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Adverse Childhood Experiences and Adult Substance Use

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ADVERSE CHILDHOOD EXPERIENCES AND
ADULT 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
Mariah Garcia
Melissa Berry
May 2021

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ABSTRACT

This study sets out to contribute to the already existing data on ACEs as well as substance use in adulthood. In this quantitative descriptive study, the researchers addressed the relationship of adverse childhood experiences (ACEs) and adult substance use. Psychological, physical, and cognitive health issues may occur in adulthood due to ACEs (Shin et al., 2017). Being exposed to one or more ACE during childhood can cause poor coping skills and result in adult substance use (Shin et al., 2017). Bringing greater attention to the prevalence of ACEs can help social workers create more sensitive assessments, screening tools, and treatment plans to prevent re-traumatization of clients. The researchers used non-probability sampling techniques and an online survey was administered to a Zoom Alcohol Anonymous (AA) meeting and a Facebook recovery group. The collected data was analyzed using a statistical software program.

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CHAPTER ONE

INTRODUCTION

Problem Formulation

Adverse childhood experiences (ACEs) can occur during childhood or adolescents and is exposure to any trauma or traumatic event (Centers for Disease Control and Prevention [CDC], 2020). Possible traumatic events are experiencing all types of abuse, observing or undergoing violence in the home or within the community, and suicide attempts or suicide of a family member. Additionally, ACEs include events, which impact a child's safety and stability (CDC, 2020). Incarcerated parents, parents with substance use problems, or mental health problems, can cause these events. (CDC, 2020). Unfortunately, 60% of minors have experienced an ACE reported by the National Survey of Children's Exposure to Violence in the United States (Turner et al., 2010). Adults exposed to ACEs have a higher chance of experiencing physiological and psychological health issues (Shin et al., 2017). The current literature provides evidence of children who have been subjected to ACEs have an increased likelihood of engaging in adult substance use.

Understanding the connection of ACEs and adult substance use is valuable to social work practice. Social workers provide services to clients who struggle with substance use or have been diagnosed with a substance use disorder. When a client presents with symptoms of substance use, the social

worker can gain an increased ability to recognize the symptoms as a possible trauma reaction rather than pathologizing the behavior (Leitch, 2017). Having knowledge of ACEs provides social workers with a greater awareness of their prevalence and the profound impact ACEs can have on adults, resulting in maladaptive coping skills such as substance use. This allows for social workers to create specialized treatment plans utilizing trauma informed care (TIC) based on each individual's unique set of needs (Shin et al., 2017). As social workers having the capacity to identify a client's exposure to ACEs decreases the chance of re-traumatization and increases the chances of recovery from substance use (Oral et al., 2016).

TIC is a comprehensive model which approaches trauma using a variety of treatments highlighting the implications of trauma and the recovery process (Substance Abuse Mental Health Services Administration [SAMHSA], 2014). The aim is to overcome the effects of adverse childhood experiences by identifying maladaptive behaviors which can contribute to substance use. Having a better understanding of ACE risk factors is vital to treatment. Social workers will have confidence in providing effective and inclusive care focusing on screening, assessing, and treatment planning (SAMHSA, 2014). Incorporating TIC approaches in policy and programs can provide prevention guides, which have multilevel influence (Oral et al., 2016).

This study focused on the importance of addressing ACEs to provide proper preventative care to those who are vulnerable to ACEs along with

substance use. The question the study addressed is: What is the relationship of adverse childhood experiences and adult substance use?

Purpose of the Study

This research was conducted to better understand ACEs and adult substance use. ACEs has the potential to cause a significant public health concern based on the number of exposures, and the negative effect on health outcomes (Shin et al., 2017). This may lead to unhealthy coping strategies such as adult substance use (Shin et al., 2017). Adverse experiences have been strongly associated with ongoing health issues, adult substance use, and early mortality (Campbell et al., 2016; CDC, 2020). This study addressed the importance of understanding the impact of multiple exposures to ACEs along with the relationship between adult substance use (Shin et al., 2017).

The quantitative descriptive approach used in this study is centered on collecting data through an online self-administered questionnaire. The survey ensured the participant's anonymity, and the researchers took the necessary steps to reduce biases (Grinnell & Unrau, 2018). The design method allowed for an inclusive and representative sample of all who met the eligible criteria by generating an accessible and feasible tool. Additionally, the method was selected due to current recommended safety measures taken to combat the Coronavirus (COVID-19) that has impacted social contact.

Significance of the Project for Social Work Practice

The research was conducted due to a need to better understand how ACEs can impact an individual as an adult to increase better treatment outcomes. When ACEs occur in a child's life, becoming more susceptible to various mental and physical risk factors is likely, especially substance use (Shin et al., 2018). By studying and understanding ACEs more comprehensive prevention and intervention efforts can be made.

Some potential contributions the research study could make to the social work practice is an improvement in the care and treatment social workers provide to those who have experienced ACEs (Girouard & Bailey, 2017). The combination of the profession's core values and ethics along with a social worker's better understanding of ACEs can create a more supportive setting when screening clients for ACEs focusing on protective factors, rather than causing re-traumatization. Identifying ACEs allows for a social worker's treatment plan to be personalized and sensitive to the individual, while also incorporating the proper evidence-based trauma interventions when necessary. Furthermore, understanding ACEs could help social workers who work at drug and alcohol rehabilitation facilities to better understand their population and better assist in their recovery efforts.

