Screening Children with Behavioral Problems for Adverse Childhood Experiences

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ABSTRACT

Background: Adverse Childhood Experiences (ACEs) includes events such as neglect, witnessing or experiencing emotional, physical abuse, or sexual misconduct, and living in a household with parental divorce or separation, household member incarceration, or a parent with serious mental illness or substance use disorder. ***Problem:*** Recurrent trauma exposure between birth and age eighteen can have lasting harmful effects on the developing brain. ACEs have been associated with long-term, negative social outcomes as well as physical and mental illness in adults, including increased risks for mental illness, substance misuse, and fatal conditions, such as cancer, diabetes, heart disease, and suicide. ***Purpose:*** The purpose of this DNP project was to identify the level of provider awareness of ACEs and the use of the ACEs tool. ***Method:*** This project utilized a descriptive, cross-sectional, non-experimental design through the collection of quantitative data via a Qualtrics online survey tool. ***Results:*** Data from 75 surveys were analyzed. The majority of the participants were female (75%) who ranged in age from twenty-eight years to sixty-eight years. 40% were Registered Nurses, in practice between one year and forty-nine years. 59% of the participants were extremely familiar with the term ACEs. 79% of respondents use an ACEs screening tool for every child, during every visit 32% of the time. Most screenings (40%) are administered to the child and parent/guardian, together. Nearly 60% of respondents use a screening tool to determine the need for further referral, assessment, and/or treatment. ***Implications for Practice:*** Implementation of an ACEs screening tool could improve health outcomes and mitigate the risk of premature death through early intervention and disease recognition.

Keywords: adverse childhood experiences, trauma-informed care, screening, early intervention

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I can do all things through Christ who strengthens me.
Philippians 4:13

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CHAPTER ONE

Introduction

Overview of the Problem

Adverse Childhood Experiences (ACEs) are stressful, traumatic events that occur in childhood, prior to the age of eighteen, with the potential to destabilize a child's sense of safety and stability (Matjasko et al., 2022). ACEs increase the risk of the development of chronic illnesses later in life, including fatal conditions such as cancer, diabetes, heart disease and suicide (CDC, 2019). ACEs can compromise healthy coping strategies and contribute to unhealthy behaviors, poor life opportunities and physical and mental health, and can cause early death (Merrick et al., 2019). According to the Centers for Disease Control and Prevention (2021), 61% of adults had at least one ACE and 16% had four or more types of ACEs. The risks of injury, STDs, mental health issues, teen pregnancy, involvement in sex trafficking, and chronic health issues and diseases all increase as a result of ACEs. In addition to socioeconomic difficulties, ACEs are also associated with concerns including not finishing high school, unemployment, and lack of health insurance. Families, communities, and society all bear a heavy financial burden as a result of these events, which are projected to cost $748 billion dollars annually in North America (United Health Foundation, 2022).

Yau et al. (2022) utilized a nationally representative school-based sample to compare the prevalence of adverse childhood experiences in the four major census regions in the United States (Northeast, Midwest, South, and West). The analysis found variation among the nine types of ACEs studied. The prevalence of ACE scores varied regionally. Overall, ACEs were found to be most prevalent in the Northeast and least prevalent in the South. Specifically, emotional abuse, physical abuse, and incarcerated member in household were significant. In comparison, the Northeast had the highest prevalence of the following types of ACEs: substance abuse in household, emotional abuse, sexual

abuse, and physical abuse. In contrast, the South had the lowest prevalence of ACEs among all the regions, with the exception of being the region with the highest prevalence of parental separation or divorce.

New Jersey, according to the NJ Funders ACEs Collaborative (2019), is a state where more than 40% of children (more than 782,000) are estimated to have experienced at least one ACE and 18% are estimated to have experienced multiple ACEs. Rates of exposure to adverse experiences in New Jersey are greater for children and families of color and for those living in poverty than for their non-Hispanic white and more affluent counterparts, which is consistent with national findings (NJ Funder ACEs Collaborative, 2019). Additionally, the NJ Funders ACEs Collaborative (2019) reported that more than 27% of African American children and 22% of Hispanic children in New Jersey are estimated to have experienced multiple ACEs, compared to 16% of their non-Hispanic white peers.

Background

In 1988, The Adverse Childhood Experiences Study was conducted at the Centers for Disease Control and Kaiser Permanente's San Diego Health Appraisal Clinic. Felitti et al. (1998) were the first to describe a dose–response relationship between childhood adversity and an increased risk of chronic diseases, mental health disorders, and substance abuse during adulthood (Marsicek et al., 2019). Participants who reported four or more ACEs had a twelve times greater risk of alcoholism, drug abuse, depression, and attempted suicide (Felitti et al., 1998). According to the CDC (2019), using 2017 national estimates, preventing ACEs could have: reduced the number of adults who had heart disease by as much as 13% (up to 1.9 million avoided cases); reduced the number of adults who were overweight/obese by as much as 2% (up to 2.5 million avoided cases); and reduced the number of adults with depression by as much as 44% (up to 21 million avoided cases). The term ACEs originally referred to seven adverse exposures/life events: physical abuse, verbal abuse, sexual abuse, domestic violence, household

substance abuse, mental illness, and criminal activity; physical neglect, emotional neglect, and parental separation were later added (Petruccelli et al., 2019). Experiencing four or more ACEs is associated with a doubled risk for nearly half of the twelve leading causes of mortality in the United States (NJ Funder ACEs Collaborative, 2019). According to Grummitt et al. (2021), approximately 439,072 United States annual deaths, a figure is higher than the 2020 total number of United States COVID-19 deaths, were attributable to childhood adversity.

The Impact of Adverse Childhood Experiences on Children

The first three years of life, during which time one million new brain cells per second are formed, are critical in childhood development (Bellazaire, 2019). When children experience multiple adverse experiences, the result can lead to toxic stress that is disruptive to child development. Toxic stress can result in damaged, weakened physical systems and brain architecture with permanent effects if the stress response is long-lasting, prolonged, and the child lacks access to supportive relationships (Franke, 2014). Signs and symptoms exhibited in children who experience traumatic experiences can mimic Attention Deficit Hyperactivity Disorder, Anxiety, Oppositional Defiant Disorder, and Depression. If unaddressed or unrecognized, ACEs can have profound, cumulative, lifelong effects. Early detection and intervention can reduce the likelihood of adverse health and enhance quality of life. The aim of health screening tools is to improve health outcomes through early interventions of disease recognition.

Gold Standards for ACES Evaluation

Identifying ACEs in children could assist families in taking proactive measures to improve family dynamics and lessen the impact of negative situations. Screening for ACEs may serve as an effective means of engaging and educating children and families about the benefits of loving, secure, and stable family relationships, how to recognize and manage stress and learn resilience (Bethell et al., 2017). However, training in trauma-informed care (TIC) is not commonly incorporated in nursing or medical

education, and the knowledge and comfort level in this practice area varies (Kassam-Adams et al., 2015). Training in TIC can increase confidence and knowledge to equip healthcare professionals with the necessary tools to better assess and support trauma survivors. To have a long-term impact on nursing practice and patient outcomes, nursing schools should examine their curricula to consider incorporating trauma-informed principles into the nursing curriculum (Li et al., 2019).

