

University of Louisville

ThinkIR: The University of Louisville's Institutional Repository

Electronic Theses and Dissertations

8-2021

Concurrent reporting of adverse childhood experiences among perspectives of adolescents and caregivers.

Katie J. Berghuis
University of Louisville

Follow this and additional works at: <https://ir.library.louisville.edu/etd>



Part of the [Child Psychology Commons](#), and the [Other Mental and Social Health Commons](#)

Recommended Citation

Berghuis, Katie J., "Concurrent reporting of adverse childhood experiences among perspectives of adolescents and caregivers." (2021). *Electronic Theses and Dissertations*. Paper 3703.
<https://doi.org/10.18297/etd/3703>

This Doctoral Dissertation is brought to you for free and open access by ThinkIR: The University of Louisville's Institutional Repository. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of ThinkIR: The University of Louisville's Institutional Repository. This title appears here courtesy of the author, who has retained all other copyrights. For more information, please contact thinkir@louisville.edu.

CONCURRENT REPORTING OF ADVERSE CHILDHOOD EXPERIENCES
AMONG PERSPECTIVES OF ADOLESCENTS AND CAREGIVERS

By

Kate J. Berghuis
B.S. University of Minnesota Twin Cities, 2012
M.S. University at Albany, 2016

A Dissertation Submitted to the Faculty of the College of Education and Human
Development of the University of Louisville in Partial Fulfillment of the Requirements
for the Degree of

Doctor of Philosophy in Counseling and Personnel Services

Counseling Psychology
Department of Counseling & Human Development
University of Louisville
Louisville, KY

August 2021

CONCURRENT REPORTING OF ADVERSE CHILDHOOD EXPERIENCES
AMONG PERSPECTIVES OF ADOLESCENTS AND CAREGIVERS

By

Kate J. Berghuis
B.S. University of Minnesota Twin Cities, 2012
M.S. University at Albany, 2016

A Dissertation Approved on

July 30, 2021

by the following Dissertation Committee:

Patrick Pössel, Dr. rer. soc., Dissertation Co-chair

Amanda Mitchell, Ph.D., Dissertation Co-chair

Katy Hopkins, Ph.D.

Erin Frazier, M.D.

ABSTRACT

CONCURRENT REPORTING OF ADVERSE CHILDHOOD EXPERIENCES
AMONG PERSPECTIVES OF ADOLESCENTS AND CAREGIVERS

Kate J. Berghuis

July 20, 2021

The consequences of Adverse Childhood Experience (ACE) events in youth have predominantly been studied through retrospective studies that assess adults' first 18 years of life or caregiver report of ACEs in youth. Reliance on only caregiver report to discern ACEs is a limitation amongst prior studies as research has found that caregivers tend to underestimate ACEs among their children, and there is even a greater discrepancy of reporting between caregivers and youth 12 years and older. Therefore, this study investigated concurrent reporting of self-report ACE scores in adolescents – defined in this study as 12 to 20 years old – and caregiver-reports of their adolescents' ACE scores. Adolescents from three primary care clinics ($N = 22$; 63.6% Black/African American; 54.4% male) completed the Whole Child Assessment, while caregivers of the adolescents completed the Adverse Childhood Experience measure on behalf of their adolescent. Caregivers, whom all identified as women, ranged in age from 36 – 52 years old ($N = 22$, 63.6% Black/African American). Contrary to the hypothesis, ACEs reported by adolescents and caregivers were not significantly different ($t(21) = 1.44, p = .19$). Contrary to the prediction, adolescents did not report a higher mean ACE score compared

to the caregiver's report of the adolescent's ACE score. The results have implications for identifying adverse experiences and connecting adolescents with resources to intervene and potentially negate harmful outcomes. Healthcare workers in the primary care setting who screen for adverse experiences may benefit from these findings to identify that a caregiver report does appear to accurately detect an adolescent's ACE score in the primary care setting. These findings can lead to earlier detection of ACEs and mitigate the impact of long-term health outcomes. Additionally, accurate identification of ACEs has the potential to connect adolescents with appropriate resources.

TABLE OF CONTENTS

	PAGE
ABSTRACT.....	iii
LIST OF TABLES.....	vi
LIST OF FIGURES.....	vii
CHAPTER I: INTRODUCTION.....	1
CHAPTER II: METHOD.....	6
Participants.....	6
Measures.....	7
Procedure.....	8
Statistical Analyses.....	10
CHAPTER III: RESULTS.....	13
CHAPTER IV: DISCUSSION.....	15
REFERENCES.....	23
CURRICULUM VITA.....	33

LIST OF TABLES

TABLE	PAGE
1. Intercorrelations, Internal Consistencies, and Descriptives of WCA and ACE Measures	31

LIST OF FIGURES

FIGURE	PAGE
1. Scores of Adolescents and Caregivers Reporting of ACEs	32

CHAPTER I

INTRODUCTION

In 2017, the Administration on Children, Youth, and Families estimated that 674,000 children, or 9.1 per 1,000 children, were victims of maltreatment – defined by physical abuse, sexual abuse, psychological abuse, and neglect – nationwide (U.S. Department of Health and Human Services, 2019). The Center for Disease and Control (CDC, 2012) estimated the national lifetime economic burden associated with adverse childhood experiences (ACEs) was approximately \$124 billion, but a sensitivity analysis with a more conservative rate estimated the total to be as large as \$585 billion (Fang et al., 2012), which represents new fatal and non-fatal cases of adverse childhood experiences in 2008 (Gerson & Corwin, 2015). This indication signifies the actual total cost could be much greater. Extensive literature has established the detrimental long-term effects on individuals who are exposed to ACEs including physical health conditions (e.g., chronic obstructive pulmonary disease, heart disease; Danese et al., 2009), developmental delays (Burke et al., 2011), reduced health-related quality of life (Corso et al., 2008; Felitti et al., 1998; Lanier et al., 2017) and poor mental health (Hughes et al., 2017; Kalmakis & Chandler, 2015; Liu, 2017). This significant personal suffering and societal costs justify the importance of prevention efforts to combat ACEs.

ACEs have been widely operationalized in prior literature (e.g., childhood maltreatment, childhood trauma, childhood stressors) to cover the severity and chronicity of the occurrences. For consistency throughout this paper, the term ACEs will be used to

encapsulate abuse (psychological, physical, and sexual), neglect (physical and emotional), and household dysfunction (domestic violence, substance use, psychopathology among family members, separation of caregivers, and imprisonment) that has *ever* occurred in an adolescent's life. When ACEs occur, research has signified that an adverse experience seldom occurs independent of another event (Felitti et al., 1998). Felitti and colleagues (1998) found when a person endorsed one ACE there was an 87% likelihood they experienced a second ACE and a 50% chance a person experiences a third ACE if they experienced two. Given the physical and mental health conditions associated with ACEs, it is unsurprising that individuals who endorse 6 or more ACEs have shown to have a decreased life expectancy of about 20 years (Felitti et al., 1998). The increased knowledge around inauspicious outcomes in adults is one motive for researchers to intervene on the short-term outcomes affiliated with youth. Although early detection of ACEs in youth has yet to be comprehensively implemented, it has the potential to prevent and/or ameliorate the adverse effects of ACEs on youths' health. However, the literature has notable gaps in its assessment of ACEs among youth.

Concurrent Reporting Among ACEs in Youth

Literature examining the consequences of ACEs in youth have predominantly been studied through retrospective studies that assess adults' first 18 years of life or caregiver report of ACEs in youth. While the use of retrospective studies and caregiver reports have been frequently used, these reports have methodological limitations as the results using such designs can produce bias and measurement error. For instance, Fergusson and colleagues (2000) found relatively unstable test-retest reliability ($\kappa = .45$) on ACEs reported retrospectively, and literature has found the current health status of

individuals to impact recollection of past ACEs (Schraedly et al., 2002). In addition, when a caregiver completes a questionnaire on behalf of their child(ren) they act merely as a proxy. Caregivers' reports may be biased due to how they understand and express their perceptions of the youth's circumstances (Sturges et al., 2002). Research has also established discrepancies between caregiver and child reports in regard to the youth's ACEs, with caregivers typically underestimating the experiences of the youth, especially when the experiences occur outside of the home environment (Ceballo et al., 2001; Oransky et al., 2013; Stover et al., 2010; Thomson et al., 2002). For instance, a study conducted by Heleniak and colleagues (2016) examined the concurrent impact of ACEs among a sample of 439 adolescents in which 7.9% of the participants (52.4% White) had been exposed to ACEs. Results from the study demonstrated that youth who endorsed exposure to physical, sexual, and emotional abuse using self-report measures reported higher levels of internalizing and externalizing behaviors, whereas parent-report signified that only emotional abuse was affiliated with externalizing symptoms. Additional data indicate that discrepancies between caregiver and youth reports of ACEs have been shown to increase as youth enter adolescence (Ceballo et al., 2001; Oransky et al., 2013). With the limited number of participants endorsing exposure to ACEs and more than half of the sample identifying as White (Heleniak et al., 2016), it is possible there could be larger differences of reported behaviors among youth and their caregivers if a more diverse sample who endorsed a greater number of ACEs were to be examined. These data underscore the importance of considering youth report when assessing ACEs.

