 years old and the average age of initiation of substance use is 13.7 years old. Findings from this study also indicate that substance use in the home, parental separation and emotional neglect are strongly correlated with early ages of initiation of substance use. This information can be used to provide at-risk children with supportive services as appropriate ages to promote better outcomes. In addition, the practice framework should be updated to reflect social trends that continue to place more and more youth at-risk, such as the increase in parental separation and substance use disorders.

Social workers can additionally use information from this study to spread information about the importance of healthy supportive relationships between caregivers and their children, especially among families where there are co-

occurring risk factors, such as substance use in the home and/or parental separation. Public awareness campaigns and the sharing of knowledge by professionals is a strategy for changing perceptions surrounding what constitutes child abuse, and for initiating practice changes, and increasing parental knowledge about the importance of providing emotional support.

Study findings can also be used by micro level social workers, integrating screening and assessment tools to identify all known risk factors and family stressors that increase the risk of early initiation of substance abuse, particularly emotional neglect, which has traditionally been overlooked. Increased access and implementation of parenting programs in substance abuse treatment programs is a viable strategy for increasing awareness and providing tools to caregivers experiencing separation and/or abusing substances. Research findings can be used to lobby political stakeholders to secure and protect supportive resources available to vulnerable youth and families in efforts of mitigating short and long-term consequences while simultaneously addressing the generational cycle of substance abuse and child abuse and neglect.

Summary

In this chapter, participants' demographics were reviewed, and research findings were analyzed. The hypothesis that higher ACE scores would correlate with lower ages of initiation of substance use was supported, and as ACE scores increased, average age of initiation of use decreased. The data to analyze the hypothesis that higher ACE scores would correlate with riskier methods of drug

use was invalid and did not contribute to study findings. Data was interpreted in relation to available literature on ACE and ages of initiation of substance use, and study limitations were summarized.

CHAPTER FIVE

TERMINATION AND FOLLOW UP

Introduction

This chapter will provide details on how the study was terminated, and how study findings were communicated to study participants. The plan for any ongoing relationship with the study participants will be discussed, as will the research dissemination plan.

Termination of Study

This study is a positivist design and required little study participants engagement. Study participants were met with on one occasion at the study site to complete a questionnaire. When participants completed their questionnaire, they were provided with a debriefing statement that included this researcher's contact information. Study participants were informed that there would be no further contact. Participant data was collected and analyzed with SPSS software. Study findings were reviewed, and relevant information made available should study participants reach-out to this researcher.

Communication of Findings to Study Site and Study Participants

There were two study sites, an AA and NA meeting. The study site and study participants are anonymous, and identifying information was not collected. However, all study participants were provided with a debriefing statement and

this researcher's contact information should they be interested in obtaining information on the study findings.

Ongoing Relationship with Study Participants

Due to anonymity, there is no ongoing relationship with study participants and involvement was limited to the administration and collection of the study questionnaires.

Dissemination Plan

The anonymity of AA/NA program will be respected, and as agreed upon with the study site, there will be no further involvement with the study site to share study findings. However, information will be available for participants who contact this researcher and/or CSUSB and request it.

APPENDIX A
SURVEY QUESTIONNAIRE

Age:

Gender:

Patterns of Drug or Alcohol Use

How old were you the first time you used drugs or alcohol? _____

When you first tried drugs or alcohol, what did you use? _____

What is your current drug of choice? _____

Adverse Childhood Experience (ACE) Questionnaire

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

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

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 have oral, anal, or vaginal sex with you?

Yes No

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

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

6. Were your parents ever separated or divorced?

Yes No

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

8. *Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?*

Yes No

9. *Was a household member depressed or mentally ill or did a household member attempt suicide?*

Yes No

10. *Did a household member go to prison?*

Yes No

Shulman, M. & Maul, A. (2019). *Screening for Adverse Childhood Experiences and Trauma*. Retrieved from https://www.traumainformedcare.chcs.org/wp-content/uploads/2019/02/TA-Tool-Screening-for-ACEs-and-Trauma_020619.pdf.