Purpose and Clinical Significance

The purpose of this DNP project is to identify the level of provider awareness of ACEs and the use of the ACEs screening tool. The pediatric mental health sector includes, but is not limited to, psychiatrists, psychologists, psychotherapists, social workers, community health workers, and nurses. According to Hornor (2015), considering the scope and severity of this issue, it is imperative that pediatric nurse practitioners comprehend trauma exposure and its possible impacts on the developing child. Studies indicate that early detection of ACEs, together with appropriate intervention, can reduce long-term effects. Assessment of ACEs generates a measure of adversity-related risk (Bethell et al., 2017). The first step in screening for risk factors is to obtain a thorough familial psychosocial history (Hornor, 2015). Accessing ACEs should not replace formal screening for trauma symptoms associated with past or current trauma (Bethell et al., 2017). Referral to service providers who address trauma in children is warranted for any positive screen. Moreover, per state reporting laws, any concern related to child maltreatment must be referred to child protective services. The hypothesis for this DNP project is: when professionals who work with children at high risk for ACEs understand and identify ACEs, early intervention can be provided, thereby increasing the child's current and future health. Through this DNP project the level of ACEs evaluation, by whom, how often, and whether it provides evidence that informs treatment will be identified.

Research Question

Does the utilization of a screening tool for Adverse Childhood Experiences with children assist in determining the need for further referral/assessment/treatment?

Concepts and Operational Definitions

The concept of ACEs was documented in 1988 by the Felitti et al landmark study where the correlation between adverse childhood experiences and trauma was identified. While seven categories, later nine, of adversity were recognized, the overarching concept is the same. ACEs have a significant and cumulative effect on adult health status; persons with multiple categories of childhood exposure were likely to have multiple health risk factors later in life (Felitti et al., 1998). Methods to operationalize ACEs include screening tools that can evaluate the effect of trauma on children's outcomes as well as to understand how ACEs assessment might inform or improve larger efforts to promote child well-being (Bethell et al., 2017). ACEs screening tools include the *Family Health History and Health Appraisal Questionnaire* (the original ACE Study Questionnaire), *Center for Youth Wellness Adverse Childhood Experiences Questionnaire*, and/or pediatric intake forms that include ACE-related questions.

This DNP project will examine the utilization of ACEs screening by clinicians who provide services to children with behavioral problems. The objective of the utilization of such tools is to support health promotion, health education, and, when necessary, the mitigation of trauma, long-term stress, and behavioral and emotional consequences resulting from exposure to ACEs (Bethell et al., 2017). Specific questions about the likelihood of developing treatment plans based on the results of ACEs screening will operationalize the use of the ACEs survey. The original CDC-Kaiser Permanente study served as a framework for this project, with the Adverse Childhood Experiences Survey, previously used by the Department of Physician Assistant Studies at the University of Kentucky College of Health

Sciences, serving as the identified survey tool. A copy of the survey, adapted specifically for this project to meet study objectives, is provided as Appendix A. Items were reviewed for relevancy and irrelevant items were removed. With the exception of one, all survey questions were included in the revised version. Three new questions were added to operationalize the tool for this project. The question: *Are you interested in participating in continuing education regarding ACEs screening?* was removed, as such is not the focus of this project. The final 14-item survey focuses on age, gender, and use of a screening tool to assist in determining the need for further referral/assessment/treatment regarding ACEs were also included to gain information regarding the respondent population.

Summary

Chapter 1 presented an introduction to Adverse Childhood Experiences (ACEs) and expanded the background related to ACEs in the United States and New Jersey. It provided the objectives, research question, and significance to nursing and healthcare. Chapter 2 will present the theoretical framework and protective factors related to ACEs, as well as a review of the literature.

CHAPTER II

The Review of Literature

This chapter will present the theoretical framework, the methodology of searching the literature and the examining inclusion and exclusion criteria. A broad literature search of The Cumulative Index of Nursing and Allied Health Literate (CINAHL), PubMed Central and Medline databases was conducted via the online search of William Paterson University's David & Lorraine Cheng Library, yielding between 30 to greater than 3,000 articles. The following keywords were used: "Adverse Childhood Experiences" AND "standardized screening" OR "health outcomes" OR "nursing trauma education." Peer-reviewed journals randomized controlled trials, systematic reviews, and meta-analyses were among the search parameters that were utilized for research publications. Articles related to cognition, medical diagnoses, and adult studies were eliminated. Titles and abstracts not relevant to this project were further reviewed to exclude articles. Publication dates were limited to the years of 2017 to 2022. The exception is the inclusion of the original Felitti et al. article, published in 1998, due to the significance of the content related to ACEs research (a 2019 reprint of the article is also included in this paper). Studies were included if they were conducted in both the United States and abroad and were written in English. Health risk factors, screening experiences, ACEs nursing education were discussed in the selected articles. To ensure that the remaining papers fulfilled all inclusion requirements, the complete texts of the fifty articles were examined, with focus on the methods section to review for correct population, screening experiences, and ACEs in nursing curricula. Following complete text reading for appropriateness, eight were chosen for final inclusion in this literature review.

The findings of the literature review confirm that ACEs have a considerable impact on health outcomes over the course of a person's lifetime. In addition to identifying research on the impact of ACEs on children's physical and mental health, the aim of this review was to determine best practices

based on research. The review provides supportive evidence that early identification and the implementation of ACEs screening can assist with attempts to reduce toxic stress and increase resilience. The value of screening kids for trauma reactions to ACEs is supported by literature, with justification of referral to appropriate treatment for addressing trauma in children for those who screen positive. Eight articles were selected and are placed into the following categories: impact on health, feasibility and implementation of ACEs screening, and ACEs nursing education. The articles are presented in Appendix B.

ACEs Impact on Health

Chang et al. (2019) found that ACEs had a negative impact on health in later life. In a sample of 1,501 adult residents (aged 18-59 years) from Macheng, China, 66.2% reported at least one ACE while 5.93% reported four or more ACEs. It was determined that as the ACE score increased, so did the significance of risky behaviors increase in adulthood, such as post-traumatic stress disorder, chronic disease, depression, and smoking. Consequently, the results of the study highlighted the serious long-term consequences of ACEs. Felitti et al. (2019) found that 52% of the respondents reported they had experienced $\geq$ 1 category of adverse childhood exposure and 6.2% reported $\geq$ 4 exposures, suggesting that the impact of ACEs on adult health is strong and cumulative. Yu et al. (2022) studied the cumulative number and clustering patterns of ACEs related to premature mortality and found children exposed to a combination of poverty and crowded housing conditions, or economic difficulties and parental divorce/separation, were most at risk for premature mortality.