The use of screening measures to assess for ACEs in pediatric primary care clinics is one way to identify and intervene with youth who are at risk of developing

detrimental outcomes affiliated with ACEs (Bethell et al., 2017; Koita et al., 2018; National Scientific Council on the Developing Child, 2014). Practitioners within these clinics are uniquely positioned to screen for exposure to ACEs among children and adolescents since over time practitioners develop a trusting relationship with their patients and their families, which can facilitate the disclosure of ACEs (Garner et al., 2012). Additionally, pediatric practitioners are trained in disease prevention and understand the criticality of a holistic approach to impact youths' physical and mental health (Oh et al., 2018). Screening within a pediatric primary care clinic has been found to be advantageous for two essential reasons. First, the screening process can prevent further exposure to ACEs given that practitioners provide psychoeducation for caregivers around the relationship between ACEs and negative outcomes (Oh et al., 2018). Second, screening can guide clinical care by identifying patients who endorse ACEs (Oh et al., 2018). Thus, routine screening for ACEs at pediatric well-child visits (i.e., preventative care check-ups) would be beneficial for early detection and have the potential to prevent a lifetime of issues. Screening for ACEs in youth may provide the awareness to acquire appropriate services for youth and their families.

The Current Study

A plethora of evidence supports outcomes such as physical health conditions (e.g., chronic obstructive pulmonary disease, heart disease; Danese et al., 2009), developmental delays (Burke et al., 2011), reduced health-related quality of life (Corso et al., 2008; Felitti et al., 1998; Lanier et al., 2017) and poor mental health (Hughes et al., 2017; Kalmakis & Chandler, 2015; Liu, 2017) across the lifespan, yet short-term outcomes in youth have been understudied. Thus, this study will expand on the literature to explore

concurrent reporting of self-report ACE scores in adolescents – defined in this study as 12 to 20 years old – and caregiver-reports of their adolescents’ ACE scores for early detection of ACEs in youth. Reliance on only caregiver report to discern ACEs is a limitation amongst prior studies. Data indicates that caregivers tend to underestimate ACEs among their children (Ceballo et al., 2001; Oransky et al., 2013; Stover et al., 2010; Thomson et al., 2002). Therefore, this study will aim to identify if there is a statistically significant difference between scores of the adolescents’ self-report ACEs in comparison to their caregivers’ report of the adolescents’ ACEs. Precisely, the authors expect the adolescents to report a higher ACE score compared to the caregiver’s report.

CHAPTER II

METHOD

Participants

Participants between the ages of 12 and 20 and their caregivers were identified from three pediatric primary care clinics. However, all adolescents and caregivers except two pairs – meaning the adolescent and their caregiver – came from a clinic in a metropolitan city in the southern United States that primarily treats families and patients who identify as people of color (roughly 81.6%) with a median household income of approximately \$26,000 (U.S. Census Bureau, 2009). Our sample comprised of 22 adolescents, ranging in age from 12 to 20 years old ($M = 15.45$, $SD = 2.15$), whom 12 identified as being male (54.5%). Of the adolescents, 63.6% ($n = 14$) identified as being Black/African American, 31.8% ($n = 7$) as White/European American, and 4.5% ($n = 1$) as American Indian/Alaskan Native.

Caregivers were ranging in age from 36 to 50 years old ($M = 43.38$, $SD = 5.53$) and all caregivers identified as being women. Majority of the caregivers identified as Black/African American (63.6% or $n = 14$), with 36.4% ($n = 8$) identified as being White/European American. Twelve of the caregivers (54.5%) identified as having some college, a high school diploma, or less than high school for education level, while 10 caregivers (45.5%) reported having a technical degree or more for education level. Eight

caregivers (36.4%) identified as being single, an additional eight (36.4%) identified as being married, four (18.2%) identified as being in a relationship, one (4.5%) indicated they were divorced, and another caregiver (4.5%) reported they were separated. Nearly all caregivers (86.4% or $n = 19$) reported they were the primary caretaker of the adolescent. Over half stated that there were two caretakers for the adolescent (59.1% or $n = 13$), with 8 participants stated living in a two-caretaker household (36.4%). Twelve caregivers (54.5%) reported being currently employed and there was a range of annual household income from \$9,200 to \$300,000. Ten of the participants (45.5%) reported having an annual income of \$50,000 or less, and six caregivers (27.3%) did not report an annual income.

Measures

Whole Child Assessment (WCA). The Whole Child Assessment (WCA; Marie-Mitchell et al., 2019; Marie-Mitchell & O'Connor, 2013) is an instrument designed to be used during well-child visits to identify and address factors most essential for health outcomes. The WCA is applicable for ages 0-20 years old and is broken down by various age groups; however, this study will focus on the self-report versions of the assessment for 12 to 17 and 18 to 20-year olds. The WCA encapsulates questions pertaining to exposure and risk of ACEs, safety, substance use, mental health, relationships, sleep, physical activity, nutrition, dental care, tuberculosis risk, and interval history. Although the WCA measures a wide range of health-related variables, only the 10 questions pertaining to ACEs will be utilized for the purpose of this study. The ACE questions in the WCA embody the same themes the adult ACE questionnaire assesses, including: abuse (psychological, physical, and sexual), neglect (physical and emotional) and

household dysfunction (domestic violence, substance use, psychopathology among family members, separation of caregivers, and imprisonment; Felitti et al., 1998). If participants respond to an ACE question positively, signifying they do experience this event asked, or in a neutral manner (e.g., unsure), they are then given a score of 1. The 12 items are summed to give a total possible score of 12. However, four of the questions on the WCA are the result of two questions being separated from the original ACE measure (Felitti et al., 1998); thus, the score on the WCA can be summed for a total of 10. As this is a new measure, psychometric properties are still being collected (Marie-Mitchell et al., 2019). A Cronbach's alpha of .70 (95% CI = .47 - .86) was found in our study.

Adverse Childhood Experiences (ACE). The Adverse Childhood Experiences questionnaire (ACE; Felitti et al., 1998) was developed to retrospectively assess 10 types of childhood adversity among three domains: abuse (psychological, physical, and sexual), neglect (physical and emotional) and household dysfunction (domestic violence, substance use, psychopathology among family members, separation of caregivers, and imprisonment of a household member). The total ACE score is summed ranging from 0 to 10 (0 = *no*, 1 = *yes*); thus, the higher the ACE score the more childhood adversities the respondent was exposed to. Caregivers will be given an ACE questionnaire to fill out on behalf of their adolescent pertaining to the entirety of their adolescents' life thus far. ACE questions have been shown to have utility in pediatric settings and used as screening protocols ($\alpha = 0.88$; Murphy et al., 2014). The scores from our study illustrated a similar Cronbach's alpha of .81 (95% CI = .66 - .91).

Procedure

The author received study approval from the University of Louisville and Norton Healthcare's Institutional Review Boards before conducting the study in the pediatric primary care clinics. The clinics are private, not-for-profit, community based primary care clinics. Data collection took place during initial intakes or follow-up sessions with the social worker and psychologist or during well-child visits with the medical provider. Specifically, the WCA was given to the adolescent and their caregiver completed the ACE questionnaire on behalf of the adolescent. If the adolescents or caregivers were unable to decipher what a question stated or had difficulty reading, they could ask for assistance from the practitioner administering the measures if conducted in person or reach out to the psychologist or social worker if completed online.

Normally, the medical provider met with an average of 3 to 7 adolescents per week, the psychologist met with an average of 10 adolescents per week, and the social worker met with another 5-10 adolescents per week (roughly 18 to 27 adolescents seen per week); however, these averages drastically changed during the COVID-19 pandemic. Although prior literature in primary care clinics have indicated somewhere between 75 to 90% of participants will agree to participate in studies located in pediatric primary care clinics (Dubowitz et al., 2008; Polaha et al., 2011), data collection for this study was unique due to the global COVID-19 pandemic. Circumstances associated with the COVID-19 pandemic, such as social distancing and limiting in-person contact, reduced the percentage of in-person adolescent appointment show rates. The pediatrician at the primary clinic where the data was collected estimated that show rates for adolescents dropped to approximately 15% of the typical show rates during the COVID-19 pandemic.

To assist with recruitment, researchers collected data in person as initially planned as well as through an online survey platform, Qualtrics.

No incentives were given to the caregivers and adolescents for their participation in data collection. All adolescents and caregivers were provided follow-up information and resources, regardless if an ACE was endorsed. Standard reporting policies involving risks and adverse events for youth were implemented for the clinics (<https://www.hhs.gov/ohrp/regulations-and-policy/guidance/reviewing-unanticipated-problems/index.html>), which have been predetermined by the healthcare system and the Office for Human Research Protections.

Statistical Analyses

Missing data. Due to the opportunity for researchers to review the measures while in the room with the adolescents and caregivers, and the forced response option on Qualtrics, there were no missing data to address.

