

Adverse experiences in infancy and toddlerhood: impact on academia



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Adverse Experiences in Infancy and Toddlerhood: Relations to Adaptive Behavior and Academic Status in Middle School

Abstract

Adverse Childhood Experience (ACE) exposure in infancy and toddlerhood can lead to negative academic status, behavioral issues and attention disorders in the middle childhood years. Participants in this study were derived from a low income community of families, primarily mothers and their children. Researchers assessed the children in the study at ages 1, 2, 3, and 11 using parent surveys, interactive tasks with their children, checklists and Likert scales to determine the type and number of ACE exposures children had at age 1, 2, and 3. Many of the tools used were given to parents in hypothetical situations rather than giving them the actual ACE indicator due to the sensitive nature of the questions on the ACE. The research showed a positive correlation between ACE exposure at infancy and toddlerhood and the same children at age 11 who had Individualized Education Plans, Behavior issues and attention issues in school. Children were assessed at each age level as data was collected to monitor the effects of ACE exposure over time. Family and child support system from infancy is needed to build a supportive environment for families is essential to reducing the effects of ACEs.

Numerous studies have been conducted on the negative effects of Adverse Childhood Experiences (ACE) on health and adaptive behavior in adulthood. Child abuse and neglect are a main facet of ACEs and, according to the Center for Disease Control (CDC), are categorized as abuse, household

challenges, and neglect which measure multitudinous factors like physical abuse, divorce and hunger. (<http://cdc.gov>) Recent studies have focused on how a child's ACE score affects their school performance both educationally and behaviorally. McKelvey, Edge, Mesman, Whiteside-Mansell, and Bradley (2018) focused their study on low socio-economic community families, the link between infancy and toddlerhood ACE scores and their academic and behavioral performance in middle childhood. (McKelvey et. al, 2018, p. 168)

The methodology used in the study reflected multiple data measures assessing specific elements of the ACE indicator and resulting data allowed researchers to compile accurate feedback from participants. Data was acquired from the Early Head Start Research and Evaluation Project (EHSRE). The program served women and children three years old and younger. Participants were given the Home Observation for Measurement of the Environment (HOME) Inventory when their children were toddlers to measure the physical and emotional response of the mother to the child. Researchers used these selected items from the HOME to link the physical/emotional abuse and neglect questions to equivalent types of questions on the ACE indicator. The Three Bag Task measure is a play task that is semi-structured and given to participants to observe interactions with their children. Participants were monitored for " detachment" and " negative regard" in which the parent may have exhibited a lack of engagement or an awareness of their child's location during the task. (McKelvey et al., 2018, p. 171) This measure also assessed whether the parent showed signs of discontent, disapproval, rejection or anger toward their child. These observations were rated on a 7 point scale and participants scoring within

the top 10% range were used for the study to assess abuse and neglect indicators. Researchers used one subscale of the Family Environment Scale and the stressful life events checklist were used to measure conflict and functioning within the family. Data on parental depression was assessed by giving them the Composite International Diagnostic Interview Short Form, which asked 12 questions about the number of days the participant was experiencing depressive symptoms like inability to sleep well, poor appetite, a lack of energy or sadness . Parents were also asked to rate their child's behavior using the Child Behavior Checklist for children ages 6-8, which covers a wide range of emotional, social and behavioral issues. Participants were assigned randomly to one of two groups; program or comparison. The program group consisted of children with exposure at least one ACEs, representing the independent variable. The comparison group consisted of children with no reported exposure to ACEs, representing the dependent variable. Much of the data collection occurred at the participant's home through " structured interviews, videotaped observations of parent-child interactions, and examiner based assessments of children's outcomes". (McKelvey et al., 2018, p. 171) Child assessors and interviewers were trained and required to demonstrate 80% and 85% reliability respectively. The retention rate of participants for this study was consistent at > 70% for children ages one to three, and 54% at age 11. Participants were assessed at least two times between the ages of one and three years old and assessed again at age 11. (McKelvey et al., 2018)