Feasibility and Implementation of ACEs Screening

Marsicek et al. (2019) studied 1,206 parents and 24 clinicians who were tasked with completing a descriptive study questionnaire regarding the need for standardized screening in the pediatric setting. To assess exposure to adversity, an ACEs screening method was implemented, with the goal of

increasing screening of children presenting for their annual well-child visits from 0% to 80%. In one year, screening increased to 60%. In support of the Empower Action Model, the study concluded that parent screening in the pediatric setting can successfully identify patients with high-risk ACE scores. The systematic review conducted by Loveday et al. (2022), found evidence that screening for ACEs improves identification of adversity. After reviewing questionnaires with 111 adult patients and 7 primary practice clinicians, Glowa et al. (2016), asserted that it is feasible to incorporate ACEs screening into primary care visits, as doing so can identify social determinants of health, thereby assisting clinicians in the determination for further referral, assessment/treatment. The mixed-methods study conducted by Kia-Keating et al. (2019) identified that providing interventions within pediatric settings demonstrate favorable outcomes that foster resilience and protective factors for caregivers and children.

Nurses' Role in the Health Promotion of ACEs

Nurses provide care services across the continuum, from preventative to end-of-life. As the largest health profession, nurses are well positioned to reduce the negative effects of toxic stress and lessen the impact of ACEs. Increasing awareness of ACEs through basic nursing education programs and continuing education is the first step toward promoting healthy lifestyles and enhancing resiliency (Girouard & Bailey, 2017). To foster knowledge, abilities, and attitudes toward screening, Family Nurse Practitioner (FNP) students must be educated about ACEs and the overall health consequences on children (Moody & Kindschuh, 2022). Their study concluded reported readiness to screen patients in primary care settings was higher among FNP students as their knowledge and skills in patient screening increased.

ACEs in Nursing Education

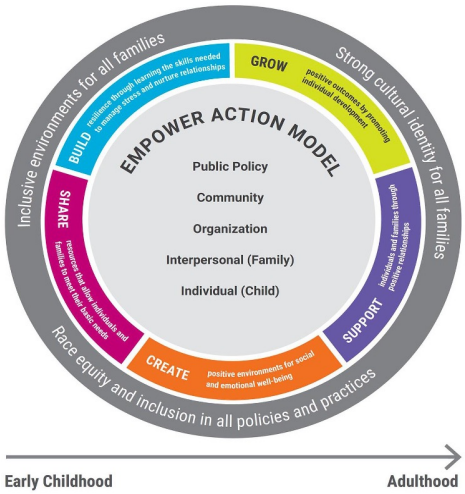
Further research is required to determine how best to incorporate ACEs instruction in DNP programs. (Moody & Kindschuh, 2022). Li et al. (2019) reviewed literature regarding trauma-information

educational practices in health sciences and found there to be a lack of available trauma nursing education. While the trauma curricula in other health science fields can serve as a model for developing trauma curricula in nursing programs, further preparation is required before trauma can be effectively incorporated into nursing education. Nursing education and continuing education programs should, as is the case with other health concerns such as falls, AIDS, and substance misuse, incorporate curriculum content to equip nurses for ACEs awareness among their patients (Girouard & Bailey, 2017).

Theoretical Framework

According to Srivastav et al. (2019), the Empower Action Model (Figure 1) seeks to provide tangible steps to prevent childhood adversity by implementing protective factors to build resilience and health equity across multiple levels and the life span (Srivastav et al., 2019). The five protective factors in this model include building resilience through learning skills needed to manage stress and nurture children; creating positive environments for social and emotional well-being; growing positive outcomes by promoting individual development; sharing resources that allow individuals and families to meet their basic needs; supporting individuals and families through positive relationships (Srivastav et al., 2019).

Figure 1



Summary

Chapter 2 presented the review of the relevant research articles related to topic Screening for Adverse Childhood Experiences, as well as the presentation of the theoretical model. Chapter 3 will present the proposed methodology for implementing this DNP project.

CHAPTER III

METHODS

Chapter three introduces the methods, project design, sample, and setting. The procedure regarding data collection and the survey tool used is also presented. Demographics and variables of interest, as well as data analysis are shared.

Project Design

This project utilized a descriptive, cross-sectional, non-experimental design by collecting quantitative data via a Qualtrics online survey tool.

Sample

The sample consisted of a convenience sample of New Jersey healthcare clinicians, who treat children with behavioral concerns. The participants volunteered to answer the survey which was distributed via an email. Written consent, identifying the purpose of the study and explaining participant role was provided. No incentives were provided for participation.

Setting

The setting for completion of the survey was online via Qualtrics.

Procedure:

Organization of data for analysis commenced following receipt of seventy-five responses from a personal listserv.

Survey Tool

A survey, entitled, Adverse Childhood Experiences Survey, previously utilized by the Department of Physician Assistant Studies at the University of Kentucky College of Health Sciences, was identified for use in this project. IRB approval was obtained from WPUNJ prior to data collection. Following approval, the survey was forwarded to participants for completion. Prior to implementation, the tool was tested for validity and reliability. See Appendix A for the complete survey.

Demographics and Variables of Interest

Participants were asked to identify gender, profession, age, and number of years in practice. Variables of interest were identified as type of screening tool used, if any *(multiple selections were provided for participants to choose from)*; frequency of screening *(choices of always, usually, sometimes, rarely, or never could have been selected)*; whom the screening was administered to *(referred to parent or child);* and if screening was used to determine treatment *(ability to answer yes or no).* Variables in the survey instrument included knowledge of ACEs terminology, use of screening tools, and perceived prevalence of various ACEs as observed in practice. Profession, years in practice, and interest in continuing education opportunities regarding ACEs were also included to gain information regarding the respondent population.

Protection of Human Subjects

Institutional Review Board approval was provided from William Paterson University prior to implementation of data collection. No identifying information was collected related to exact place of work, which allowed anonymity of respondents. A copy of the Institutional Review Board approval is provided in Appendix C.

Data Analysis

Data analysis began after seventy-five responses were received. The data were transferred from Qualtrics to Statistical Package for Social Sciences (SPSS), Version 29, for evaluation. The analysis

included reporting descriptive statistics and frequency distributions of the sample population. Data were analyzed to determine familiarity with ACEs; the most common tools utilized; the percentage of clinicians who used ACEs screening as a diagnostic tool and those who did not; and whether use of a screening tool was used to determine treatment. Frequency analyses of the following variables were run: age, profession, familiarity with ACEs, use (or not) of a screening tool, which tool used, when screening occurs, who administers screening, to whom the screen is administered, and if a tool to assist in determining the need for further referral/assessment/treatment is used. A crosstabulation analysis was conducted to determine ACEs familiarity in relation to profession. A Chi Square analysis was conducted to determine the relationship between profession and when screening occurs.