Assumptions and data cleaning. The relevant assumptions were checked, and data were cleaned prior to conducting analyses. In a paired-samples *t*-test, the following assumptions must be examined: normality, linearity, absence of outliers, and homogeneity of variance. In order to determine whether data are normally distributed, the differences between the caregiver-report ACE scores and the adolescent ACE scores was computed and then checked to see if the variable was normally distributed (Field, 2013). An examination of skew and kurtosis and an examination of P-P plots was used to assess normality (Osborne, 2013). To examine the skew and kurtosis, a Kolmogorov-Smirnov test was conducted. A significant value ($p < .05$) indicates a deviation from normality (Field, 2013). Our data was non-significant ($p = .20$) indicating the scores did not deviate

significantly from normal. Based on an examination of histograms, skew and kurtosis, and P-P plots, it was determined that both outcome variables were normally distributed (skew = 0.49, kurtosis = 0.95). The linearity assumption was tested with visual inspection of scatter plots. The scatter plots revealed a weak positive correlation. Outliers will be removed if a data point is three or more standard deviations from the mean (Osborne, 2013). After review of the boxplots, there were four extreme values that were roughly two and a half standard deviations from the mean; thus, the data remained included in the study. The assumption of homogeneity of variance was addressed using Levene's test. A test of homogeneity of variance was conducted by doing a one-way ANOVA on the deviation of scores, which is the deviation between each score and the mean of the group from which it came (Field, 2013). If $p > .05$ then the assumption of homogeneity of variance has been met (Singer & Willett, 2003). The test of homogeneity of variance determined that the assumption was met ($p > .05$) and therefore, the analyses can be conducted as planned. Standardized mean differences, Cohen's d , were calculated for the effect size as this method has been deemed best practice (Cohen, 1988). Cohen's d examines differences between two group means and is then divided by the pooled standard deviation.

Analytic plan. The current study used SPSS 27 to conduct a paired-samples t -test in order to compare the mean difference between adolescents' ACE score and caregivers' report of their adolescent's ACE score. The standard deviations of the differences between the means, and the standard error of the adolescents' and caregivers' adverse childhood scores are be reported.

Prior to the COVID-19 pandemic, an adequate sample size to detect a statistically significant relation between the differences of self-report and parent-report of the ACEs was determined to be 200. This sample size was concluded using an *a priori* power analysis (G*Power 3.1 statistical power analysis program; Faul et al., 2009) with an alpha of .05, power of .80, and a small effect size (Cohen, 1988). However, due to the impact of the COVID-19 pandemic on data collection, in agreement with the dissertation committee, the author deemed collecting at least 20 participants for each group – adolescents and caregivers– as feasible and sufficient for the purpose of this dissertation.

CHAPTER III

RESULTS

Primary Analyses

Means, standard deviations, internal consistencies, and intercorrelations among the ACE and WCA scales are presented in Table 1. The caregivers' report of adverse experiences for the adolescent using the ACE measure ranged from scores of 0 to 7 ($M = 2.18$, $SD = 2.26$), and the adolescents' scores ranged from 0 to 8 ($M = 3.00$, $SD = 2.23$). Adolescents reported the highest ACE score as "Are your parents separated, divorced, or not living together?" ($n = 15$, 68.2%) following with the same number of adolescents stating, "Has your parent or anyone you ever lived with been arrested, deported, gone to prison, jail, or another correctional facility?" ($n = 10$, 45.5%) and "Was your parent or anyone you ever lived with depressed, mentally ill, or suicidal?" ($n = 10$, 45.5%). Conversely, caregivers' highest rating of an ACE was "Were your parents ever separated or divorced?" ($n = 15$, 68.2%) followed by "Was a household member depressed or mentally ill or did a household member attempt suicide?" ($n = 7$, 31.8%) and then "Did your adolescent live with anyone who was a problem drinker or alcoholic or who used street drugs?" ($n = 6$, 27.3%). Figure 1 provides the difference in scores between adolescents' and caregivers' report of adverse experiences. The difference in mean scores for the adolescents' self-report ACE score and the caregiver's report of the adolescent's

ACE score ($M = .82$, BCa 95% CI $[-.36, 2.00]$), was non-significant $t(21) = 1.44$, $p = .19$,
 $d = .37$.

CHAPTER IV

DISCUSSION

The purpose of our study was to fill a gap in the literature by exploring concurrent reporting of self-report ACE scores in adolescents and caregiver-reports of their adolescents' ACE scores, rather than the sole reliance on caregiver report. Literature has shown that caregivers tend to underestimate ACEs among their children (Ceballo et al., 2001; Oransky et al., 2013; Stover et al., 2010; Thomson et al., 2002), and limited data examining the association among caregiver and adolescent reports have shown that there is even a greater discrepancy of reporting between caregivers and youth 12 years and older (Shemesh et al., 2005), impacting the ability to intervene and provide appropriate resources, as needed. Contrary to these previous findings, the data did not illustrate significant results, indicating that there was not a significant difference between the caregivers filling out the ACE measure on behalf of their adolescent and the adolescent's report of adverse experiences. This finding suggests that ACEs can continue to be examined from the caregivers' perspective, which is typically happening in the primary care setting. However, given the small sample size of the study, further exploration is warranted to discern if these findings continue to hold true in larger studies.

As mentioned, one explanation for the non-significant finding between the mean scores of the self-report and caregiver-report ACEs of the adolescent could be due to the limited sample size. When examining the sample size needed post hoc to find sufficient statistical power, a sample size of 232 participants is recommended. Thus, 116

adolescents and 116 caregivers would have been needed to detect a statistically significant difference between self-report and parent-report of the ACEs, should one exist.

Another explanation for the non-significant finding between the mean scores could be due to the differences between this study and the studies that show caregivers tend to underestimate ACEs among their children (Ceballo et al., 2001; Oransky et al., 2013; Stover et al., 2010; Thomason et al., 2002). The mentioned studies were conducted in various settings and circumstances. For example, in Child Advocacy Centers following a child's disclosure of sexual abuse (Oransky et al., 2013), in a school setting where graduate students read questionnaires aloud to the youth and sent questionnaires home to caregivers (Ceballo et al., 2001), caregivers and youth were interviewed after being recruited from a larger study they participated in (Thomason et al., 2002), and Stover and colleagues (2010) recruited youth and families after being referred by police, hospital sexual abuse program, or a pediatric emergency department with 30 days of a potentially traumatic event. Thus, contrary to the other studies, the present study was conducted in a primary care setting with providers who are uniquely positioned to screen for ACEs since they develop a trusting relationship with patients and their families which can facilitate the disclosure of ACEs (Garner et al., 2012). Thus, it is possible that the caregivers who participated in the study felt comfortable sharing sensitive information with the providers.

Additionally, the uncertainty related to the timeframe of when adolescents and caregivers are supposed to report on could be an explanation for the non-significant finding between mean scores. For example, there were two cases where caregivers reported a higher ACE score for the adolescent compared to the adolescent's own ACE

score and both of these cases were completed by caregivers whom were not the biological parent. Thus, there may be personal narratives that could illuminate the inconsistencies (e.g., reporting on living conditions prior to being removed from biological parent(s)). In addition, there were three cases where caregivers scored higher than the adolescents. Upon further inspection, two of the caregivers are not with the adolescent's other biological caregiver. Therefore, there is a possibility that the caregivers reported on events prior to the adolescents' knowledge or on events that the adolescents were never made aware of (e.g., caregiver abused alcohol or used drugs; caregiver was depressed, mentally ill, or attempted suicide; caregiver went to jail or prison). The last caregiver score that was higher than the adolescent had contradictory information between the caregiver report and adolescent report and there may be a possibility that the caregiver reported on themselves and not their adolescent. Of the 22 caregivers, there were 5 caregivers (22.7%) who scored higher than their adolescent, 12 caregivers (54.5%) that scored lower than their adolescent, and 5 caregivers (22.7%) that scored the same as their adolescent. In general, perhaps clearer instructions are needed to discern which living situations to report on, or a way for the participant to indicate the events happened prior to their current living situation in case of fear of disclosure.

Further, although the ACE questions from the WCA are supposed to mimic the questions from the ACE measure, there are differences that may lead a caregiver to respond 'no' and an adolescent to respond 'yes' or 'unsure'. In example, a question on the WCA asks, "Did you ever live with anyone who physically hurt you in anger," while the ACE measure specifically asks, "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?” These two questions have the possibility to be interpreted differently. For instance, an adolescent may potentially identify *anyone* in the household who has physically hurt them whereas the caregiver report distinctly identifies a *parent or other adult*. Another difference between the ACE questions from the WCA and those from the ACE measure is adolescents have the option to mark ‘unsure’ to a question and this counts positively towards a total ACE score, whereas the ACE measure only has the option to mark ‘yes’ or ‘no’. These differences between the measures may have the potential to clarify how adolescents and caregivers respond differently to a question. Despite these differences in measures, though, self-report measures have been found to be adequate for the evaluation of adverse experiences in adolescents and are not indicative of overreporting of events (Duggal et al., 2000; Wagner et. al, 2006). Further, the data may have produced non-significant results due to the limited sample size.

Limitations & Future Directions

The results of the current study should be interpreted with consideration of the study’s strengths and limitations. Notably, our study addresses a gap in the literature by examining concurrent reporting of self-report ACE scores in adolescents and caregiver-reports of their adolescents’ ACE scores in a primary care setting with over half of the participants identifying as people of color. Previous studies tend to solely rely on caregiver-report to discern their adolescent’s ACE score, which is a limitation due to studies identifying that caregivers tend to underestimate ACEs among their children (Ceballo et al., 2001; Oransky et al., 2013; Stover et al., 2010; Thomson et al., 2002). Despite the strength of the concurrent reporting, a limitation to the study is the potential for sampling bias. The risk of potential reporting due to identified physical and/or sexual

abuse from the ACE questions, may have produced a bias in the sample. Although practitioners within a primary care setting are uniquely positioned to screen for exposure to ACEs, the potential reporting is still a constraint of participant recruitment, and thus the makeup of the sample. It is possible that the participants in our study may be more motivated or able to participate than the broader clinic population (Shadish et al., 2002), which potentially may lead to non-significant results because the participants who participate may not report adverse experiences that would need to be reported to CPS, or if they do report such events, the adolescent may have already reported and/or are not living with the perpetrator. Thus, to clearly distinguish ACEs in adolescents, ACEs should be explored for every adolescent within a clinic setting. Given this information, the results should be interpreted with the composition of the current sample in mind.