APPENDIX B
INFORMED CONSENT



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School of Social Work

INFORMED CONSENT

This study in which you are asked to participate is designed to examine the relationship between Adverse Childhood Experiences and developed substance abuse patterns. The study is being conducted by Alisha Dozier, an MSW student under the supervision of Dr. Janet Chang, professor in the School of Social Work, California State University, San Bernadino. The study has been approved by the Institutional Review Board Social Work Sub-Committee, California University, San Bernadino.

PURPOSE: The purpose of this study is to examine the relationships between adverse experiences during childhood and the age of initiation of substance use.

DESCRIPTION: Participants will be asked yes or no questions about childhood experiences of abuse. They will also be asked about the age they initiated substance use, the type of substance used and their currently identified drug of choice.

PARTICIPATION: You understand that your participation in the study is totally voluntary. You can refuse to participate in the study or discontinue your participation at any time without any consequences.

CONFIDENTIALITY OR ANONYMITY: Your responses will remain anonymous and no identifying information will be collected. None of the data collected is for the purpose of researching AA or NA 12-step self-help groups. Data will be reported in group form only.

DURATION: It will take approximately 2-3 minutes to complete the survey.

RISKS: There will be minimal risk to participants. However, due to the sensitive nature of the questions on the questionnaire, they may feel uncomfortable or stressed about answering the questions. Those who identify as sensitive to the subject of childhood abuse will be discouraged from participating. A list of mental health and substance abuse resources available in the community will be provided in the debriefing.

BENEFITS: There are no direct benefits to the participants.

909.537.5501 · 909.537.7029

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College of Social and Behavioral Sciences
School of Social Work

CONTACT: If you have any questions about this study, please feel free to contact Dr. Janet Chang at (909) 537-5184 (email: jchang@csusb.edu)

RESULTS: Results of the study can be obtained from the Pfau Library ScholarWorks (<http://scholarworks.lib.csusb.edu>) at California State University, San Bernadino after December 2020.

This is to certify that I read the above and I am 18 years or older.

Place an X mark here

Date

California State University, San Bernardino
Social Work Institutional Review Board Sub-Committee
APPROVED 4/29/20 VOID AFTER 4/28/2020
IRB# SW1951 CHAIR [Signature]

909.537.5501 - 909.537.7029

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APPENDIX C
DEBRIEFING STATEMENT



College of Social and Behavioral Sciences
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This study you have just completed was designed to investigate adverse childhood experiences among adults who self-identify as having a substance abuse problem. We are interested in learning more about the relationship between abusive experiences during childhood and the age of initiation of substance use and future drug of choice. This is to inform you that no deception is involved in this study. Should you find that any portion of the questionnaire brought up difficult emotions for you, you can call (800) 838-1381 to access local mental health resources and substance use treatment services, services are available 24 hours per day, 7 days per week.

Thank you for your participation. If you have any questions about the study, please feel free to contact Dr. Janet Chang at 909-537-5184. If you would like to obtain a copy of the group results of this study, please contact the ScholarWorks database (<http://scholarworks.lib.csusb.edu/>) after September 2020.

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REFERENCES

- Adverse Childhood Experiences. (2018, July 9). Retrieved from <https://www.samhsa.gov/capt/practicing-effective-prevention/prevention-behavioral-health/adverse-childhood-experiences>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Ames, S., Xie, B., Shono, Y., & Stacy, A. (2016). Adolescents at risk for drug abuse: A 3-year dual-process analysis. *Journal of Addiction, 112*, 852-863.
- Center for Behavioral Health Statistics and Quality. (2015). *Behavioral health trends in the United States: Results from the 2014 National Survey on Drug Use and Health* (HHS Publication No. SMA 15-4927, NSDUH Series H-50). Retrieved from <http://www.samhsa.gov/data/>
- Center for Disease Control and Prevention, U.S. Department of Health and Human Services. (2018). *Violence prevention, child abuse and neglect prevention*. Retrieved from: <https://www.cdc.gov/violenceprevention/childabuseandneglect/index.html>
- Center for Disease Control and Prevention, U.S. Department of Health and Human Services. (2016). *Adverse childhood experiences*. Retrieved from: <https://www.cdc.gov/violenceprevention/childabuseandneglect/acestudy/about.html>

- Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Violence Prevention. (2019). *About the CDC-Kaiser ACE study*. Retrieved from http://www.kscourts.org/court-administration/Legal_Institute_on_Adverse_Childhood_Exp/About%20the%20CDCKaiser%20ACE%20Study%20_Child%20Maltreatment_Violence%20Prevention_Injury%20Center_CDC.pdf
- Centers for Disease Control and Prevention, United States Department of Health and Human Services. (2018). *Annual surveillance report of drug-related risks and outcomes — United States. Surveillance special report 2*. Retrieved from <https://www.cdc.gov/drugoverdose/pdf/pubs/2018-cdc-drug-surveillance-report.pdf>
- Center on the Developing Child. (2007). *In brief: The impact of early adversity on child development*. Harvard University, Retrieved from <https://46y5eh11fhgw3ve3ytpwxt9r-wpengine.netdna-ssl.com/wp-content/uploads/2015/05/inbrief-adversity-1.pdf>
- Charles, N., Mathias, C., Acheson, A., Bray, B., Ryan, S., Lake, S., Liang, Y., & Dougherty, D. (2015). Increased pre- and early-adolescent stress in youth with a family history of substance use disorder and early substance use initiation. *Journal of Youth and Adolescents*, 44(10), 1954-1967.

- Charles, N., Reynolds, C., & Gatz, M. (2001). Age-related differences and change in positive and negative affect over 23 years. *Journal of Personality and Psychology, 80*(1), 136-151.
- Child Welfare Information Gateway. (2018). *Long-term consequences of child abuse and neglect*. Washington, DC: U.S. Department of Health and Human Services, Children's Bureau.
- Dube, S., Felitti, J., Dong, M., Chapman, D., Giles, H., & Anda, F. (2003). Childhood abuse, neglect, and household dysfunction and the risk of illicit drug use: The adverse childhood experiences study. *Journal of Pediatrics, 111*, 564–572.
- Dunkel, C., & Sefcek, J. (2009). Erikson lifespan theory and life history theory: An integration using the example of identity formation. *Review of General Psychology, 13*(1), 13-23.
- Elements Behavioral Health. (2013). *Simultaneous occurrence (Comorbidity) of substance abuse and mental illness*. Retrieved on from <https://www.elementsbehavioralhealth.com/dual-diagnosis/>.
- Finkelhor, D., Turner, A., Shattuck, A., & Hamby, S. (2015). [Prevalence of childhood exposure to violence, crime, and abuse](#). *Journal of Pediatrics, 169*(8), 746-754.
- Hardt, J., & Rutter, M. (2004). Validity of adult retrospective reports of adverse childhood experiences: a review of the evidence. *Journal of Child Psychology and Psychiatry, 45*(2), 260-273.

- Hemovich, V., & Crano, W. (2009). Family structure and adolescent drug use: an exploration of single-parent families. *Journal of Substance Use Misuse*, 44(14), 2099-2113.
- Kazeem, O. (2015). A validation of adverse childhood experiences scale in Nigeria. *Journal of Research on Humanities and Social Sciences*, 5(11), 18-23.
- Khaleque, A., & Rohner, R. (2002). Perceived parental acceptance-rejection and psychological adjustment: A meta-analysis of cross-cultural and intracultural studies. *Journal of Marriage and Family Relations*, 64(1), 54-64.
- Mee-Lee, D. (2013). *The ASAM criteria: Treatment criteria for addictive, substance-related, and co-occurring conditions 3rd ed.* American Society of Addiction Medicine.
- Mercy, J., Saul, J., Turner, S., & McCarthy, P. (2011). *Creating a healthier future through prevention of child maltreatment*. Retrieved from <http://www.cdc.gov/about/grand-rounds/archives/2011/June2011.htm>
- Morris, Teresa. (2013). *Practice Informed Research Methods for Social Workers*: Kindle.
- Narcotics Anonymous World Services, Inc. (2017). *Information about NA [Brochure]*. Retrieved from https://www.na.org/admin/include/spaw2/uploads/pdf/PR/InfoAboutNA_No v2018.pdf

Narcotics Anonymous Worldwide Inc. (2016). *Membership Survey* [Brochure].