Summary

This chapter presented the data analysis, as well as the research design, sampling method and procedure utilized, along with the data collection procedure and survey tool. A statement regarding the protection of human subjects was also presented. Chapter 4 will introduce the results and descriptive demographics of the research.

CHAPTER IV

RESULTS

Introduction

This chapter presents data collected from 75 surveys and provides the statistical analysis of results. The purpose of this study was to identify the level of provider awareness of Adverse Childhood Experiences (ACEs) and the use of the ACEs screening tool. The result of the analysis provides support in answering the project research question: does the utilization of a screening tool for ACEs with children assist in determining the need for further referral/assessment/treatment?

Data was collected with Qualtrics and transferred to Statistical Package for Social Sciences (SPSS29). An analysis of the data was performed. Demographics including gender, profession, age, number of years in practice, and knowledge of and use of the ACEs screening tool was asked. Descriptive statistics were used to report the demographics of the sample as well as measure familiarity with ACEs, identifying the most common tools utilized, assessing the percentage of clinicians and their licensure/professional roles who report using ACEs screening as a diagnostic tool. An additional question investigating whether use of a screening tool helped to determine treatment was asked. Other variables collected for data analysis included type of screening tool used, frequency of screening, and whom the screening is administered to and by.

Demographics

Sample

A total of 150 Qualtrics surveys were distributed via listserv, and those surveys were then sent out in a snowball sampling method to more than 20 other colleagues and stakeholders. Approximately 250 surveys were sent out via email. Of those surveys a total of 75 were returned for a return rate of about 30%.

Sex

The majority of the respondents (75%, n=59) identified as female (table 1).

Respondent sex: Table 1.

Table 1

Frequency Table for ACEs Screening Nominal Variables

Variable	*n*	*%*
Sex		
Male	19	25%
Female	56	75%

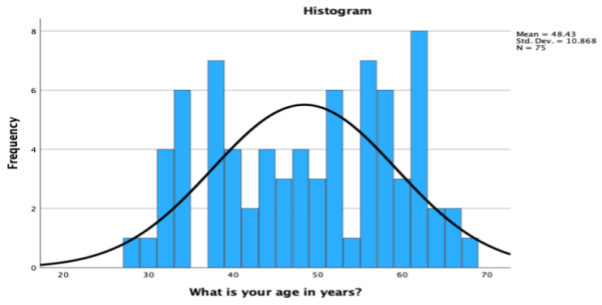
Age

Participants ranged in age from 28 years - 68 years, with the largest cohort (n=24) in the age category between 50 years and 59 years. The mean age of the 75 respondents was 48.43 years, with an SD of 10.9 years (table 2). The ages ranged from 28 to 68 years of age. The age of the respondents did not fall within a normal curve, indicating the need for non-parametric analysis (figure 2).

Table 2

N	Valid	75
	Missing	0
Mean		48.43
Std. Deviation		10.87
Variance		118.11

Figure 2



Professional Roles of Respondents and years of practice

Most participants, 40%, were Registered Nurses (n=30). Participants reported between 1 and 49 years of experience in their roles.

Frequencies and percentages of profession findings are presented in Table 3.

Table 3

Frequency Table for ACEs Screening Nominal Variables

Variable	*n*	*%*
Profession		
Physician	2	2.7%
Nurse Practitioner	19	25.3%
Registered Nurse	30	40%
Social Worker	15	20%
Other	9	12%

Table 4: Characteristics of study participants		
	n=75	%
Gender		
Male	19	25%
Female	56	75%
Profession		
Physician	2	2.7%
Nurse Practitioner	19	25.3%
Registered Nurse	30	40%
Social Worker	15	20%
Other	9	12%
Age		
28-39	22	29.3%
40-49	14	18.7%
50-59	24	32%
≥60	15	20%
Years in Practice		
1-10	22	29.33%
11-20	25	33.33%
21-30	19	25.33%
31-40	7	9.33%
≥40	2	2.68%

The statistical analysis of years in profession is presented in Table 5.

Table 5	
N	75
Valid	0
Missing	
Mean	48.43
Std. Deviation	10.87
Variance	118.11

Variables of interest

Adverse Childhood Experiences (ACEs) familiarity

The answer to the question regarding ACEs familiarity indicated that the majority of respondents (n=44, 58.7%) were extremely familiar with the term Adverse Childhood Experiences. Only 4% (n=3) were unfamiliar with the term. Familiarity with ACES is presented in Table 6.

Table 6: How familiar are you with the term Adverse Childhood Experiences?

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
not familiar	3	4.0	4.0	4.0
slightly familiar	6	8.0	8.0	12.0
somewhat familiar	4	5.3	5.3	17.3
moderately familiar	18	24.0	24.0	41.3
extremely familiar	44	58.7	58.7	100.0
Total	75	100.0	100.0	

Crosstabulation of ACES familiarity with profession

A crosstabulation analysis was conducted to determine ACEs familiarity with profession (table 7). The total sample RNs made up 40% of the respondents, which was the majority of professionals working with ACEs, and of that group 70 % n=21 were extremely familiar with ACEs. The total sample of physicians made up 2.7% of the respondents, and of that group, 100% n=2 were extremely familiar with ACEs. The total sample of nurse practitioners made up 25.3% of the respondents, and of that group, 58% n=11 were extremely familiar with Aces. The total sample of social workers made up 20% of the respondents, and of that group, and of that group 33% n=5 were extremely familiar with ACEs. The total sample of other clinicians made up 12% of the respondents and of that group, and of that group 56% n=5 were extremely familiar with ACEs.

Table 7: Crosstabulation of profession and ACEs familiarity						
What is your profession?	not familiar	slightly familiar	somewhat familiar	moderately familiar	extremely familiar	**Total**
Physician	0	0	0	0	2	2
Nurse Practitioner	0	1	0	7	11	19
Registered Nurse	2	2	4	1	21	30
Social Worker	0	2	0	8	5	15
Other	1	1	0	2	5	9
Total	3	6	4	18	44	75

Current use of any type of ACES screening tool

Almost 79% of the respondents (n=59) used an ACEs screening tool in practice. Twenty-one percent (n=16) are not using an ACEs screening tool in their practice (table 8).

Table 8: Do you currently use any type of screening tool for ACEs?				
Valid	Frequency	Percent	Valid Percent	Cumulative Percent
yes	59	78.7	78.7	78.7
no	16	21.3	21.3	100.0
Total	75	100.0	100.0	

ACEs Screening

Identification of the ACES screening tool being employed

The majority (24.0%) of respondents (n=18) did not know which screening tool is used in their practice. Although 22.7% of respondents (n=17) did not currently use any screening tool, 17.3% respondents (n=13) used a tool consisting of ACE-related questions that are included in the pediatric intake form in practice (table 9).