Another limitation of the current study is the generalizability of the findings given the makeup of the sample. More specifically, participants identified primarily as Black/African American and from one pediatric primary care clinic located in a metropolitan city in the southern United States. Although the inclusion of primarily Black/African American adolescents was unique, as most of the samples in the literature identified as White or Hispanic (Ceballo et al., 2001; Oransky et al., 2013; Shemesh et al., 2005), it is unclear whether findings from our study are generalizable to adolescents of other underrepresented groups and those in other geographic locations (e.g., urban and rural areas). Therefore, authors of future studies may wish to build on the results of our study by including such samples.

A further limitation related to the current study's sample is the limited number of participants. In order to help with community mitigation of COVID-19, measures such as

shelter-in-place orders resulted in significant declines in outpatient pediatric visits (Santoli et al., 2020). At the primary clinic where most of the data were collected, the show rates were down to 15% of the typical show rates for adolescents. The CDC guidelines encouraged primary care practices to use infection prevention strategies, such as an emphasis on telemedicine visits until there was a better grasp on the pandemic (CDC, 2020). However, despite the author of the study putting the measures on an online survey platform to make the study more available to the restrictions related to the COVID-19 pandemic (e.g., social worker and psychologist working remotely), most of the participants (81.8%) completed the measures in person. Therefore, with these policies put in place, fewer adolescents showed up to the clinic in person for visits and this resulted in a significant decrease in the number of participants collected. Regardless of the modification to allow participants to complete the measures online, the results of this study should be viewed as preliminary. To elucidate the potential of significant differences existing, more participants are needed to generalize to a broader sample (Heppner et al., 2008; Shadish et al., 2002).

Further, the current study included only a single measure to evaluate adverse childhood experiences among adolescents; therefore, the results of the current study must be considered within the context of this limitation. Future studies may examine the addition of clinical interviews to collect data on the level of exposure or timing of exposure of an ACE event(s) in addition to obtaining rich information related to the events reported by the adolescents and caregivers (Duggal et al., 2000). Attaining this information will further evaluate any discrepancies between the adolescent-report and caregiver-report of the adolescent's ACE score.

As literature has found that early detection and intervention of ACEs have the potential to improve the health and well-being of children in the long-term (Burke et al., 2011; Corso et al., 2008; Danese et al., 2009; Hughes et al., 2017; Lanier et al., 2017; Liu, 2017), routine screening for ACEs at pediatric well-child visits in a primary care clinic is the quintessential place for this to be done. Research has shown that screening in healthcare settings can lead to earlier detection of mental and physical health problems, connect youth and families with relevant referrals and follow-up care, and prevent ACEs in youth (Bethell et al., 2017; Koita et al., 2018). Moreover, a primary care setting allows for other practitioners (e.g., social workers, psychologists) to further assess and treat the potential behavioral impacts related to exposure of ACEs, providing holistic care for adolescents.

When considering policy implications, literature suggests early detection of ACEs in youth have the potential to prevent and/or ameliorate adverse outcomes. Thus, accurately identifying ACEs in adolescence and understanding the buffering effects (e.g., coping skills, psychotherapy) of protective factors can be essential to combat outcomes related to ACEs. As mentioned previously, the estimated national lifetime economic burden with ACEs is billions of dollars (CDC, 2012; Fang et al., 2012). The personal suffering and societal costs justify the importance of correctly identifying ACEs in adolescence. Given there are not differences in scores between the adolescents and caregivers report of ACEs in an adolescent's life, the results indicate that primary care clinics may be a unique setting that indeed signifies providers have built a trusting relationship with the caregivers and may be able to rely solely on a caregiver report in a primary care setting. Furthermore, it is important to note that not every adolescent who

identifies experiencing an ACE needs mental health treatment (Hamby et al., 2021); however, screening every adolescent for adverse experiences allows adolescents who are at risk of poor outcomes to be able to connect with someone and potentially negate harmful outcomes.

Conclusion

Summarized, the findings from our study suggest that there is not a significant difference between the caregivers filling out the ACE measure on behalf of their adolescent compared to the adolescent's report of adverse experiences. When looking at the data individually, though, there are several cases where the adolescents and caregivers report differently on the adolescent's ACE score. However, it is possible that these scores are the result of caregivers reporting on living situations prior to living with the current caregiver, caregivers reporting on information the adolescent was never made aware of, or unclear instructions. These findings are important when considering how to accurately detect an adolescent's ACE score. Of note, researchers may wish to replicate the current study with a larger sample to determine how enduring the difference is between the means scores of the adolescent- and caregiver-report of an adolescent's ACE score.

REFERENCES

- Bethell, C. D., Solloway, M. R., Guinosso, S., Hassink, S., Srivastav, A., Ford, D., & Simpson, L. A. (2017). Prioritizing possibilities for child and family health: An agenda to address Adverse Childhood Experiences and foster the social and emotional roots of well-being in pediatrics. *Academic Pediatrics, 17*, S36–S50. doi: 10.1016/j.acap.2017.06.002
- Burke, N. J., Hellman, J. L., Scott, B. G., Weems, C. F., & Carrion, V. G. (2011). The impact of adverse childhood experiences on an urban pediatric population. *Child Abuse & Neglect, 35*, 408–413. doi:10.1016/j.chiabu.2011.02.006
- Ceballo, R., Dahl, T. A., Aretakis, M. T., & Ramirez, C. (2001). Inner-city children's exposure to community violence: How much do parents know? *Journal of Marriage and Family, 63*, 927–940. doi:10.1111/j.1741-3737.2001.00927.x
- Center for Disease and Control. (2012). *Child abuse and neglect cost the United States \$124 billion*. https://www.cdc.gov/media/releases/2012/p0201_child_abuse.html
- Centers for Disease Control and Prevention. (2020, December 30). Information for pediatric healthcare providers. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/pediatric-hcp.html>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum

- Corso, P. S., Edwards, V. J., Fang, X., & Mercy, J. A. (2008). Health-related quality of life among adults who experienced maltreatment during childhood. *American Journal of Public Health, 98*, 1094–1100. doi:10.2105/AJPH.2007.119826
- Danese, A., Moffitt, T. E., Harrington, H., Milne, B. J., Polanczyk, G., Pariante, C. M., ... & Caspi, A. (2009). Adverse childhood experiences and adult risk factors for age-related disease: Depression, inflammation, and clustering of metabolic risk markers. *Archives of Pediatrics & Adolescent Medicine, 163*, 1135–1143. doi:10.1001/archpediatrics.2009.214
- Dubowitz, H., Prescott, L., Feigelman, S., Lane, W., & Kim, J. (2008). Screening for intimate partner violence in a pediatric primary care clinic. *Pediatrics, 121*, e85-e91. doi:10.1542/peds.2007-0904
- Duggal, S., Malkoff-Schwartz, S., Birmaher, B., Anderson, B. P., Matty, M. K., Houck, P. R., ... Bailey-Orr, M. (2000). Assessment of life stress in adolescents: Self-report versus interview methods. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*, 445–452. doi:10.1097/00004583-200004000-00013
- Fan, X., Miller, B. C., Park, K. E., Winward, B. W., Christensen, M., Grotevant, H. D., & Tai, R. H. (2006). An exploratory study about inaccuracy and invalidity in adolescent self-report surveys. *Field Methods, 18*, 223–244. doi:10.1177/1528222X06289161
- Fang, X., Brown, D. S., Florence, C. S., & Mercy, J. A. (2012). The economic burden of child maltreatment in the United States and implications for prevention. *Child Abuse & Neglect, 36*, 156–165. doi:10.1016/j.chiabu.2011.10.006

- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149–1160. doi:10.3758/BRM.41.4.1149
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., ... Marks, J. S. (1998). 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, 14*, 245–258. doi:10.1016/S0749-3797(98)00017-8
- Fergusson, D. M., Horwood, L. J., & Woodward, L. J. (2000). The stability of child abuse reports: A longitudinal study of the reporting behavior of young adults. *Psychological Medicine, 30*, 529–544. doi:10.1017/S0033291799002111
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. SAGE Publications Inc.
- Garner, A. S., Shonkoff, J. P., Siegel, B. S., Dobbins, M. I., Earls, M. F., McGuinn, L., ... & Committee on Early Childhood, Adoption, and Dependent Care. (2012). Early childhood adversity, toxic stress, and the role of the pediatrician: translating developmental science into lifelong health. *Pediatrics, 129*, e224–e231. doi:10.1542/peds.2011-2662
- Garson, G. D. (2012). *Testing statistical assumptions*. Asheboro, NC: Statistical Associates Publishing.
- Gerson, R., & Corwin, D. L. (2015). *The cost of adverse childhood experiences*. Jacksonville, FL. Retrieved from http://www.avahealth.org/resources/aces_best_practices/lifetime-cost.html