On a micro level, the findings of this study assisted in a broader understanding of TIC implementation and help further support individuals foster better coping skills and focus on building resilience (Leitch, 2017). On a macro

level, programs and policies can benefit by providing more efficient interventions and using more sensitive screening tools when addressing ACEs. Moreover, this will help alleviate the lifelong impact ACEs can have on one's mental and physical health, while learning healthy coping skills to decrease behaviors such as substance use. (Oral et al., 2016).

Those who have experienced ACEs have a higher chance of developing maladaptive coping skills used throughout childhood and into adulthood due to unresolved trauma or traumatic events. Due to the high prevalence of substance use and abuse throughout the country the research highlights there is most likely a positive relationship between ACEs and substance use. Lastly, the research conducted aligns with the assessing process in the generalist model because the study is building on previous research in which the exploratory phase has already been executed.

CHAPTER TWO

LITERATURE REVIEW

Introduction

Chapter two discusses adverse childhood experiences and adult substance abuse while examining past and present research on the topics. This chapter is organized into subsections which are substance use, adverse childhood experiences impact on social work, challenges faced by mental health providers, and limitations. The last subsection looks at the theoretical framework supported throughout this research which is the Ecological Systems Theory. The Ecological Systems Theory is utilized when addressing prevention efforts of adverse childhood experiences and understanding how environmental interactions may lead to substance use in adulthood.

Adverse Childhood Experiences and Adult Substance Use

ACEs is the exposure to any form of trauma or traumatic event. Traumatic events are experiencing abuse, neglect, witnessing or experiencing violence in the home or within the community, and suicide attempts or suicide of a family member (CDC, 2020). Individuals exposed to ACES may experience ongoing health issues, mental health problems, and possibly adult substance abuse. There are extreme ramifications of ACEs later in life which disrupt healthy brain development, behavior, and impacts social development (CDC, 2020). According to the CDC (2020) nearly 61% of adults experienced at least one exposure to

ACEs resulting in increased risky behavior and adverse health outcomes in adulthood. ACEs are a significant public health issue that has contributed to adverse effects on overall health, wellbeing, and life opportunity (CDC, 2020). In 1998, Felitti et al. collaborated with Kaiser Permanente to conduct one of the original studies on adverse childhood experiences. The Kaiser Permanente study on ACEs refined evidence-based research and intervention strategies by providing preventative services to vulnerable populations (Leitch, 2017). The study has also benefited social workers and mental health practitioners to better understand their clients and treatments.

Substance Use

Approximately 20.8 million individuals who reach adolescents and beyond, suffer from a substance use disorder due to exposure to ACEs (Center for Behavioral Health Statistics and Quality [CBHSQ], 2016). This indicates environmental factors, such as ACEs, strongly influence a person's risk for substance use, and susceptibility to health conditions as an adult (Larkin et al., 2017). ACEs have been linked to profound adverse health conditions resulting in increased adult health complications throughout the lifespan, including substance use (Larkin et al., 2017). This is paramount when addressing ACEs as it can influence substance use at a young age and well into adulthood. Both the Centers for Disease Control and Prevention (2020) and Shin et al., (2017) found those individuals who have seen or personally experienced numerous ACEs throughout childhood had increased chances of adult substance use.

Furthermore, the research provides evidence of a relationship between substance use and ACEs. Highlighted by the research is the importance of understanding the effect multiple exposure to ACEs may have as well as the detrimental health consequences (Shin et al., 2017).

Additionally, a study by Campbell et al. (2016) supports previous findings consistent with higher exposure rate of ACEs is associated with increased risky behavior. This can also lead to adverse health outcomes such as substance use in adulthood. Campbell et al. (2016) suggests individuals with increased ACE exposure have a profound association with poor mental health and morbidity due to chronic stress attributed to ACE exposure. Campbell et al. (2016) outcomes are similar to the Kaiser Permanente ACE study in relation to individuals with increased exposure to ACE's report poor health and coping strategies leading to substance use in adulthood. Similarly, Leitch et al. (2017) found significant findings when assessing the exposure to multiple ACEs, finding increased substance use problems in relation to those who were not exposed to ACEs or who experienced a single event. Ultimately, previous findings indicate individuals with higher quantity of ACEs had an increased mortality rate by 20 years in comparison to those who had less exposures (Leitch, 2017).

Adverse Childhood Experiences Impact on Social Work

Kaiser Permanente's Adverse Childhood Experiences study demonstrated how ACEs can help professional social workers and clients better understand trauma or distressing events (Felitti et al., 1998). Additionally, the Kaiser study

conducted by Felitti and colleagues (1998) revealed the risk factors contributing to ACEs, which are related to cognitive, behavioral, and physical health. Felitti et al. (1998) provided a foundation for future health care workers and service providers to understand the importance of fostering a strong provider and client relationship. This will enhance the client's personal safety to better assist with intervention options (Leitch, 2017).

Moreover, Girouard and Bailey (2017), supported the need for health care professionals to acknowledge their personal experiences of ACEs to provide a better quality of care. The social work field has the potential to establish a supportive setting to screen, provide guidance, and engage clients to destigmatize ACEs (Girouard & Bailey, 2017). However, Leitch (2017) recognized the insufficient evidence that contributed to unintended consequences experienced by service providers in the social work field. For instance, traumatic events focus on negative feelings and events, but have limited or omitted protective factors. The lack of identifying protective factors can negatively impact the therapeutic relationship by disregarding the client's strengths (Leitch, 2017).