Table 9: Which screening tool do you use?				
Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Family Health History and Health Appraisal Questionnaires	4	5.3	5.3	5.3

Center for Youth Wellness ACEs Questionnaire (CYWACE-Q)	11	14.7	14.7	20.0
ACE-related questions included in pediatric intake form	13	17.3	17.3	37.3
I'm not sure which tool my practice uses	12	16.0	16.0	53.3
Other	18	24.0	24.0	77.3
No tool	17	22.7	22.7	100.0
Total	75	100.0	100.0	

When does screening occur as a standard of practice

Screening occurred most frequently (32.0%, n=24) with every child during every visit (table 10).

Table 10: When does screening occur?				
Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Every child every visit	24	32.0	32.0	32.0
Every child annually	15	20.0	20.0	52.0
New patients only	7	9.3	9.3	61.3
Only when there is a concern	9	12.0	12.0	73.3
Other	2	2.7	2.7	76.0
Don't know	18	24.0	24.0	100.0
Total	75	100.0	100.0	

Who is responsible for administering the ACEs screening tool

Members of the clinical staff administered the screen 54.7% (n-41) more often than any other staff member. Providers (n=6) only administered screening 8% of the time. Table 9 analyzes the data regarding screening administration (table 11).

Table 11: Who administers the screen?				
Valid	Frequency	Percent	Valid Percent	Cumulative Percent
It is part of the intake form	11	14.7	14.7	14.7
Clinical staff	41	54.7	54.7	69.3

Provider	6	8.0	8.0	77.3
I don't know/ no answer	17	22.7	22.7	100.0
Total	75	100.0	100.0	

Identifying to whom the screening tool is administered

In this study, 40% of screenings (n=30) were administered to the child and parent/guardian together. Twenty percent of the time (n=15), screenings were administered to the child, individually, while sixteen percent of the time (n=12), screenings were administered to the parent/guardian, individually (table 12).

Table 12: To whom is the screen administered?

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
to the child, individually	15	20.0	20.3	20.3
to the parent/guardian, individually	12	16.0	16.2	36.5
to the child and parent/guardian together	30	40.0	40.5	77.0
other	1	1.3	1.4	78.4
don't know/ no answer	16	21.3	21.6	100.0
Total	74	98.7	100.0	
missing	1	1.3		
Total	75	100.0		

Screening Tool Utilization

The survey examined the utilization of any screening tool for Adverse Childhood Experiences as a method to assist the professional to determine the need for further referral or assessment treatment for the child. The results indicated that nearly 60% of respondents (n=43, 57.3%) used a screening tool to determine the need for further referral, assessment, and/or treatment (table 13).

Table 13: Do you use the screening tool to assist in determining the need for further referral/assessment/treatment?				
Valid	Frequency	Percent	Valid Percent	Cumulative Percent
yes	43	57.3	57.3	57.3
no	31	41.3	41.3	98.7
unsure	1	1.3	1.3	100.0
Total	75	100.0	100.0	

Examining the association of profession and timing of ACEs screening

A crosstabulation was computed to examine the association between profession and when screening occurs. Both physician participants responded they screened every child annually, one hundred percent of the time. Nurse Practitioners (n=6, 31/6%) responded that they screened every child, annually, while the same (n=6, 31/6%), responded they were unsure of when screening occurred. Registered Nurse respondents (n=18, 60%) lead the majority in screening every child, at every visit. 15.8% percent of Nurse Practitioner (n=3) respondents reported they screened every child, at every visit, while Social Workers (n=2) reported screening every child, at every visit 13.3% of the time, and the Other population of professionals (n=1) reported screening every child, at every visit 11.1% of the time (table 14).

Table 14: Crosstabulation of profession and when screening occurs							
		Physician	Nurse Practitioner	Registered Nurse	Social Worker	Other	Total
When does screening occur?	Every child, every visit	Count 0	Count 3	Count 18	Count 2	Count 1	Count 24
		0.0%	15.8%	60.0%	13.3%	11.1%	32.0%
	Every child, annually	Count 2	Count 6	Count 1	Count 4	Count 2	Count 15
		100.0%	31.6%	3.3%	26.7%	22.2%	20.0%
	New patients only	Count 0	Count 2	Count 0	Count 3	Count 2	Count 7
		0.0%	10.5%	0.0%	20.0%	22.2%	9.3%
	Only when there is a concern	Count 0	Count 2	Count 3	Count 2	Count 2	Count 9
		0.0%	10.5%	10.0%	13.3%	22.2%	12.0%
	Other	Count 0	Count 0	Count 0	Count 1	Count 1	Count 2

		0.0%	0.0%	0.0%	6.7%	11.1%	2.7%
	Don’t know	Count 0	Count 6	Count 8	Count 3	Count 1	Count 18
		0.0%	31.6%	26.7%	20.0%	11.1%	24.0%
Total		Count 2	Count	Count	Count	Count	Count
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Summary

Chapter 4 presented the analysis of the data that were collected from 75 providers working with children known to have adverse childhood experiences. It provided the demographics and the analysis of variables of interest, which included profession, familiarity with ACEs, utilization of any screening tool, identification of tool being used, timing of screening, clinician responsible for administration, and to whom the screen is administered. Chapter 5 will discuss these findings.

CHAPTER V

Discussion

Introduction

The implementation and evaluation of this project provided findings relevant to screening children with behavioral problems for Adverse Childhood Experiences. Chapter five will review the study and data analysis results, discuss the importance of this project for nursing and treatment of ACES in children, identify the limitations, and explore opportunities for future research. Implications for/gap in nursing practice is also presented in this chapter.

Review of Study

The review of literature confirmed that ACEs have a considerable impact on health outcomes over the course of a person's lifetime and supported the value of screening kids for trauma reactions to ACEs. Utilization of a non-experimental, descriptive survey design provided the study with current indications of practices by medical professionals and administrators treating children with ACEs. The results of the data analysis from this project indicated that screening and referral for potential trauma reactions in children is currently successfully and efficiently being implemented in the primary care setting. The majority of respondents were familiar with the term ACEs and used a screening tool of some type. Nearly 60% percent of clinicians surveyed used a screening tool to assist in determining the need for further referral/assessment/treatment**.**

According to Maunder et al. (2020), 66.3% of family physicians screen for ACEs "*when indicated*," 31.7% responded "*never or not usually*," and 27.3% screened *"routinely."* Routine well-child visits, ten in the first three years of a child's life, offer a window of opportunity to initiate access to treatment and prevention (Kia-Keating et al., 2019). The American Academy of Pediatrics advises developmental monitoring and psychosocial/behavioral evaluations during well-child visits from infancy

until adulthood (Barnes et al., 2019). In addition, Hornor (2015) advised initiating a psychosocial history at the child's initial visit, followed by annual updating, and/or whenever a concern regarding the possibility of maltreatment is raised.