- Hamby, S., Elm, J. H., Howell, K. H., & Merrick, M. T. (2021). Recognizing the cumulative burden of childhood adversities transforms science and practice for trauma and resilience. *American Psychologist, 76*, 230–242.
doi:10.1037/amp0000763
- Heleniak, C., Jenness, J. L., Vander Stoep, A., McCauley, E., & McLaughlin, K. A. (2016). Childhood maltreatment exposure and disruptions in emotion regulation: A transdiagnostic pathway to adolescent internalizing and externalizing psychopathology. *Cognitive Therapy and Research, 40*, 394–415.
doi:10.1007/s10608-015-9735-z
- Heppner, P. P., Wampold, B. E., & Kivlighan, D. M. Jr. (2008). *Research design in counseling*, (3rd ed.). Belmont, CA: Thompson Higher Education.
- Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., ... & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. *The Lancet Public Health, 2*, e356–e366.
- Kalmakis, K. A., & Chandler, G. E. (2015). Health consequences of adverse childhood experiences: A systematic review. *Journal of the American Association of Nurse Practitioners, 27*, 457–465. doi:10.1002/2327-6924.12215
- Koita, K., Long, D., Hessler, D., Benson, M., Daley, K., Bucci, M., Thakur, N., & Harris, N. B. (2018). Development and implementation of a pediatric adverse childhood experiences (ACEs) and other determinants of health questionnaire in the pediatric medical home: A pilot study. *PLoS ONE, 13*, e0208088. doi: 10.1371/journal.pone.0208088

- Lanier, P., Maguire-Jack, K., Lombardi, B., Frey, J., & Rose, R. A. (2017). Adverse childhood experiences and child health outcomes: Comparing cumulative risk and latent class approaches. *Maternal and Child Health Journal, 0*, 1–10.
doi:10.1007/s10995-017-2365-1
- Liu, R. T. (2017). Childhood adversities and depression in adulthood: Current findings and future directions. *Clinical Psychology: Science and Practice, 24*, 140–153.
doi:10.1111/cpsp.12190
- Marie-Mitchell, A., Lee, J., Siplon, C., Chan, F., Riesen, S., & Vercio, C. (2019). Implementation of the Whole Child Assessment to Screen for Adverse Childhood Experiences. *Global Pediatric Health, 6*, 1–9. doi:10.1177/2333794X19862093
- Marie-Mitchell, A., & O'Connor, T. G. (2013). Adverse childhood experiences: Translating knowledge into identification of children at risk for poor outcomes. *Academic Pediatrics, 13*, 14–19.
- Miller, J. (1991). Reaction time analysis with outlier exclusion: Bias varies with sample size. *The Quarterly Journal of Experimental Psychology, 43*, 907–912.
doi:[10.1080/14640749108400962](https://doi.org/10.1080/14640749108400962)
- Murphy, A., Steele, M., Dube, S. R., Bate, J., Bonuck, K., Meissner, P., ... & Steele, H. (2014). Adverse childhood experiences (ACEs) questionnaire and adult attachment interview (AAI): Implications for parent child relationships. *Child Abuse & Neglect, 38*, 224–233. doi:10.1016/j.chiabu.2013.09.004
- National Scientific Council on the Developing Child. (2014). *Excessive stress disrupts the architecture of the developing brain: Working paper 3. Updated Edition*. Cambridge, MA: Center on the Developing Child. Retrieved from

https://46y5eh11fhgw3ve3ytpwxt9r-wpengine.netdna-ssl.com/wp-content/uploads/2005/05/Stress_Disrupts_Architecture_Developing_Brain-1.pdf

Oh, D. L., Jerman, P., Marques, S. S., Koita, K., Boparai, S. K. P., Harris, N. B., & Bucci, M. (2018). Systematic review of pediatric health outcomes associated with childhood adversity. *BMC Pediatrics*, *18*, 83–102.

<https://doi.org/10.1186/s12887-018-1037-7>

Oransky, M., Hahn, H., & Stover, C. S. (2013). Caregiver and youth agreement regarding youths' trauma histories: Implications for youths' functioning after exposure to trauma. *Journal of Youth and Adolescence*, *42*, 1528–1542. doi:10.1007/s10964-013-9947-z

Osborne, J. W. (2013). *Best practices in data cleaning: A complete guide to everything you need to do before and after collecting your data*. Thousand Oaks, CA: Sage.

Podsakoff, P., MacKenzie, S., Lee, J., & Podsakoff, N. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*, 879–903. doi:10.1037/0021-9010.88.5.879

Polaha, J., Dalton III, W. T., & Allen, S. (2011). The prevalence of emotional and behavior problems in pediatric primary care serving rural children. *Journal of Pediatric Psychology*, *36*, 652–660. doi:10.1093/jpepsy/jsq116

Santoli, J.M., Lindley, M.C., DeSilva, M.B., Kharbanda, E.O., Daley, M. F., Galloway, L., ... Weintraub, E. (2020). Effects of the COVID-19 Pandemic on Routine Pediatric Vaccine Ordering and Administration – United States, 2020. *Morbidity and Mortality Weekly Report*, *69*, 591–593. doi:10.15585/mmwr.mm6919e2

- Schraedley, P. K., Turner, R. J., & Gotlib, I. H. (2002). Stability of retrospective reports in depression: Traumatic events, past depressive episodes, and parental psychopathology. *Journal of Health and Social Behavior, 43*, 307–316.
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston, MA: Houghton Mifflin Company.
- Shemesh, E., Newcorn, J. H., Rockmore, L., Shneider, B. L., Emre, S., Gelb, B. D., ... & Yehuda, R. (2005). Comparison of parent and child reports of emotional trauma symptoms in pediatric outpatient settings. *Pediatrics, 115*, e582-e589.
doi:10.1542/peds.2004-2201
- Singer, J. D., & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence*. New York: Oxford University Press.
- Stover, C. S., Hahn, H., Im, J. J., & Berkowitz, S. (2010). Agreement of parent and child reports of trauma exposure and symptoms in the early aftermath of a traumatic event. *Psychological Trauma: Theory, Research, Practice, and Policy, 2*, 159–168. doi:10.1037/a0019156
- Sturgess, J., Rodger, S., & Ozanne, A. (2002). A review of the use of self-report assessment with young children. *British Journal of Occupational Therapy, 65*, 108–116. doi:10.1177/030802260206500302
- Thomson, C. C., Roberts, K., Curran, A., Ryan, L., & Wright, R. J. (2002). Caretaker-child concordance for child's exposure to violence in a preadolescent inner-city population. *Archives of Pediatrics & Adolescent Medicine, 156*, 818–823.
doi:10.1001/archpedi.156.8.818

- U.S. Census Bureau. (2009). Median household income in the past 12 months: 2005-2009 American Community Survey 5-year estimates. Retrieved from <https://www.jefferson.kyschools.us/sites/default/files/jcpsdbk6.pdf>
- U.S. Department of Health & Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2019). *Child Maltreatment 2017*. Available from <https://www.acf.hhs.gov/sites/default/files/cb/cm2017.pdf>.
- Wagner, C., Abela, J. R. Z., & Brozina, K. (2006). A comparison of stress measures in children and adolescents: A self-report checklist versus an objectively rated interview. *Journal of Psychopathology and Behavioral Assessment*, 28, 250–260. doi:10.1007/s10862-005-9010-9

Table 1

Intercorrelations, Internal Consistencies, and Descriptives of WCA and ACE Measures

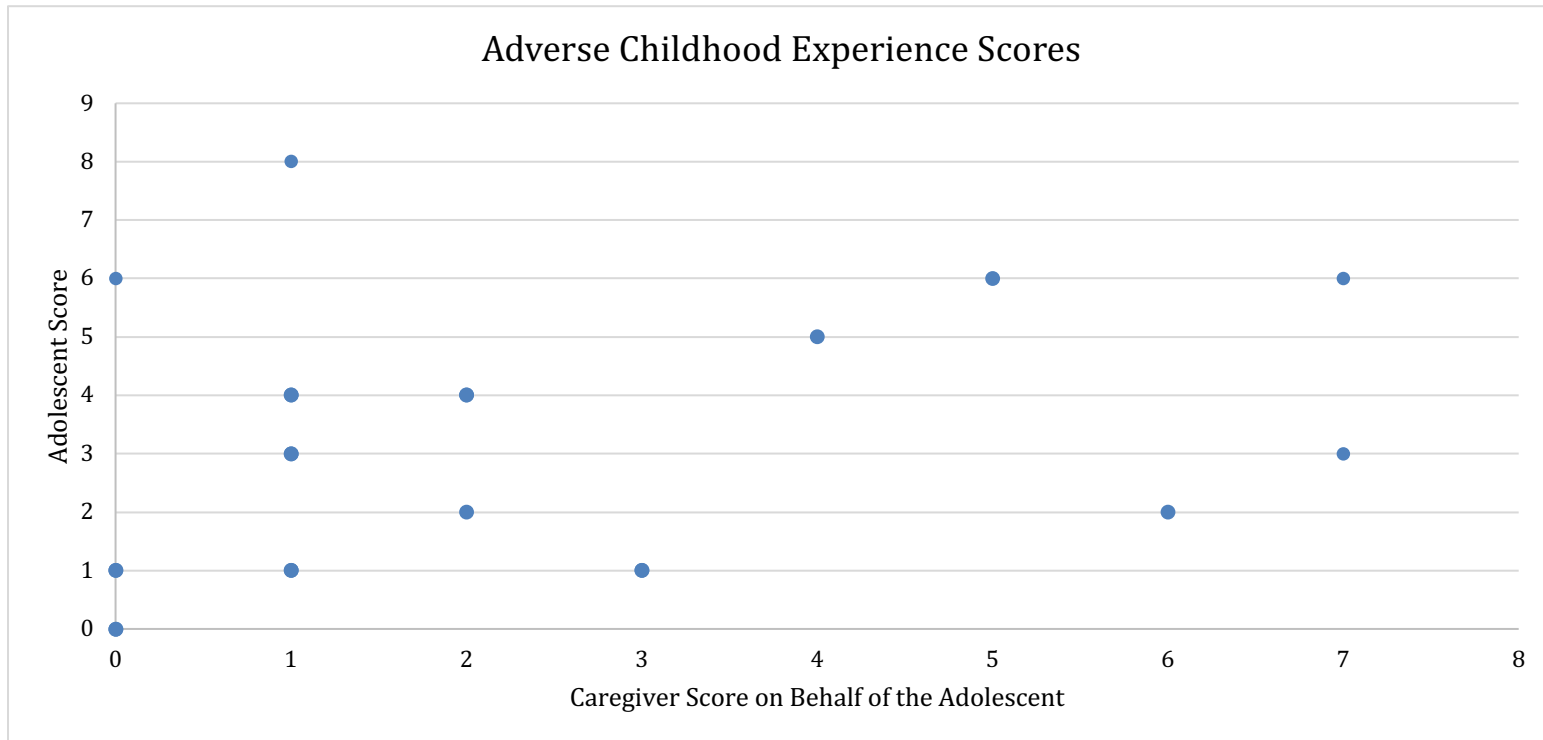
	WCA	ACE
WCA	.70	
ACE	.29	.81
Mean ±	3.00 ±	2.18 ±
SD	2.23	2.26