Challenges Faced by Mental Health Providers

Girouard and Bailey (2017) focused on the challenges encountered by health care professionals when advocating for clients along with public policy issues to address the ramifications of ACEs. Being in a professional role does not exempt one from experiencing personal ACEs, and as a result this can

negatively impact the quality of care. Social workers and other mental health care professionals must acknowledge and seek help for their own ACEs to better serve their clients (Girouard & Bailey, 2017).

ACEs contribute to a plethora of adverse effects that impact one's psychological, cognitive, and emotional health (Springer et al., 2003). Although most primary care physicians are aware of the possible trauma prevalent in patients, proper ACE screening remains a recurring issue (Edson, 2018). There is insufficient research on the barriers which have contributed to the lack of proper screening of ACEs. Current evidence suggests there is a need to educate and train physicians to properly screen for ACEs in order to reduce or prevent the negative impacts of childhood trauma (Edson, 2018). Furthermore, Weinreb et al. (2010) conducted research on family physicians eliciting information about routine screening practices among patients. The same study indicated nearly 25% of all practitioners omitted routine screenings of ACEs due to time constraints, and competing primary care recommendations (Weinreb et al., 2010). The results showed a need for more comprehensive training programs on trauma for health care providers to help prevent further health consequences in patients. Health care providers have a duty to maintain a safe space to properly assess patients and screen for trauma (Weinreb et al., 2010).

Limitations

In the groundbreaking research on ACEs by Felitti et al. (1998) there were limitations which should be recognized. For instance, the original ACE study by

Kaiser Permanente did not account for demographic diversity in the sample. The study sample consisted of primarily white middle to upper class individuals and lacked individuals from different ethnic and economic backgrounds (Felitti et al., 1998). Therefore, the results were limited due to the unrepresentative sample of at-risk populations impacted by ACEs (Mersky et al., 2013). An approach to lessen the gap in Kaiser study would be to collect data from different racial, ethnic, and economic backgrounds as well as individuals from disadvantaged communities (Felitti et al., 1998; Mersky et al., 2013).

Theories Guiding Conceptualization

Bronfenbrenner's Ecological Systems Theory assisted in the conceptualization of this study regarding ACEs and adult substance use. Bronfenbrenner's theory looks at how a person's environment impacts their interactions with systems at various levels (Bronfenbrenner, 1977). The systems are known as the microsystem, the mesosystem, the exosystem, and the macrosystem (Bronfenbrenner, 1977). The systems theory is applied in the research to support the prevention efforts of ACEs.

On the micro level prevention programs are recommended which address parent child bonding within child protective service agencies in hopes of reducing child abuse (Oral et al., 2016). Prevention efforts made at the community level focus on enhancing resilience and increasing access and availability to community resources (Oral et al., 2016). Systems theory provides a framework to help in the prevention efforts of ACEs, but throughout this study the theory

helped address how those who experienced ACEs interact with their environments at various levels. Lastly, the theory addressed how environmental interactions may lead to substance use in adulthood.

Summary

ACEs and adult substance use were addressed by comparing research and challenges faced by healthcare providers. There is a need for healthcare professionals to recognize the consequences attributed to early exposure of ACEs and the importance of proper screening along with appropriate interventions (Edson, 2019). Social workers have the opportunity to enhance safety and implement effective coping strategies to lessen severity of ACEs (Mersky et al., 2013). Adverse environmental factors have the ability to impair multilevel systems that impact protective factors, resulting in poor coping strategies, including substance use (Bronfenbrenner, 1977). This study aimed to highlight the importance for social workers to better identify clients who have been exposed to ACEs and understand how these experiences maybe be related to adult substance use.

CHAPTER THREE

METHODS

Introduction

The research conducted assessed the relationship of ACEs and adult substance use. The research described how exposures to ACEs can impact the different areas of adult substance use. Chapter three looks at the official steps the researchers took to execute this study. The sections examined in this chapter are the study design, sampling, data collection and instruments, procedures, protection of human subjects, and data analysis.

Study Design

The purpose of this research was to further understand the relationship of ACEs and substance use in adulthood. The relationship of ACEs and adult substance use has previously been explored, but this study set out to make a contribution to the current research. This descriptive study focused on the prevalence of ACEs in adults and how those experiences can shape their relationship with substance use. This study was quantitative, and the instrument used was a self-administered questionnaire which was available virtually.

Using a descriptive quantitative format allowed the researchers to gain quantifiable data using inferential statistical analysis. The data from this study was compared to the current data to address any significant outcomes from the new study. Furthermore, using a self-administered questionnaire allowed for the

researchers to ask sensitive questions while protecting the anonymity of the participants. Lastly, the questionnaire was accessed virtually which created the potential to reach a large number of participants to take part in the study.

One limitation of the study is bias, more specifically social desirability due to the subject matter of the study. Although the participants are anonymous, sharing particular information may cause a level of discomfort possibly resulting in skewed responses. Another limitation of the study is due to COVID-19 using probability sampling methods have become less feasible to carry out, possibly impacting the generalizability of the study. By conducting a quantitative and descriptive study, a more inclusive understanding of ACEs and adult substance use can be gained. Social workers can use the information to create more sensitive and personalized treatment plans. The study can help create a greater awareness of the prevalence of ACEs and avoid re-traumatization in clients.