Discussion

Early childhood ACE screening offers a critical window of opportunity for prevention to lower the likelihood of adversity exposure and to strengthen protective factors that could minimize adverse consequences when ACEs occur (Kia-Keating et al., 2019). This study aimed to identify the level of provider awareness of ACEs and the use of the ACEs screening tool. Data from this project indicated that a total of 17.3% of respondents were either not familiar, slightly familiar, or somewhat familiar with ACEs. In this sample 82.7% of the clinicians were moderately to extremely familiar with ACEs. The literature discusses the importance of enhanced awareness of ACEs in the practice setting so that clinicians who work with children are moderately to extremely familiar with ACEs. Kerker et al. (2016), found that only 2% of pediatricians reported they were very familiar with the ACEs study, 9% were somewhat familiar, 13% were vaguely familiar, and 76% were not at all familiar.

Additionally, the literature discusses the importance of screening for ACEs in the practice setting to enhance protective factors that may help to lessen adverse effects of ACEs. Pediatric primary care settings have been identified as the ideal settings to screen for and manage adverse childhood experiences (ACEs) because of the frequency of interactions with doctors and other health care professionals. However, a national survey of physicians found that only 4% frequently ask about a variety of ACEs, and about one-third (32%) do not routinely ask about any ACEs. (Kerker et al., 2016).

In this study, the total sample RNs made up 40% of the respondents, which was the majority of professionals working with ACEs, and of that group 60% n=18 screened every child, every visit. The total sample of physicians made up 2.7% of the respondents, and of that group, 100% n=2 screened every

child, annually. The total sample of nurse practitioners made up 25.3% of the respondents, and of that group, 31.6% n=6 screened every child, annually. The total sample of social workers made up 20% of the respondents, and of that group, and of that group 26.7% n=4 screened every child, annually. The total sample of other clinicians made up 12% of the respondents and of that group, and of that group 22.2% n=2 screened every child, annually.

Because signs and symptoms of ACEs can be misinterpreted, it is important for providers to be aware of the impact ACEs has on at-risk children so appropriate treatment can be provided. For example, the effects of ACEs can show themselves as aggressive behavior, low academic performance, focus issues, and social problems. Given the impact of traumatic stress on behavior, children who display signs of impulsivity, hyperactivity, or inattention might not be suffering from attention deficit/hyperactivity disorder, but rather a traumatic stress reaction. Therefore, prior to diagnosing ADHD, primary care doctors are strongly advised by the American Academy of Pediatrics ADHD Clinical Practice Guidelines to rule out any other possible cause of symptoms or impairment (Walker et al., 2021).

Implications for Practice and RN/NP Pediatric Preparation

There are validated pediatric ACEs screening tools available for use that may of benefit to the screening process. One such tool, the Pediatric ACEs and Related Life-Events Screener (PEARLS) was developed by the Bay Area Research Consortium on Toxic Stress and Health (BARC), a partnership between the Center for Youth Wellness, the University of California, San Francisco (UCSF), and UCSF Benioff Children's Hospital Oakland, in partnership with renowned expert, Dr. Nadine Burke-Harris. PEARLS is available in multiple languages. Implementation of ACEs screening allows for identification of at-risk children and the tracking of a child's exposure over time (Marsicek et al., 2019). As such, resources and referrals to mental health and community service providers can be provided, as needed.

Marsicek et al. (2019) found that initiation of screening positively impacted providers with a better and clearer understanding of the impact of ACEs and allowed at-risk patients to be provided with needed resources.

Implications for Gap in Practice

To properly integrate trauma into nursing education, more preparation is needed as there is currently a lack of trauma nursing education, which may be causing delays in proper evaluation and support (Li et al., 2019). To raise the level of awareness among clinicians on ACEs, screening, referral, assessment, and treatment, more research is required**.** Clinicians are advised to refer to relevant literature and professional organization recommendations for appropriate and continual evidence-based guidance.

DNP Essentials

The American Association of Colleges of Nursing (AACN), the voice of academic nursing, outlines Doctor of Nursing Practice (DNP) Essentials in *The Essentials of Doctoral Education for Advanced Nursing Practice.* The DNP Essentials offer a curriculum and competence structure to ensure that DNP graduates have the background and skill set necessary to practice nursing at the highest level. The framework of the curricular elements and competencies present in programs conferring the Doctor of Nursing Practice degree is provided, along with the foundational competencies that are core to all advanced nursing practice roles (AACN, 2006). Upon completion of the DNP degree, graduates will have the foundation and skillset to provide the most advanced level of ongoing nursing care and practice.

Essential I: Scientific Underpinnings for Practice

The focus of the DNP Essential I is on preparing DNP students to apply the scientific underpinnings and fundamental concepts of the nursing profession to advanced nursing practice (AACN, 2006). The harmful effects of ACEs are well documented in research. This Essential instructs DNP-

prepared nurses to successfully translate research findings into evidence-based practice by using theories to identify and assess health-related concerns (AACN, 2006). This project applied scientific underpinnings to practice by identifying levels of provider awareness of ACEs screening and the use of an ACEs screening tool.

Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health

According to AACN (2006), *clinical prevention* is defined as health promotion and risk reduction/illness prevention for individuals and families; *population health* includes aggregate (groups of individuals defined by a shared characteristic such as gender, diagnosis, or age), community, environmental/occupational, and cultural/socioeconomic dimensions of health. To support patients and families of children affected by adversity, the aim of this project is to identify the level of provider awareness of ACEs and the use of the ACEs screening tool. The prevention and mitigation of adverse effects on child development and the wellness of the child and family can be supported by ACEs screening (Bethell et al., 2017).

Limitations

Identified limitations for this DNP project included a sample size of 75 diversified professional respondents, divided into numerous small groups of professions. The largest group, Registered Nurses, consisted of 30 participants; the smallest group consisted of Physicians (n=2). The implications of the responses from these small groups cannot be generalized to a larger population. Data collection for this project was reliant on the completion of the ACEs survey tool; return rate was approximately 30%. The recruitment of professionals was selected from a convenience sample of NJ clinicians. The sample size may have been greater had other states been permitted to participate, and/or if paper survey forms were distributed. Time of data collection and analyses was another limitation; the implementation of this project commenced and concluded within one semester.

Future Research

Future research might utilize a mixed method approach to determine the depth of nurses' knowledge related to the need for ACEs screening, as well as the impact of ACEs on adult mental and physical health. Qualitative research to investigate how the ACEs tool is used to determine what kinds of trauma informed treatments are prescribed for youth with high ACEs scores can help practitioners establish gold standard interventions, which then can be studied longitudinally. Early detection and intervention, such as screening and linkage to appropriate community services, can either prevent or lessen the effects of ACEs. A national survey of undergraduate and Nurse Practitioner nursing faculty's knowledge of ACEs and its impact on health could help identify the gaps in education needed to prepare clinicians to adequately provide care to these patients.

Conclusion

Research from this study indicates that more than 40% of children in New Jersey are estimated to have experienced at least one ACE and 18% are estimated to have experienced multiple ACEs (NJ Funders ACEs Collaborative, 2019). This DNP project examined the awareness of ACEs by clinical professionals as well as the use of ACEs screening tools. This sample demonstrated that the New Jersey respondents were aware of ACEs, and most were utilizing an ACEs tool in the evaluation of children at risk. Future research that evaluates measures to increase the use of ACEs screening in pediatric and adult populations will assist nursing clinicians and advanced practice providers to have the tools required to mitigate the impact of ACEs on youth and assist adults suffering the sequelae toward recovery.