Note. Cronbach's alphas are represented in the diagonal, WCA = Whole Child Assessment, ACE = Adverse

Childhood Experiences.

Figure 1

Scores of Adolescents and Caregivers Reporting of ACEs



CURRICULUM VITA

Kate Berghuis, M.S.
Kate.berghuis@louisville.edu

EDUCATION

- 2020 - Present **Pre-doctoral Internship (APA Accredited)**
Nemours/ Alfred I. duPont Hospital for Children
Psychology Internship in Health Psychology
Training Director: Johanna Carpenter, PhD
Rotations: Autism Spectrum Disorder Testing, Behavioral Consultation Clinic, Group Psychotherapy, Outpatient Pediatric Therapy Clinic, Pain Specialty Clinic, Biofeedback, Inpatient Consultation/Liaison Service, Integrated Primary Care, and Outpatient Consultation
- Expected Aug 2021 **Doctoral Candidate, Counseling Psychology (APA Accredited)**
University of Louisville, Louisville, Kentucky
Dissertation: Concurrent Report of Adverse Childhood Experiences Among Perspectives of Adolescents and Caregivers
Status: Defended July 2021
- May 2016 **Master of Science (M.S.) in Mental Health Counseling**
University at Albany, Albany, New York
- Dec 2013 **Bachelor of Science in Child Psychology**
University of Minnesota-Twin Cities, Minneapolis, Minnesota

CLINICAL EXPERIENCE

Pre-doctoral Internship:

- August 2020 – Present **Nemours/Alfred I. duPont Hospital for Children, Wilmington, DE**
Agency Type: Academic Medical Center,
Supervisor: Johanna Carpenter, PhD,

- Utilize evidence-based interventions (e.g., cognitive-behavioral therapy, behavioral therapy, motivational interviewing) in pediatric consultation/liaison services requested from a wide range of medical subspecialty services (endocrinology, gastroenterology, neurology, general pediatrics) to address acute and chronic psychological concerns with hospitalization, treatment, and adjustment to medical conditions for patients, parents, and siblings
- Evaluate and treat various pain conditions (e.g., neuromuscular-related pain, arthritis/joint inflammation, sports injury pain, nerve injuries, AMPS, POTS) in an outpatient setting on a multidisciplinary pediatric pain team
- Administer biofeedback – to children 8 years and older – using a 4-6 session protocol with various biofeedback software (e.g., Infiniti, Nexus, Alive)
- Provide behavior therapy and consultation for parents and children 6 years and younger for a wide range of behavioral management and emotional difficulties using empirically-based approaches (e.g., techniques from PCIT) while receiving live supervision via one-way mirror
- Deliver brief consultative services and testing to families with concerns about their child’s developmental, behavioral, emotional, and/or social functioning
- Co-lead Parent-Child Conduct Group to addresses common disruptive behaviors associated with ADHD
- Conduct assessments to provide differential diagnosis of ASD, developmental or intellectual disabilities, and ADHD
- Conduct autism evaluations, including administration of the modified ADOS-2 Modules 1-4 and Toddler Module as well as other standardized assessments

Practicum Experiences:

June 2019 –
June 2020

**Bingham Clinic, Division of Child and Adolescent
Psychiatry, Louisville, KY**

Agency Type: Academic Medical Center

Supervisors: Christine Brady, Ph.D., and Courtney Smith, Ph.D.

- Utilized evidence-based interventions (e.g., cognitive-behavioral therapy, behavioral therapy, motivational interviewing) in pediatric consultation/liaison services requested from a wide range of medical services (hematology/oncology and solid organ transplant) to address acute and chronic psychological concerns with hospitalization, treatment, and adjustment to medical conditions for patients, parents, and siblings

- Collaborated with other professionals – including attending physicians, pediatric forensics, social workers, child life specialists, nurse practitioners, etc. – in multidisciplinary approaches (e.g., case management, communication of treatment plans, discharge planning)
- Participated in psychology rounds and attend care conference meetings with different medical specialty teams to advocate on behalf of patients’ psychological and behavioral needs
- Conducted biofeedback with patients in the hospital setting
- Trained in Children’s Health & Illness Recovery Program (CHIRP), an interdisciplinary family-based treatment program, under the supervision of Dr. Bryan Carter
- Attended weekly Resident Grand Rounds lecture series and monthly Morbidity and Mortality Rounds

June 2018 –
May 2019

**Weisskopf Child Evaluation Center, Department of Pediatrics,
University of Louisville School of Medicine, Louisville, KY**

Agency Type: Academic Medical Center

Supervisor: Eva Markham, Ed.D.

- Administered and wrote comprehensive reports for psychodiagnostic assessments – cognitive (e.g., WISC-V, WPPSI-IV, WAIS-IV, WASI-II), achievement (e.g., KTEA-3 Brief, WIAT-III), and neuropsychological (e.g., ADOS-2, BRIEF, Wisconsin Card Sorting Test, NEPSY-2) – from 12 months to 17 years old
- Co-led the Incredible Years, an evidence-based group for 5 to 8-year olds using dinosaur themed materials and life-size puppets to strengthen social, emotional, and academic competencies in children with behavioral and emotional difficulties
- Worked as part of a multidisciplinary team with developmental pediatricians, speech-language pathologists, occupational therapists, and dieticians who specialize in diagnosing and treating developmental disabilities, congenital anomalies, genetic disorders, autism spectrum disorder, organic behavior disorders, and learning disabilities through evidence-based practices
- Engaged in live supervision through direct observation
- Participated in didactic seminars and weekly developmental clinicians’ meetings
- Presented on the Behavior Assessment System for Children, Third Edition (BASC-3) at the developmental clinicians’ meeting

May 2017 –
April 2018

Norton’s Children Medical Center, Louisville, KY

Agency Type: Pediatric Primary Care Clinic

Supervisor: Katy Hopkins, Ph.D.

- Provided brief models of psychotherapy using evidence-based treatments (e.g., CBT, Behavioral Therapy, Motivational Interviewing, parent skills training) for individuals and families of youth aged 5 to 18-years old
- Received warm handoffs between medical providers and patients for concerns with behavioral, mental health, and difficulties coping with a medical issue
- Delivered consultation for patients which included initial assessment, service referrals, and follow-up care if patients required longer term mental health care
- Provided curbside consultation with medical providers regarding complex patient presentations
- Engaged in monthly treatment team meetings with the pediatricians

Aug 2017 –
April 2018

University of Louisville Pediatrics, Louisville, KY

Agency Type: Pediatrics Primary Care Clinic

Supervisor: Katy Hopkins, Ph.D.

- Provided brief models of psychotherapy using evidence-based treatments (e.g., CBT, Behavioral Therapy, Motivational Interviewing, parent skills training) for individuals and families of youth aged 2 to 18-years old
- Received warm handoffs between medical providers and patients for concerns with behavioral, mental health, and difficulties coping with a medical issue
- Delivered consultation for patients which included initial assessment, service referrals, and follow-up care if patients needed longer term mental health care
- Provided curbside consultation with medical providers regarding complex patient presentations
- Organized and facilitated a professional development workshop on mindfulness and stress management to prevent burnout amongst the clinical and administrative staff in the clinic
- Participated in the site's team huddles, with a focus on coordinating care of shared patients

Aug 2016 –
May 2017

Cardinal Success Program @ Shawnee Middle and High School, Louisville, KY

Agency Type: Public Middle and High School/Departmental Clinic

Supervisor: Katy Hopkins, PhD

- Provided individual, family, and group therapy to middle and high school students in a low-income historically underserved community
- Co-facilitated two groups for high school students using a manualized CBT depression prevention program, TIM & SARA
- Coordinated and implemented telepsychiatry appointments for clients with a child and adolescent psychiatry clinic
- Collaborated with staff and participated in meetings on education plans for clients (e.g., 504 plans and IEPs)
- Consulted with parents and provided parent skills training
- Provided consultation and corrective action to teachers and school personnel concerning students with mental health concerns

Jan 2015 –
Dec 2015

Senior Hope Counseling, Albany, NY

Agency Type: Outpatient Chemical Dependency Clinic

Supervisor: Cindy Metzger, LCSW

- Maintained a caseload of individual clients – 50 years and older – seeking help for chemical dependency concerns
- Co-facilitated diverse groups such as Mental Health Recovery, Program Alumni, Understanding Addictions, and Women’s Group for 10 – 15 clients in each group
- Conducted intake assessments to deem appropriateness of the organization for the clients

PROFESSIONAL EXPERIENCE

2019 – 2020

Program Coordinator for the Center of Family and Community Well-Being

University of Louisville, Louisville, KY

Supervisor: Becky Antle, Ph.D., Emma Sterrett-Hong, Ph.D.