Sampling

For this study, non-probability sampling techniques was administered to collect the data. The specific non-probability methods utilized in this study was convenience and quota sampling. The instrument used to collect data was an online questionnaire targeting individuals' who were over eighteen years of age, from diverse racial backgrounds, from all genders, income levels, education levels, and various marital statuses. The quota sampling method was used by administering the questionnaire to a virtual Alcohol Anonymous (AA) meeting via Zoom. This sample was chosen because it best represents the target population

which is adults who engage substance use. Quota sampling was also used when posting the survey information on the social media platform Facebook targeting recovery groups for adult substance use, also reaching our target population. Convenience sampling was employed by the researchers because there was not enough completed questionnaires from the virtual AA meeting. The convenience sampling method was done by posting the survey link on the social media platform Facebook. A large number of completed questionnaires was desired for this study, but the minimum amount accepted would have been thirty.

Data Collection and Instruments

The independent variable is adverse childhood experiences, and the dependent variable is adult substance use in this study. The level of measurement for both variables is interval. The researchers created an instrument for this study by taking two pre-existing questionnaires on substance use and ACEs and combined the two instruments to make a new questionnaire specific to this study. The two pre-existing questionnaires the researchers used to create the instrument for this study is the Drug Abuse Screening Test (DAST-10) (Skinner,1982) and The Adverse Childhood Experience Questionnaire (Felitti et al., 1998). When addressing the reliability of the DAST-10 the instrument has an internal consistency between .86 and .94 (Yudko et al., 2007). The DAST-10 displays evidence of high face validity and when compared to the MAST, another trusted instrument, displays a significant correlation when addressing concurrent validity (Yudko et al., 2007). When addressing the reliability of the ACEs

Questionnaire the instrument presented with a Cronbach's alpha of .88 (Murphy et al., 2014). The ACEs Questionnaire also displays a significant concurrent validity when compared to the AAI (Murphy et al., 2014). The researchers abbreviated the ACEs Questionnaire omitting selected questions without compromising the validity of the instrument.

The instrument asked six questions on the participant's demographic information such as age, gender, race, marital status, income, and education level. The next data type collected was ten questions about the participant's substance use which is the first domain. The last part of the questionnaire addressed eight questions on ACEs and the participants potential exposure, frequency, and types which is the second domain. The instrument for this study was brief and questions were in a yes or no format besides the demographic questions making the survey user friendly. A limitation of the questionnaire created for this study was requesting sensitive information which could have caused participants to feel discomfort and leave the survey in completed.

Procedures

The researchers joined an online Alcoholic Anonymous (AA) meeting via Zoom to explain the study. With permission prior to the meeting an allotted time was given so the researchers could clearly describe the purpose and goals of the study. The researchers addressed all concerns regarding the study to willing participants. The participants were provided a debriefing statement as well as a list of resources in case of potential traumatization resulting from the survey. If

the participants felt uncomfortable during the survey the researchers ensured the participants, the opportunity to terminate the survey and the participants information was discarded. The participants were asked to complete the survey through a link provided in the Zoom chat feature and was given the opportunity to complete the survey during or after the meeting. The researchers were sensitive to the participants limited meeting time and were prepared prior to the meeting.

There were not enough participants from the AA group via ZOOM, so other alternatives to solicitate the survey were taken. The survey was solicited through the social media platform Facebook. A post was created online to clearly state the purpose and goal of the study on the Facebook platform. A consent form and debriefing statement was given to participants and signed before continuing the survey. The online distribution of the survey helped maintain participant's anonymity along with having the potential to offering inclusive and diverse responses from online communities.

Protection of Human Subjects

Internet-based methods for data collection provided the same protections as in person human research participants. The anonymity and confidentiality of the participants for the study were obtained through internet-based methods abiding by the same level of protection as traditional data collection methods. Anonymity and confidentiality of participants were kept in a password protected location stored in Qualtrics and there was no identifiable personal information obtained. The researchers respected the participants' self-determination by

allowing for premature termination of the survey when desired. Participants were provided a debriefing statement as well as information of the goal, purpose, and possible concerns pertaining to the study. Before beginning the survey, the participants were directed to a consent form page. The consent form was written in clear and everyday language to assure the comprehension of consent, along with maintaining the integrity of the study. The survey was accessed virtually which adheres to social distancing measures and helped mitigate the transmission or exposure of COVID-19.

Data Analysis

The data analyzed was the bivariate relationship of ACEs and substance use in adulthood. ACEs is the independent variable and substance use in adulthood is the dependent variable in this study. Both the independent and dependent variables were analyzed using SPSS and the inferential statistical test the researchers ran was the Correlation test. Additionally, a descriptive analysis and frequencies of the demographic variables was done as well. The survey consisted of twenty-four questions divided into separate domains measuring ACEs along with adult substance use. The researchers analyzed the responses in the domains to assess for new contributions which can be made to the existing research.

Summary

The current study has identified the relationship between adverse childhood experiences and adult substance use. The data collection was primarily gathered from Facebook rather than the AA group via ZOOM. This was done because there were not a sufficient number of participants from the virtual AA group, so the researchers used Facebook to secure enough data. All the methods in this study included a debriefing statement and an informed consent before beginning the survey. This respected the participants' confidentiality and anonymity through online data collection. The debriefing statement provided participants with clear information about the purpose of the study and resources which were available to participants if necessary.

CHAPTER FOUR

RESULTS

Introduction

Chapter four presents the findings for this study which are displayed in graphs to provide a visual depiction of the results. The researchers performed the following tests: Pearson Correlation, descriptive statistics and frequencies based on the demographic variables of age, race, gender, marital status, education, and income. The tables 1-8 will exhibit the most significant and noteworthy findings which will be further analyzed in chapter five.