A longitudinal cohort study of participants in a real-life setting aided researchers in developing a comprehensive view of how ACE scores affected

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student academic and behavioral outcomes when exposed to ACEs in infancy and toddlerhood. Researchers used checklists and methodologies that were situational in nature rather than directly questioning participants, which was appropriate given the sensitive nature of the information being gathered and its potential for incriminating the participant. Some indicators on the ACE inventory are criminal offenses. The length of the study was needed to observe the group of children over several years in order to make connections between infancy/toddlerhood and middle childhood data. Covariates were also used to control the study and increase the accuracy of the results. Covariate data such as a child's emotionality, activity, sociability and impulsivity (EASI) survey to determine temperament was used amongst other measures. Clear connections from the measurements used were noted to the ACE indicator.

Several statistical methods were used when compiling the data. Correlations between the number of ACE exposures and children with reported Individualized Education Plans (IEP) was determined using an Adjusted Odds Ratio in which researchers found that the odds of a child with two or more ACE scores were twice as likely to have an IEP than a child with an ACE score of zero. As the number of exposures went up, so did the odds ratio for a student with an IEP. The same effect is also true of retention rates after first grade, exhibiting externalized and internalized behaviors in school and attention issues. Externalizing behaviors were significantly higher for children with ACE scores higher than one; 5.36 in a range of 3.02-9.53 versus 1.42 in a range of 0.79-3.08. Odds ratios for attention issues elevated as the number of ACE exposures went up, however not as

significantly as externalizing behaviors. The percentages of the exposures garnered from the EHS-ACE index for each age group were another statistical measure used. Significant findings were noted in two and three year old children regarding parental separation or divorce at 27% and the 32. 8% respectively. Physical Neglect was notably high for one and two year olds at 37. 4 % and 34. 1% respectively. Children at age 11 had higher ACE exposures in Parental separation/divorce, household incarcerations, and physical neglect at 33. 6%, 27. 3%, and 27. 9% respectively. (McKelvey et al., 2018, p. 172) The methods for statistical data collection were closely aligned with the ACE indicators and measured the same subcategories effectively as it correlates with existing studies on longitudinal ACE studies related to maladaptive behavior. The area of attention issues has not previously been studied.

The results of the study clearly show “ early exposure to adversity is associated with difficulty regulating emotion and increases in aggressive behavior”. (McKelvey et al., 2018, p. 174) As the number of ACEs exposures increased, so did the number of students with IEPs, externalizing behavior, internalizing behavior and attention issues. Children with two or more ACE scores had a significantly higher percentage of IEPs than children with an ACE score of one. Externalizing behaviors in children who experienced two or more ACE exposures were significantly higher than children with an ACE score of zero. For all subsets, the data, at minimum, doubles going from one ACE exposure to three or more exposures. Looking at the indicators in the Early Head Start-Adverse Childhood Exposure index (EHS-ACE), percentages increased in all areas for two and three year olds. Physical neglect between

the ages of one and two years of age was higher than any other age level and drastically reduced at age three. This makes sense considering at three years of age, children are more mobile and communicative. Parental separation was also a highly indicated between two and three years old, which was greater than all of the other subsets that were observed from the adapted ACEs indicator. Household incarcerations were about 32% for each of the age levels.

Parents in low income communities need support and assistance, especially during infancy and toddlerhood. Early detection of ACEs and availability to resources, parenting resources and counseling would benefit families by possibly alleviating exposures to ACEs. Early intervention with counselors on self-regulation and mindfulness activities and strengthening Social Emotional Competencies to help reduce the effects of trauma would effectively reduce the percentage of students with academic status and behavioral needs. Providing teachers with trauma informed instruction practices would help students already in the school systems like Positive Behavior and Intervention Support models and Cognitive Behavioral Interventions.

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