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Appendix A: Adverse Childhood Experiences Survey

(Adapted from Woltenberg, et al., 2021)

1. How familiar are you with the term *Adverse Childhood Experiences (ACEs)*? Select one
   - Not at all familiar
   - Slightly familiar
   - Somewhat familiar
   - Moderately familiar
   - Extremely familiar

2. Do you currently use any type of screening tool for ACEs?
   - Yes
   - No

3. If yes, which tool(s) do you use? Check ALL that apply
   - Family Health History and Health Appraisal questionnaires (original ACE Study Questionnaire)
   - Center for Youth Wellness Adverse Childhood Experiences Questionnaire (CYW ACE-Q)
   - ACE-related questions included in pediatric intake form
   - I am not sure which tool my practice uses
   - Other, please explain: _____

4. Do you use the screening tool to assist in determining the need for further referral/assessment/treatment?
   - Yes
   - No

5. When does screening occur? Check ALL that apply
   - Every child, every visit
   - Every child, annually
   - New patients only
   - Only when there is a concern
   - Other, please explain: _____

6. Who administers the screen? Check ALL that apply
   - It is part of the intake form
   - Clinical staff
   - Provider
   - Other, please explain: _____

7. To whom is the screen administered?
   - To the child, individually
   - To the Parent/guardian, individually
   - To the child and parent/guardian, together
   - Other, please explain: _____

8. What are the barriers that prevent you from screening? Check ALL that apply
   - Time
   - My own comfort/confidence level with administering and interpreting the screener
   - Lack of training/knowledge in this field
   - Lack of resources such as staff
   - Other, please explain: [ ]

9. Select ALL ACEs from the following list that you have encountered in your practice:
   - Emotional abuse
   - Physical abuse
   - Sexual abuse
   - Mother was treated violently in the presence of child
   - Substance abuse in household
   - Mental illness in household
   - Parental separation or divorce
   - Incarcerated household member
   - Emotional neglect
   - Physical neglect
   - Other, please explain: [ ]

10. Rank the top 3 most common ACEs you see in your practice:
   - Emotional abuse
   - Physical abuse
   - Sexual abuse
   - Mother was treated violently in the presence of child
   - Substance abuse in household
   - Mental illness in household
   - Parental separation or divorce
   - Incarcerated household member
   - Emotional neglect
   - Physical neglect
   - Other, please explain: [ ]

11. What is your profession?
   - Physician
   - Physician Assistant
   - Nurse Practitioner
   - Other - Please specify profession [ ]

12. What is your age?
Please provide a numeric value in years: [ ]

13. What is your gender?
   - Female
   - Male
   - Prefer not to answer

14. How many years have you been practicing?
Please provide a numeric value in years:

Appendix B: Literature Review

Author(s) Date Link	Research Question	Sample and Size	Type of Research: Data Collection Method	Data Analysis	Results	Comments
1) Chang, X., Jiang, X., Mkandarwire, T., & Shen, M. (2019). Associations between adverse childhood experiences and health outcomes in adults aged 18–59 years. *PLOS ONE*, *14*(2), 1-11.	Is there an association between ACEs and health outcomes in adulthood?	1,501 adult residents, aged 18–59 years, of Macheng, China	ACE International Questionnaire (ACE-IQ) by trained investigators. The questionnaire was anonymously, self-administered	Cross-Sectional study	A total of 66.2% of participants reported at least one ACE, and 5.93% reported four or more ACEs. After adjusting for confounding factors, the individual ACE components had different impacts on risk behavior and health, particularly on poor mental health outcomes in adulthood. Men and lower-income participants had a higher prevalence of ACEs than women and higher-income participants, respectively. As the ACE score increased, the risky odds for PTSD, chronic disease, depression, and smoking and drinking behavior during adulthood	ACEs during childhood were significantly associated with risk behaviors and poor health outcomes in adulthood, and different ACE components had different long-term effects on health outcomes in adulthood. The results of the study highlighted the serious long-term consequences of ACEs.

					significantly increased.	
Author(s) Date Link	**Research Question**	**Sample and Size**	**Type of Research: Data Collection Method**	**Data Analysis**	**Results**	**Comments**
2) Felitti, Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (2019). REPRINT OF: Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, *56*(6), 774–786.	Is there a relationship between childhood abuse and household dysfunction to the leading causes of death in adulthood?	9,508 adults	ACE Study tool Questionnaire, completed via mailed survey	Statistical Analysis System	More than half of respondents (52%) experienced ≥1 category of adverse childhood exposure; 6.2% reported ≥4 exposures.	The study found a strong relationship between the number of childhood exposures and the number of health risk factors for leading causes of death in adults. The findings suggest that the impact of these adverse childhood experiences on adult health status is strong and cumulative.
3) Glowa, P. T., Olson, A. L., & Johnson, D. J. (2016). Screening for adverse childhood experiences in a family medicine setting: A feasibility study. *The Journal of the American Board of Family Medicine*, *29*(3), 303–307. https://doi.org/10.3122/jabfm.2016.03.150310	Is it feasible to offer ACE screening during routine office visits?	111 adult patients, 7 clinicians	Original ACE questionnaire was given to patients. Original ACE questionnaire was given to clinicians following patient visits.	Observational study	ACE risk was identified in more than 60% of surveyed patients. ACE-related concerns were more likely to be discussed with high-risk patients, and visit length increased by $\leq$ 5 minutes when ACEs was discussed.	It is possible for the management/incorporation of ACE risks to be part of primary care interventions, as screening can identify social determinants of health.

Author(s) Date Link	Research Question	Sample and Size	Type of Research: Data Collection Method	Data Analysis	Results	Comments
4) Kia-Keating, M., Barnett, M. L., Liu, S. R., Sims, G. M., & Ruth, A. B. (2019). Trauma-responsive care in a pediatric setting: Feasibility and acceptability of screening for adverse childhood experiences. *American Journal of Community Psychology*, *64*(3–4), 286–297. https://doi.org/10.1002/ajcp.12366	Can ACEs training for healthcare systems increase recognition about the prevalence and impact of ACEs?	151 adult patients, 9 clinicians, 3 pediatricians, 3 medical assistants, 2 wellness navigators, 1 social worker	Original ACE questionnaire given to patients, and a qualitative semi-structured interview was conducted with clinicians.	Mixed-methods study	The implementation of organizational strategies to prepare for and continuously support training for ACEs screening and prevention services is beneficial for health care providers.	This study supports the benefit of integrating behavioral health into primary care to safeguard and promote developmental outcomes and resilience.
5) Li, Y., Cannon, L. M., Coolidge, E. M., Darling-Fisher, C. S., Pardee, M., & Kuzma, E. K. (2019). Current state of trauma-informed education in the Health Sciences: Lessons for Nursing. *Journal of Nursing Education*, *58*(2), 93–101. https://doi.org/10.3928/01484834-20190122-06	What is the current state of trauma-informed education in nursing?	22 articles describing trauma-informed educational courses and practices in the health sciences	Search of CINAHL, PsycINFO, MEDLINE, PubMed, and Google Scholar databases	Literature review	This study provided a general outline for future teaching about trauma in nursing education, and found more detailed guidelines should be developed.	Of the 22 articles reviewed, 2 were in dentistry, 2 were in medicine, 10 were in social work, 3 were in psychiatry, and 5 were in psychology; there were no articles in Nursing.