Table 1. Pearson Correlation of Adverse Childhood Experiences and Adult Substance Use

Correlation		
	DAST10	ACE
DAST10 Pearson Correlation	1	.080
Sig. (2-tailed)		.496
N	74	74
ACE Pearson Correlation	.080	1
Sig. (2-tailed)	.496	
N	74	74

Table 1 presents there is no significant relationship between ACEs and adult substance use. There is no association between ACEs and adult substance use because both of their p-values are greater than $p > .05$. The p-value for both

ACEs and adult substance use is .496. This means 49.6% of the time there will be no association found between ACEs and adult substance use. A Pearson correlation coefficient indicated no, positive relationship between ACEs and adult substance use, $r=.080$, $n=74$, $p=.496$.

Table 2. Frequency Distribution of Race

		Race			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White	50	62.5	62.5	62.5
	Black/African American	3	3.8	3.8	66.3
	American Indian/ Alaska Native	4	5.0	5.0	71.3
	Asian	3	3.8	3.8	75.0
	Latinx	17	21.3	21.3	96.3
	Other	3	3.8	3.8	100.0
	Total	80	100.0	100.0	

Table 2 indicates the racial groups which participants identified with who participated in the study. The sample comprised of (N=80), 50 White (62.5%), 3 Black/African Americans (3.8%), 4 American Indian or Alaska Native (5%), 3 Asian (3.8%), 17 Latinx (21.3%), and 3 others (3.8%).

Table 3. Frequency Distribution of Gender

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	9	11.3	11.4	11.4
	Female	70	87.5	88.6	100.0
	Total	79	98.8	100.0	
Missing	System	1	1.3		
Total		80	100.0		

Table 3 illustrates the gender identities of individuals who participated in the study. The sample consisted of (N=80), 9 males (11.3%) and 70 females (87.5%). One individual (1.3%) declined to answer this question regarding gender identity who participated in this study.

Table 4. Descriptive Statistics of Age

Age					
	N	Minimum	Maximum	Mean	Std. Deviation
What is your age?	79	20	72	38.05	12.087
Valid N	79				

Table 4 illustrates the youngest, oldest, and average age of the sample (N=79) participants. The minimum age was 20 years, and the maximum age was 72 years old making the sample range from 20-72 years of age. The mean age was 38.05 with a standard deviation of 12.087.

Table 5. Descriptive Statistics of Adverse Childhood Experiences Mean Score

ACEs Mean Score			
	Mean	Std. Deviation	N
DAST10	2.73	2.484	74
ACE	3.38	2.131	80

Table 5 indicates the mean score of ACEs reported was 3.38 with a standard deviation of 2.131 out of 80 participants. This indicates a significantly low mean score of ACEs were experienced. This means participants did not experience high levels of adverse childhood experiences.

Table 6. Descriptive Statistics of Adult Substance Use Mean Score

Substance Use Mean Score			
	Mean	Std. Deviation	N
DAST10	2.73	2.484	74
ACE	3.38	2.131	80

Table 6 illustrates the mean score of substance use reported was approximately 2.73 with a standard deviation of 2.484 out of 74 participants. This indicates a low mean score of substance use.

Table 7. Frequency Distribution of Marital Status

		Marital Status			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	44	55.0	55.0	55.0
	Widowed	2	2.5	2.5	57.5
	Divorced	9	11.3	11.3	68.8
	Separated	2	2.5	2.5	71.3
	Never Married	23	28.7	28.7	100.0
	Total	80	100.0	100.0	

Table 7 demonstrates more married participants participated in the study compared to those who were never married out of the 80 participants. This is represented in the figure above with approximately 55.0% of the participants were married, 2.5% widowed, 11.3% divorced, 2.5% separated, 28.7 never married.

Table 8. Frequency Distribution of Education

		Education			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than high school degree	1	1.3	1.3	1.3
	High school degree or equivalent (e.g., GED)	9	11.3	11.3	12.5
	Some college but no degree	28	35.0	35.0	47.5
	Associate degree	6	7.5	7.5	55.0
	Bachelor's degree	22	27.5	27.5	82.5
	Professional degree or Doctorate degree	14	17.5	17.5	100.0
	Total	80	100.0	100.0	

Figure 8 frequencies were run to explore the participants level of education to determine knowledge of impact of ACES and substance use. 1.3% of participants reported having less than a high school degree, 11.3% had a high school degree or equivalent, 35.0% reported some college but no degree, 7.5% had an associate degree, 27.5% had a bachelor's degree, and 17.5% reported a professional degree or Doctorate degree. The figure depicted more participants who completed the questionnaire had some college but no degree.

Summary

The results section of this study presented the findings of the survey designed to explore the relationship of adverse childhood experiences and adult substance use. The researchers utilized quantitative analysis to present the responses of participants. The respondents ranged from ages 20-72 years old and had diverse levels of education, and experiences of adversity along with substance use. According to the results the participants reported low levels of adverse childhood experiences and adult substance use.

CHAPTER FIVE

DISCUSSION

Introduction

Chapter five will further explore the findings presented in this study. This chapter will also discuss the limitations of this study and recommendations for the Social Work profession will be presented.