- Evaluate data and summarize results to create reports for various local and state organizations
- Identify effective training and organizational improvement strategies, such as the role of learning readiness, organizational/supervisor support, and training reinforcement in transfer of information
- Systematize master’s students licensing hours for the Marriage and Family Social Work program
- Execute a university-funded project to offer psychoeducational groups on mental health concerns and healthy relationship styles for undergraduate and graduate students on campus

- Collect and analyze data on the psychoeducational groups for the Provost to identify trends in academic enrollment and attrition rates
- Formulate focus groups for an agency providing homes for youth involved with the child welfare system
- Aide in curriculum development for a 3-day suicide training for diverse professionals in mental health
- Consult with a local agency who provides care for individuals with intellectual and developmental disabilities to create surveys for their annual state report
- Train employers on how to conduct standardized assessments to ensure reliable and valid data sets

2014 – 2016

Undergraduate Advisor

University at Albany, Albany, NY

Supervisor: Heidi Audino, Director of Pathways into Education

- Advised Educational Studies minor students on issues such as career decisions, course selection, and progress towards graduation
- Created and manage databases to organize test scores and other materials
- Promoted Education graduate programs and created recruitment materials for the university
- Assisted Director of Education with daily office tasks

PUBLICATIONS

Woo, H., Bang, N. M., Lee, J., & **Berghuis, K. J.** (2020). A meta-analysis of the counseling literature on technology-assisted distance supervision. *International Journal for the Advancement of Counseling*.

Berghuis, K. J., Pössel, P., & Pittard, C. M. (2019). Perceived discrimination and depressive symptoms: Is the cognitive triad a moderator or mediator? *Child and Youth Care Forum, 49*, 647–660. doi: 10.1007/s10566-019-09537-1

McCubbin, L. M., & **Berghuis, K. J.** (2019). *McCubbin family resilience model*. Macmillan Encyclopedia of Intimate and Family Relationships: An Interdisciplinary Approach.

Ertl, M. M., Longo, L. M., Groth Hoover, G., **Berghuis, K. J.**, Prout, J., Hetz, M., & Martin, J. L. (2017). Running on empty: High self-esteem as a risk factor for exercise addiction. *Addiction Research & Theory*. doi:10.1080/16066359.2017.1347257

MANUSCRIPTS IN PREPARATION & UNDER REVIEW

- Kalstabakken, A. W., Desjardins, C. D., Anderson, J. E., Berghuis, K. J., Hillyer, C. K., Seiwert, M. J., Carlson, S. M., Zelazo, P. D., & Masten, A. S. (submitted). Executive function measures in early childhood screening: Concurrent and predictive validity.
- Mitchell, A. M., Heitz, H., Leach, S. M., & **Berghuis, K. J.** (submitted). Economic resources, health care access, and self-reported health: A latent class analysis.
- Lopez, L., Davis, D. W., Jones, V., Williams, P., & **Berghuis, K. J.** (in preparation). The impact of an educational intervention on medical support personnel's knowledge of a development screening tool.
- Lopez, L., Davis, D. W., Jones, V., Williams, P., & **Berghuis, K. J.** (in preparation). "Yes! I feel more confident" – The experiences of medical support personnel administering and scoring a standardized developmental screening tool.
- Hooper, L. M., XXX, & **Berghuis, K. J.** (in preparation). Parentification in early adolescence.
- Hooper, L. M., & **Berghuis, K. J.** (in preparation). Parentification in the United States.
- Hooper, L. M., **Berghuis, K. J.**, & XXX. (in preparation). Examining parentification among an understudied population: An exploratory study of male college students.
- Mitchell, A. M, Kim, S. Y., **Berghuis, K. J.**, & XXX. (in preparation). Childhood adversity and serum cytokines in adulthood: The roles of psychological, behavioral, and relational pathways.

REPORTS

- Citizen Review Panel & **Student Citizen Review Panel.** (June, 2017). *Citizen Review Panels' state fiscal year 2017-2018 annual work report.* Report submitted to the Kentucky Cabinet for Health and Family Services Department for Community Based Services.

CONFERENCE AND PROFESSIONAL PRESENTATIONS

Paper Presentations and Symposia

- Washington, A., **Berghuis, K. J.**, Geary, M., Gonzaga, K. P., Yao, T., & Zhong, J. (2019, October). *Legacies of the Middle Passage.* Symposium presented at 2019 Universities Studying Slavery at Xavier University, Cincinnati, OH.
- Berghuis, K. J.**, Pössel, P., Marshall, A. A., Smith, E. J., Hayes, L., & Polanco-Roman, L. (2018, August). *How does discrimination make us (mentally) ill?* Paper

presented at the 126th Annual American Psychological Association Convention, San Francisco, CA.

Berghuis, K. J., Pössel, P., Marshall, A. A., Smith, E. J., & Hayes, L. (2018, April). *(How) does discrimination make us depressed?* Paper presented at the 31st Great Lakes Regional Counseling Psychology Conference, Kalamazoo, MI.

Poster Presentations

Zeroth, J. A., **Berghuis, K. J.,** & Salamon, K. S. (2021, April 8–9). *Gender similarities and differences in an outpatient pediatric chronic pain program* [Poster presentation]. 2021 Virtual Society of Pediatric Psychology Annual Conference.

Berghuis, K. J., Pössel, P., & Pittard, C. M. (2017, April). *Examining the Relation Between Discrimination, the Cognitive Triad, and Depressive Symptoms in Youth.* Poster presented at the Kentucky Psychological Foundation Spring Academic Conference, Louisville, KY.

Ertl, M. M., Longo, L. M., Groth Hoover, G., **Berghuis, K. J.,** Prout, J., Hetz, M., Martin, J. L., & Paziienza, R. (2017, May). *High self-esteem as a potential maintaining factor of exercise addiction among women.* Poster presented at the 29th Annual Association for Psychological Science Convention, Boston, MA.

Berghuis, K. J., Martin, J. L., Martens, M. P., & Cimini, M. D. (2015, August). *The Roles of Negative Urgency and Depressive Symptoms in Alcohol-Related Problems Among College Students.* Poster presented at the 123rd annual convention of the American Psychological Association, Toronto, ON.

Buckner, L. M., Martin, J. L., & **Berghuis, K. J.** (2015, August). *The Role of Protective Behavioral Strategies in Alcohol-Related Outcomes for College Students of Color.* Poster presented at the 123rd annual convention of the American Psychological Association, Toronto, ON.

Buckner, L. M., **Berghuis, K. J.** (2015, August). *The Role of Protective Behavioral Strategies in Alcohol-Related Outcomes for College Students of Color.* Poster presented at the School of Education Day, Albany, NY.

Wenzel, A., **Berghuis, K. J.,** Hillyer, C., Seiwert, M., Anderson, J., Zelazo, P., Carlson, S. M., & Masten, A. (2013, April). *Validity of Executive Function Assessment for Early Childhood Screening in an Urban School District.* Poster presented at the biennial meeting of the Society for Research in Child Development, Seattle, WA.

RESEARCH EXPERIENCE

2016 – 2020 **Research Team Member**
In-School Depression Prevention Program

Supervisor: Patrick Pössel, Ph.D.

- Collect data for the school CBT prevention program, TIM & SARA, to reduce the incidence of depressive symptoms in a racially and ethnically diverse group of high school students
- Identify how to improve outcome effects for prevention in groups
- Manage, process, and analyze data to evolve program design and implementation

2019

Research Associate

Department of Communication Sciences and Disorders

University of Louisville School of Medicine

Supervisors: Leslie Lopez, M.S.

- Assisted with data collection in three pediatric primary care clinics on the Parents' Evaluation of Developmental Status (PEDS) questionnaire
- Monitored PEDS response forms to provide study feedback to the medical staff who were implementing the questionnaire within their clinic
- Critiqued all PEDS forms collected in study and was considered the gold standard assessor

2018 – 2019

Graduate Assistantship

University of Louisville, Department of Counseling & Human Development

Supervisor: Amanda Mitchell, Ph.D.

- Served as a junior research mentor to two master's students to advance their depth and breadth of the research process
- Reviewed manuscripts for health behavior journals
- Collected, cleaned, and analyzed data in SPSS
- Supported in the dissemination of a study through MTurk
- Created surveys on Qualtrics for a study on socioeconomic position and self-rated health
- Reviewed IRB protocols and conducted literature searches for a study on socioeconomic position and self-rated health
- Edited an application for the Research and Faculty Development Grant

2016 – 2019

Graduate Assistantship

University of Louisville, Department of Counseling & Human Development

Supervisor: Ahmad Washington, Ph.D.

- Conducted literature searches on various topics related to social justice and culturally sensitive issues to advance research studies (e.g., school-to-prison pipeline, redlining in Louisville,

overpathologizing of externalizing behaviors among Black youth, decolonization, structural racism)

2017 – 2018

Graduate Assistantship

University of Louisville, Department of Counseling & Human Development

Supervisor: Lisa Hooper, Ph.D.