6) Loveday, S., Hall, T., Constable, L., Paton, K., Sanci, L., Goldfeld, S., & Hiscock, H. (2022). Screening for Adverse Childhood Experiences in Children: A Systematic Review. *Pediatrics*, *149*(2), 1-12.	Does routine screening for ACEs in children lead to (1) better detection of adversity, (2) improved rates of referrals to services to address adversity or its childhood impacts, (3) improved uptake of referrals by families, and (4) improved mental health outcomes for children or parents?	Review of 5,816 articles with 4 meeting inclusion criteria	Systematic Review and Meta-Analysis (PRISMA) guidelines: peer-reviewed articles published between January 1, 2009 and January 31, 2021	Systematic Review	Mixed findings for the effect of screening for ACEs on connection to community-based services. This study found that some evidence that screening for ACEs improves identification of adversity and limited evidence that screening may improve connection to community-based services and uptake of these services.	Potential publication bias. Difficult to compare screening studies because the studies in the review screened for different ACEs and used different tools, partially due to lack of agreement about which ACEs or other adversities to screen).
7) Marsicek, S., Morrison, J., Manikonda, N., O'Halleran, M., Spoehr-Labutta, Z., & Brinn, M. (2019). Implementing Standardized Screening for Adverse Childhood Experiences in a Pediatric Resident Continuity Clinic. *Pediatric Quality &Amp; Safety*, *4*(2), 1-8.	Is there a need for standardized screening for ACEs in the pediatric population?	1,206 parents and 24 clinicians	Parent questionnaire (English and Spanish) by clinicians	Descriptive study using original ACE tool	Screening for exposure to ACEs increased from 0% to 60% in one year.	Supports the Empower Action Model. Parent screening in the pediatric setting can successfully identify patients with high-risk ACE scores.

Author(s) Date Link	Research Question	Sample and Size	Type of Research: Data Collection Method	Data Analysis	Results	Comments
8) Yu, J., Patel, R. A., Haynie, D. L., Vidal-Ribas, P., Govender, T., Sundaram, R., & Gilman, S. E. (2022). Adverse childhood experiences and premature mortality through mid-adulthood: A five-decade prospective study. *The Lancet Regional Health - Americas*, *15*, 1-12.	Are the cumulative number and clustering patterns of ACEs related to premature mortality?	46,129 participants: offspring of pregnant women enrolled in the Collaborative Perinatal Project (CPP) in the United States between 1959 and 1966. 45% White, 48% Black, 7% other; 51% males, 49% females	Latent Class Analysis was used to test the risk clustering effects of ACEs	Longitudinal study	At the start of the follow-up for mortality in 1979, participants were 12-20 years old, and within the 38-year follow-up through (2016); 3,344 deaths were observed among the 46,129 CPP offspring.	Children exposed to a combination of poverty and crowded housing conditions, or economic difficulties and parental divorce/separation, are most at risk for premature mortality.

Appendix C: Institutional Review Board Approval

THE WILLIAM PATERSON UNIVERSITY OF NEW JERSEY

INSTITUTIONAL REVIEW BOARD FOR HUMAN SUBJECT RESEARCH

c/o Office of Sponsored Programs
1800 Valley Road, Room 222
973-720-2852 (Phone)
973-720-3573 (Fax)
http://www.wpunj.edu/osp/

Chair: Professor Elizabeth Victor (VictorE@wpunj.edu)
College of Arts, Humanities, and Social Sciences
Contact: Kate Boschert (irbadministrator@wpunj.edu)
Office of Sponsored Programs

To: Valori Abad
Doctoral Candidate of Nursing

From: Elizabeth Victor

Subject: IRB Approval (Exempted Review)

Study: Protocol # 2023-341: Screening Children with Behavioral Problems for Adverse Childhood Experiences.

Date: June 15, 2023

The IRB has APPROVED the above study involving humans as research subjects. This study was approved as: Category: Exempted 45 CFR 46.104(b)(2)(i); special class of subjects: None.

IRB Number: 2023-341 This number is WPU's IRB identification that should be used on all consent forms and correspondence.

Approval Date: 06/15/2023
Expiration Date: 06/14/2024

This approval is for one year. It is your responsibility to insure that an application for continuing review approval (WPU IRB Form Appendix D) has been submitted before the expiration date noted above. If you do not receive approval before the expiration date, all study activities must stop until you receive a new approval letter. There will be no exceptions. In addition, you are required to submit an Appendix D form at the conclusion of the project. The Appendix D can be accessed at: http://www.wpunj.edu/osp/irb/index.html.

Consent Form: All research subjects must use the approved Informed Consent Form. You are responsible for maintaining signed consent forms (if approved for Active Consent format) for each research subject for a period of at least three years after study completion.

Mandatory Reporting to the IRB: The principal investigator must report immediately any serious problem, adverse effect, or outcome that is encountered while using human subjects or any complaints from your subjects. In addition, the principal investigator must report any event or series of events that prompt the temporary or permanent suspension of a research project involving human subjects or any deviations from the approved protocol using Appendix D.

Amendments/Modifications: You are required to carry out this research as described in the protocol. All amendments/modifications of protocols involving human subjects must have prior IRB approval, except those involving the prevention of immediate harm to a subject. Amendments/Modifications for the prevention of immediate harm to a subject must be reported within 24 hours to the IRB using Appendix D.

For exempted and expedited review protocols: the protocol will be reviewed by the entire IRB committee at its next meeting. Should questions arise that cannot be answered by the materials already provided, additional information may be requested from you. This most likely will not affect the approval status of your project—you are approved to initiate the project as of the date above, and you will not receive notice of the committee's final review. Only in the rare situation when serious questions arise will the IRB instruct that the project be discontinued until those questions are answered.

Records/Documentation: You are required to keep detailed records concerning this research project and appropriate documentation concerning Informed Consent in a readily accessible location for a period of not less than three (3) years. The IRB reserves the right to inspect all records, research tools and databases that are associated with this research.

If you have any questions, please do not hesitate to contact Kate Boschert at 973-720-2852 or irbadministrator@wpunj.edu, or the IRB Committee Chairperson, Dr. Elizabeth Victor, at victore@wpunj.edu.

Good Luck on your project.