Discussion

According to the Pearson Correlation both ACEs and adult substance use have a p-value of $p=.496$. This statistic is important because there was no correlation reported between ACEs and adult substance use. The findings of this study indicate there is no significance between ACEs and adult substance use 49.6% of the time. This was surprising because the findings of this study do not align with the common assumptions found within the literature on ACEs and adult substance use. The original ACEs study concluded one or more ACE exposures can lead to significant health risks and disease as an adult such as smoking, drinking alcohol, and drug abuse (Felitti et al., 1998). Alcoholism, drug abuse, and smoking are used as coping mechanisms because of their psychological and biological benefits to assist in reducing the trauma symptoms (Felitti et al., 1998). Throughout the literature adult substance use is found to be utilized as a common coping mechanism by individuals who have been exposed to ACEs. Additionally, Shin et al. (2017) also suggests children exposed to ACEs have a

higher chance of using substances as an adult depending on the frequency and number of ACE exposures. Furthermore, the no correlation finding between ACEs and adult substance use might imply that the information requested by participants was too sensitive. This provides insight into the level of difficulty in researching the question proposed in this study. This study could indicate the method in which the data was gathered on ACEs, and adult substance abuse could have been done more sensitively or in a personalized setting such as a one-on-one interview.

The sample consisted of individuals who were in different stages of their recovery and sobriety which could have impacted how participants answered the survey questions. The Transtheoretical Model is commonly used when addressing the change process with individuals experiencing drug or alcohol abuse (Norcross et al., 2011). The model consists of five stages which are precontemplation, contemplation, preparation, action, and maintenance. Participants in the precontemplation stage might have not answered the questions thoroughly because they are not fully aware of their problem. Participants in the contemplation stage might have understood they have a problem but have not made a planned commitment to change. If a participant is not honest with themselves about a substance use problem than the answers to the survey will reflect this, possibly contributing to why no correlation was found between ACEs and adult substance use.

In regard to race 62.5% of the participants who took the survey in the sample were white. It was found that 21.3% of participants were Latinx, 5% American Indian or Alaska Native, 3.8% African American or Black, 3.8% Asian, and 3.8% identified as other. Out of 80 participants who answered the question on race 50 of them were white which indicates the sample lacks diversity. The lack of diversity might suggest there are cultural differences on how trauma and substance use are viewed. Within particular cultures there could be stigma attached to having a substance abuse or mental health problem possibly viewing these issues as private matters therefore participating in this survey could go against certain cultural norms. Moreover, some cultures might have different parameters in what they consider to be a substance abuse or a mental health problem and how and when they seek treatment.

The lack of diversity in this study could indicate that individuals who are apart of diverse and minority communities may not have access to substance abuse treatment and mental health services or only have access to a lower quality of services (Alegria et al., 2011). In addition, individuals of minority communities might not have access to culturally sensitive treatment programs as well as programs that will accommodate non-English-speaking individuals (Alegria et al., 2011). An absence of diversity in this finding is consistent with certain populations being able to receive treatment.

Another notable finding is 87.5% of the participants who took the survey were female while 11.4% were male. There was one participant who did not

answer the question on gender. The survey did leave a space in the gender question for participants who do not identify as male or female to fill in their preferred gender identity. This statistic is surprising because Alcohol Anonymous, Narcotics Anonymous, and other recovery groups tend to be more male dominated (Zemore et al., 2004). The higher percentage of female participants who took part in this study might imply that women prefer to seek support through social media platforms such as Facebook. Women might choose a nontraditional route to seek recovery support because social media platforms could provide convenience, anonymity, and accessibility. This statistic provides insight into how the COVID-19 pandemic has impacted the way different genders potentially seek support and treatment for substance abuse and trauma.

An additional notable finding was the age range of the participants in this study. Participants' ages ranged from 20 to 72 years old, and the mean age of the sample was 38.05. This statistic is important because it captures the diverse age ranges of individuals who took the survey. The age range can offer diverse perspectives of the different generational views on ACEs and adult substance use. Depending on what generation the participant is from this might have impacted their availability to various treatment options, how an individual received treatment, and the amount of knowledge or research available on ACEs and adult substance use. The participant with the highest DAST-10 score was 40 years old and the participant with the highest ACEs score was 33 years old. This

statistic might indicate that the middle-aged participants could be in a different stage of their recovery process compared to the older participants.

The study examined the mean score of ACEs which was 3.38. This statistic is important because it does not match previous research data. The questionnaire consisted of a portion of ACE questions to measure the participants' exposure to trauma including psychological, physical, and violence (Campbell et al., 2016). Since the mean score is significantly low this indicates low levels of ACE exposure in relation to adult substance use. The findings are not consistent with previous research which may suggest participants have accessibility to more resources. Another reason may be that the participants were not forthcoming with the questionnaire responses. The significantly low ACE mean score is surprising for the reason that the CDC explains that experiencing or being exposed to ACEs are normal and common. The CDC (2020) also indicates that individuals experience one ACE type throughout their life.

The findings might also imply that participants reported low levels of ACEs reported due to the lack of rapport between researchers and participants. The participants could have been uncomfortable answering sensitive questions in regard to exposing traumatic experiences. The participants were informed of the anonymity and confidentiality of participation in the study but could have generally felt uncomfortable taking an online questionnaire. Lastly, low mean scores for ACE reported could be due to the healthcare accessibility in

association to coping mechanisms. Furthermore, participants could have reported fewer ACEs for the reason of ethnic and cultural differences. Some cultures have normalized maltreatment and adversity and have accepted it as appropriate behavior.

The study also shows a significantly low mean score of 2.73 for substance use. This is an important statistic because it indicates that participants reported significantly low levels of substance use. The low mean score is surprising because it suggests that the participants' opportunities to skip questions on the questionnaire were primarily from the DAST-10 portion. Given that the participants were able to skip questions could imply that the results were skewed due to the missed opportunities to report substance use scores. This is compatible with the idea of shame related to reported past and present substance use for the study. It is key to understand the negative emotions associated with participating in the survey. Another reason participants may have reported low substance use scores is due to stigma. This is compatible with the idea of stigma serving as a barrier to seeking treatment but disclosing their substance use (Kulesza et al., 2013). Due to lack of representation, perhaps males could have reported different levels than females.