- Co-authored a literature review, an exploratory study, and a chapter on parentification
- Performed literature searches on parentification
- Assisted with logistics and execution of data collection initiatives
- Revised and updated student handbooks for the Department of Counselor Education Master's and Ph.D. programs

2016 – 2018

Graduate Assistantship

University of Louisville, Department of Counseling & Human Development

Supervisor: Lali McCubbin, Ph.D.

- Co-authored a chapter for Macmillan Encyclopedia of Intimate and Family Relationships
- Graded clinical case conceptualizations as a teaching assistant for differential diagnosis, EPCY 621
- Assisted with IRB proposals
- Conducted literature searches for manuscripts and to advance research studies
- Performed statistical analyses (e.g., multiple regression, ANOVA, *t*-tests) to explore the relationships between resiliency and various health outcome variables
- Edited manuscripts with a focus on resiliency
- Reviewed manuscripts for an international journal

2015 – 2016

Research Team Member

University at Albany, Health and Addictive Behaviors Investigative Team,

Supervisor: Jessica L. Martin, Ph.D.

- Conducted literature reviews and co-authored a review manuscript on college drinking that was published in *Addiction Research & Theory*
- Recruited subjects for study examining alcohol use and motivations to drink among college students
- Managed and responded to project-related email for ongoing projects

2012 – 2014

Senior Lab Technician

University of Minnesota, Institute of Child Development

Grant Title: *Promoting Executive Function to Enhance Learning in Homeless/Highly Mobile Children*

Grant: *Institute of Education Sciences*

Co-Investigators: *Drs. Ann Masten, Stephanie Carlson, Phillip Zelazo*

- Administered one-on-one child individualized support, questionnaires, and standardized assessments to child participants (e.g., Flanker test, Dimensional Change Card Sort, Theory of Mind, Woodcock-Johnson, Stanford Binet) to study executive functioning skills as a strategic target for assessment, early childhood screening, and preventative intervention
- Built databases, managed data entry assistants, and wrote syntax to clean data
- Administered questionnaires to parent research participants (e.g., BRIEF, Wechsler Adult Intelligence Scale, ACEs, Life Events Questionnaire)
- Developed systems for recruiting, scheduling, and tracking highly mobile participants to ensure their continued involvement in the study
- Supervised and trained undergraduate research assistants in coding projects which resulted in hundreds of coded and easily queried videos for reliability measures

Project Name: *Validity of Executive Function Assessment for Early Childhood Screening in an Urban School District*

Funding: *Fesler-Lampert Chair in Urban and Regional Affairs*

Investigator: *Dr. Ann Masten*

- Coordinated the study and worked in cooperation with Minneapolis Public School System to systematize their screening assessments at multiple community sites to gather data on school success with a focus on self-regulation skills
- Monitored transportation, organization, and replication of hundreds of documents with confidential personal information
- Managed, processed, and analyzed data
- Administered brief measures of executive function (e.g., Flanker test, Dimensional Change Card Sort, Theory of Mind) on tablets to child participants

Project Name: *Ready? Set. Go!*

Funding: *People Serving People*

Investigator: *Dr. Ann Masten*

- Formulated databases, managed data entry, and wrote syntax to clean data using SPSS
- Administered questionnaires to child and parent research participants aimed at understanding school success in homeless and disadvantaged mobile children

- Conducted behavioral assessments with children (e.g. BRIEF-P, Woodcock Johnson, NEPSY-II, WISC-IV)

Project Name: *Executive Function in Learning and School Success of Homeless and Highly Mobile Children*

Funding: *National Science Foundation*

Investigator: *Dr. Ann Masten, Ph.D.*

- Interviewed homeless parents about their mental health and life stress on themselves and their children to transcribe and advance how to strategically target and time interventions to promote success in disadvantaged children
- Administered a variety of standard clinical questionnaires to parents (Tower of London Test, WAIS-IV, Stroop Test)
- Consented and administered questionnaires to child and parent research participants

Project Name: *Coding Parent-Child Interactions*

- Coded over 100 videos on parent-child interactions in high risk families using a gold-standard coding system (Family Interaction Task Rating Tool)
- Met bi-monthly for inter-rater reliability checks for a qualitative study examining mother-child interactions designed to promote family interactions to understand communication patterns
- Adapted the coding manual to discern the contexts the coding system works for homeless and highly mobile population

2013 – 2014

Research Assistant in Adolescent Development Lab

University of Minnesota, Institute of Child Development

Supervisor: Bonnie Klimes-Dougan, Ph.D.

- Collected participant data using imaging techniques to focus on systems known to be associated with stress/emotion regulatory systems implicated in depression
- Participated in discussions on cutting edge research in depressive, bipolar, and unipolar research participants
- Engaged in weekly lab meetings

2011 – 2012

Undergraduate Research Assistant in Project Competence Research on Risk and Resilience Lab

University of Minnesota, Institute of Child Development

Supervisor: Ann Masten, Ph.D.

- Transcribed videos of parent-child interactions and categorized research themes
- Organized and edited databases using SPSS
- Administered questionnaires to adult participants (Woodcock-Johnson, WISC-IV, ACEs)

AWARDS, HONORS, AND GRANTS

- 2018 **Travel Grant (\$350)**, Graduate Student Council, University of Louisville
- 2017 **Travel Grant (\$350)**, Graduate Student Council, University of Louisville
- 2015 **Van Slyke and Vanderzee Scholarship (\$875)**, Granted for academic achievement, University at Albany

TEACHING EXPERIENCE

Instructor on Record, University of Louisville

- ECPY 605, Human Development (Fall 2018)

Teaching Assistant, University of Louisville

Masters and Doctoral Level

- ECPY 621, Differential Diagnosis and Treatment in Counseling (Spring 2018)

Teaching Assistant, University at Albany

Undergraduate Level

- ECPY 390

LEADERSHIP AND VOLUNTEER EXPERIENCE

Sept. 2018 – Great Lakes Conference – Committee Member

April 2019 University of Louisville

- Served as the student chair for the Registration and Disability Accommodations Section
- Crafted submission and registration templates for conference participants
- Organized and ran committee meetings to complete needed conference preparation tasks
- Communicated with other chair members to ensure all activities were completed on time and within proper scope and budget

Ad Hoc Reviewer for Journals

March 2019 Journal of Health Behavior (student co-reviewer)

Feb 2018 International Journal (student co-reviewer)

Jan 2018 Student Interviewer for Doctoral Interviews

University of Louisville

April 2017 – **Student Member – Citizens Review Panel of Kentucky Child Welfare**

June 2018 Kentucky Cabinet for Health & Family Services

- Provided an evaluation of Kentucky’s Cabinet for Health and Family Services by examining how well the Cabinet adheres to its policies and procedures, determining whether the adoption and foster care systems are working well together, and identifying if the Cabinet is coordinating with others in the community to serve children and families
- Prepared and published an annual report with activities and recommendations to Kentucky’s Cabinet for Health and Family Services

Sept – Oct 2017 **We Are Here USA, Hidden Voices Vision Wall**

- Planned and enacted a sexual violence awareness event on campus
- Coordinated with students and faculty to promote the event and managed members to effectively implement the event

April 2017 **Psychology Bowl Facilitator**
Kentucky Psychological Foundation Spring Academic Conference

Sept 2014 **Master’s Student Representative**
May 2016 University at Albany

- Represented master’s cohort at Division Faculty meetings by raising student issues and communicating feedback and concerns to faculty members
- Reported meeting minutes to students

March 2015 – **Diversity Conference Committee**
Sept 2015 University at Albany

- Assisted with planning, organization, composition, outreach, and advertising for free student-led conference devoted to understanding diversity and community outreach called Campus to Community: Culturally Conscious Research and Practice

Sept 2012 – **Volunteer on Inpatient Child and Adolescent Mental Health Unit**
May 2014 University of Minnesota-Fairview Hospital
Supervisor: Sarah Blanchette

- Provided support to children and adolescents experiencing psychological disorders, emotional, and behavioral problems
- Assisted with the design and facilitation of therapy groups
- Maintained a safe and therapeutic milieu
- Responded to emergency situations to maintain safety of patients

Sept 2008 – **Volunteer on Pediatric Floor**
Aug. 2012

- Provided therapeutic play for child patients to improve mental well-being
- Facilitated and organized individual and group activities to reduce stress and increase socialization
- Provided finite care to infants, children, and adolescents who needed the extra assistance
- Created an enjoyable and entertaining environment for patients by engaging and making crafts with them

TRAININGS COMPLETED

2019 **Children’s Health & Illness Recovery Program (CHIRP)**, University of Louisville

2016 **TIM & SARA: Cognitive-Behavioral Depression Prevention Program**, University of Louisville

2016 **Safe Space: LGBT 101**

2016 **Screening, Brief Intervention, and Referral to Treatment (SBIRT)**, University at Albany

PROFESSIONAL MEMBERSHIPS

American Psychological Association Graduate Student Member

Society of Counseling Psychology Member, Division 17
Child and Adolescent Section Member of Division 17
Society for the Psychology of Women Member, Division 35
Society of Clinical Child and Adolescent Psychology, Division 53
Society for Health Psychology, Division 38

Delaware Psychological Association

Child and Adolescent Interest Section

Association for Behavioral and Cognitive Therapies