Retrieved from

https://www.na.org/admin/include/spaw2/uploads/pdf/pr/MembershipSurvey_2016.pdf

National Institute on Drug Abuse. (2018). *Overdose Death Rates*. Retrieved from

<https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>

Needle, R. H., Su, S., & Doherty, W. J. (1990). Divorce, remarriage and adolescent substance use: A prospective longitudinal study. *Journal of Marriage and the Family*, 52, 157-169.

Nesheen, F., & Alam, S. (2015). Emotional abuse: Wiping out mental health of adolescents. *Indian Journal of Health and Wellbeing*, 6(11), 1138-1141.

Otten, R., Mun, C., Shaw, D., Wilson, M., & Dishion, R. (2018). A developmental cascade model for early adolescent-onset substance use: The role of early childhood stress. *Addiction*, 114, 326-334.

Sartor, C., Lynskey, M., Heath, A., Jacob, T., & True, W. (2007). The role of childhood risk factors in initiation of alcohol use and progression to alcohol dependence. *Journal of Addiction*, 102(2), 216-225.

Shonkoff, J. & Garner, A. (2012). The lifelong effects of early childhood adversity and toxic stress. *Journal of Pediatrics*, 129(1), 232-246.

Shulman, M. & Maul, A. (2019). *Screening for Adverse Childhood Experiences and Trauma*. Retrieved from

<https://www.traumainformedcare.chcs.org/wp->

[content/uploads/2019/02/TA-Tool-Screening-for-ACEs-and-](https://www.traumainformedcare.chcs.org/wp-content/uploads/2019/02/TA-Tool-Screening-for-ACEs-and-Trauma_020619.pdf)

[Trauma_020619.pdf](https://www.traumainformedcare.chcs.org/wp-content/uploads/2019/02/TA-Tool-Screening-for-ACEs-and-Trauma_020619.pdf).

Silverman A., Reinherz H., & Giaconia, R. (1996). The long-term sequel of child and adolescent abuse: a longitudinal community study. *Journal of Child Abuse and Neglect*, 20(8), 709–723.

Taplin, C., Saddichha, S., Li, K., & Krausz, M. (2014). Family history of alcohol and drug abuse, childhood trauma, and age of first drug injection. *Substance Use & Misuse*, 49(10), 1311-1316.

The Breining Institute (3rd edition), 2014). *The Addiction Professional-Manual for Counselor Competency*. Orangevale, CA: Breining Institute.

Tonmyr, L., Draca, J., Crain, J., & MacMillan, H. (2011). Measurement of emotional/psychological child maltreatment: A review. *Child Abuse and Neglect*, 35, 767-782.

United States Census Bureau (2018). *QuickFacts: San Luis Obispo County, California*. Retrieved from <https://www.census.gov/quickfacts/fact/dashboard/sanluisobispocountycalifornia/PST045218>

United States Department of Health and Human Services, National Institute on Drug Abuse. (2003). *Preventing drug use among children and adolescents*, retrieved from https://www.drugabuse.gov/sites/default/files/preventingdruguse_2.pdf

United States Department of Justice, National Drug Intelligence Center. (2011, April). *The economic impact of illicit drug use on American society* retrieved from <https://www.justice.gov/archive/ndic/pubs44/44731/44731p.pdf>.

Widom, C., Marmorstein, N., & White, H. (2006). Childhood victimization and illicit drug use in middle adulthood. *Psychology of Addictive Behaviors*, 20(4), 394-403.

Wilson, H., & Widom, C. (2009). A prospective examination of the path from child abuse and neglect to illicit drug use in middle adulthood: The potential mediating role of four risk factors. *Journal of Youth and Adolescents*, 38, 340-354.

Zastrow, C., & Kirst-Ashman, K. (2016). *Understanding the human behavior and the social environment*. (10th ed.). Belmont, CA: Brooks/Cole Cengage Learning.