Another notable finding in this study showed approximately 55.0% of the participants were married. It also found that 2.5% were widowed, 11.3% were divorced, 2.5% were separated, and 28.7% were never married. Previous research conducted on ACEs have shown that childhood adversity impacts

physical and emotional health, both which greatly impact relationships especially marriages. Although significant ACEs and substance use was not reported it could suggest more participants were married despite the negative experiences. It is compatible with the idea that adversity may result in consequences in regard to difficulty forming healthy and stable relationships in adulthood. There may be extreme issues with physical and mental health which impact marriages or relationships (CDC, 2020).

Adversity is known to affect an individual's social and biological health, in turn this can lead to social disadvantages (Nurius et al., 2016). The key to understand is that the participants were resilient in their relationships despite the trauma, ACEs, and substance use. This information implies that married participants have protective factors such as social support and optimism to serve as a buffer to negative outcomes (Nurius et al., 2016).

Lastly, the participants level of education was explored to determine the level of understanding the association of ACEs and adult substance use. The findings indicated 1.3% of participants had less than high school degree, 11.3% had a high school degree or equivalent, 35.0% had some college but no degree, 7.5% had an associate degree, 27.5% had a bachelor's degree, and 17.5% had a professional degree or Doctorate degree. The highest level of education reported was some college but no degree at 35.0%. This statistic is important because it indicates that higher education leads to more knowledge of accessibility psychosocial resources and overall health care modalities and

treatment that lessen chances of health consequences associated with ACEs such as substance use (Nurius et al., 2016).

Higher levels of education results in greater opportunities to acquire knowledge and accessibility to health care resources to understand coping strategies to cope with resilient health behaviors that shape preventative interventions (Nurius et al., 2016). An alternative explanation for higher levels of education could increase awareness of the impact of multiple levels of ACE exposure and the negative health consequences not just to the individuals but to loved ones. Those with higher levels of education reported lower levels of ACEs and substance use in this study. This seems consistent with the CDC, which indicates higher levels of education may result in less chances of living in poverty or being exposed to toxic stress or experience the impact of poverty (CDC, 2020). This seems to provide possible answers to the current study of experiencing ACEs as 35.0% of the participants did not experience high exposure to ACEs therefore reported low substance use.

Limitations

The current study was designed to be elicited to an online community due to the COVID-19 pandemic. The COVID-19 social distancing mandates limited how the researchers were able to collect their data. The questionnaire was distributed to recovery groups on the social media platform Facebook and an online AA group. Due to the limited participation from the AA group, the survey

link was distributed via social media as well. This is important because the survey had the potential to reach diverse backgrounds, was easily accessible with no time limits, and allowed participants to skip questions if necessary. The virtual distribution of the survey questionnaires resulted in a total of eighty participants. The sample consisted of significantly more females (N=70) than males (N=9), along with one participant who did not wish to identify their gender along with over half the participants who identified as white. Due to the limited racial and gender representation the study provides a lack of insight from other genders and racial groups on ACEs and adult substance use.

Another limitation presented in this study is the sensitivity of the information requested by participants. The sensitive and personal information could result in social desirability biases. Additionally, the survey allowed participants to skip questions attributable to the sensitive subject matter. As a result, there was unanswered questions which could have impacted the findings of this study. Lastly, convenience and quota sampling were utilized for this study which can limit the generalizability of the findings.

Future Studies

For future studies conducted on ACEs and adult substance use researchers could consider being more mindful of the sensitivity of these topics. Surveys and questionnaires can be viewed as impersonal and illicit feelings of discomfort for participants regarding these topics. It is recommended that more sensitive data collections methods be explored in hopes of gathering more

generalizable and new data which can help improve the areas of ACEs and adult substance use. By exploring more sensitive data collection techniques for ACEs and adult substance use this can help social workers better understand and treat their clients.

APPENDIX A
ADVERSE CHILDHOOD EXPERIENCES AND SUBSTANCE USE
QUESTIONNAIRE

Adverse Childhood Experiences and Substance Use Questionnaire

1. What is your age?
2. What racial group do you identify with?
 - a) White
 - b) Latinx
 - c) Black or African American
 - d) Pacific Islander
 - e) Asian
 - f) Multiple Races
 - g) Other (please specify) _____
3. What gender do you identify with?
 - a) Female
 - b) Male
 - c) Other (please specify) _____
4. What is your marital status?
 - a) Married
 - b) Widowed
 - c) Divorced
 - d) Separated
 - e) Never Married
5. What is your highest level of school completed or the highest degree you have received?
 - a) Less than high school degree
 - b) High school degree or equivalent (e.g., GED)
 - c) Some college but no degree
 - d) Associate degree
 - e) Bachelor's degree
 - f) Graduate degree
6. What is your income?
 - a) \$0-\$19,000
 - b) \$20,000-\$39,000
 - c) \$40,000-\$59,000
 - d) \$60,000-\$79,000
 - e) \$80,000-\$99,000
 - f) \$100,000 or more
7. Have you used drugs other than those required for medical reasons?
No or Yes

8. Do you use more than one drug at a time?

No or Yes

9. Are you always able to stop using drugs when you want to?

No or Yes

10. Have you had "blackouts" or "flashbacks" as a result of drug use?

No or Yes

11. Do you ever feel bad or guilty about your drug use?

No or Yes

12. Does your spouse (or parents) ever complain about your involvement with drugs?

No or Yes

13. Have you neglected your family because of your use of drugs?

No or Yes

14. Have you engaged in illegal activities in order to obtain drugs?

No or Yes

15. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?

No or Yes

16. Have you had medical problems as a result of your drug use (e.g., memory loss, hepatitis, convulsions, bleeding, etc.)?

No or Yes

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

17. 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

18. 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

19. 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

20. 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

21. Were your parents **ever** separated or divorced?

Yes No

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

Yes No

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

Yes No

24. Did a household member go to prison?

Yes No

(Felitti et al.,1998; Skinner,1982)

APPENDIX B
INFORMED CONSENT

INFORMED CONSENT

The study in which you are asked to participate is designed to examine the relationship of adverse childhood experiences and adult substance use. This study is being conducted by Melissa Berry and Mariah Garcia, graduate students, under the supervision of Dr. Thomas Davis, Professor in the School of Social Work at California State University, San Bernardino (CSUSB). The study has been approved by the Institutional Review Board at CSUSB.

PURPOSE: The purpose of the study is to examine the relationship of adverse childhood experiences and adult substance use.

DESCRIPTION: Participants will be asked a few questions about demographics, adverse childhood experiences and substance use.

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

CONFIDENTIALITY: Your responses will remain confidential, and data will be reported in group form only.

DURATION: It will take 5 to 10 minutes to complete the survey.

RISKS: Although not anticipated, there may be some discomfort in answering some of the questions. You are not required to answer and can skip the question or end your participation.

BENEFITS: There will not be any direct benefits to the participants. However, findings from the study will contribute to our knowledge in this area of research.

CONTACT: If you have any questions about this study, please feel free to contact Dr. Thomas Davis via email: tomdavis@csusb.edu

RESULTS: Results of the study can be obtained from the Pfau Library ScholarWorks database (<http://scholarworks.lib.csusb.edu/>) at California State University, San Bernardino after July 2021

I understand that I must be 18 years of age or older to participate in your study, have read and understand the consent document and agree to participate in your study.

Place an X mark here

Date

APPENDIX C
DEBRIEFING STATEMENT

Study of the Relationship of Adverse Childhood Experiences and Adult Substance Use Debriefing Statement

The goal of the current study is to further understand the relationship of adverse childhood experiences (ACEs) and adult substance use. The relationship of ACEs and adult substance use has been previously explored; however, this study will contribute to current research. The study will describe the exposure of ACEs and how it can impact different areas of adult substance use. The survey questions ask for personal and sensitive information assessing for adverse childhood experiences and questions on past and current substance use. Participants have an opportunity to skip questions if uncomfortable answering or terminate the survey when desired, with no repercussions. Anonymity and confidentiality of all participants will be upheld by requesting information without any identifiable information. An emergency hotline resource list will be provided to protect participants in case of any re-traumatization or triggering emotional stimulation resulting from survey questionnaire.

Thank you for your participation and for not discussing the contents of the survey questionnaire with other participants. If you have any questions about the study, please feel free to contact Melissa Berry, Mariah Garcia or Professor **Thomas Davis, Ph.D.** at **Email: tomDavis@csusb.edu** If you would like to obtain a copy of the group results of this study, please contact Professor **Thomas Davis** at **SB-411** at the end of **(Spring)** semester of 2021.

Resources

National Alliance on Mental Illness (NAMI) - Call 800-950-NAMI or **Crisis Text Line**- Text NAMI to 741-741

Substance Abuse and Mental Health Services Administration (SAMHSA)
NATIONAL Helpline- Call 1- 800-662-HELP (4357)

National Suicide Prevention Lifeline - Call 800-273- TALK (8255)

National Sexual Assault Hotline- Call 800- 656-HOPE (4673)

National Domestic Violence Hotline- Call 800 -799-SAFE (7233)

Safe Horizon- 1-800-621-HOPE

APPENDIX D

INSTITUTIONAL REVIEW BOARD APPROVAL LETTER

IRB #: IRB-FY2021-64

Title: What is the relationship of adverse childhood experiences and adult substance use?

Creation Date: 10-18-2020

End Date:

Status: **Approved**

Principal Investigator: Thomas Davis

Review Board: Main IRB Designated Reviewers for School of Social Work

Sponsor:

Study History

Submission Type	Initial	Review Type	Exempt	Decision	Exempt
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Key Study Contacts

Member	Initial	Role	Contact
Member	Melissa Berry	Role Co-Principal Investigator	Contact melissa.berry0616@coyote.csusb.edu
Member	Mariah Garcia	Role Co-Principal Investigator	Contact mariahg@coyote.csusb.edu
Member	Thomas Davis	Role Principal Investigator	Contact tomDavis@csusb.edu
Member	Thomas Davis	Role Primary Contact	Contact tomDavis@csusb.edu

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ASSIGNED RESPONSIBILITIES

Mariah and Melissa have collaborated in the decision-making process ensuring the writing and research was broken up evenly. For chapter one both Mariah and Melissa split the task of the problem formulation, along with the remaining sections of the chapter. Next, Mariah and Melissa split up chapter two in the same manner making sure sections were distributed fairly, while considering the difficulty of each section. Furthermore, for chapter three Melissa did the first four sections and Mariah did the remaining four sections. Mariah worked on the Human Subjects Application and prepared the other items required for submission. Melissa created the instrument for the study and made all the finalizations for the submission of the Research Project Proposal. Through this process both students communicated regularly and supported each other consistently.