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The Effects of Stage of Onset and Type of Abuse on Cooperation and Aggression in Children

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This study evaluated effects of stages of child maltreatment onset and types of maltreatment on cooperation and aggression. Data from a previously conducted study at Cornell University were used. Participants ($N = 300$) experienced an onset of abuse at one of four stages (infancy, toddlerhood, preschool, school age) and experienced one or more forms of childhood maltreatment. Outcome measures included Pupil Evaluation Inventory (PEI), Behavior Ratings (BR), and Peer Nominations (PN) of Cooperation and Aggression. To avoid small cell sizes, the predictors were dichotomized into infancy or later for stage of onset and single or multiple maltreatment forms for type of maltreatment. All effects were non-significant, excluding one. Higher levels of aggression, as measured by the PN and BR, were observed for stages after infancy, however only at Year 4. Although mostly concluding with non-significant findings, they still emphasize consequences maltreatment has on social functioning. Instead of differentiating between age of onset or types of abuses experienced, these findings reveal that any type of abuse at any age detrimentally impacts children's social interactions.

Keywords: child maltreatment, cooperation, aggression, peer interaction, sociability, attachment

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Child maltreatment is a global phenomenon associated with severe maladaptive behavioral, cognitive, and emotional consequences for victims throughout their lives. In 2015, the United States (U.S.) alone reported approximately 683,000 child victims, an increase of 3.8 percent since 2011 (U.S. Department of Health & Human Services, 2017). Of these victims, 1,670 children died because of abuse and neglect. Younger children are at an increased risk for maltreatment; 27.7 percent of national victims were younger than three years old (U.S. Department of Health & Human Services, 2017). The Centers for Disease Control and Prevention (CDC, 2017) note that being under the age of four is a risk factor for victimization.

Child maltreatment exists in several forms: physical abuse, emotional abuse, sexual abuse, and neglect. Neglect is the most prevalent form of maltreatment impacting three-quarters of all child maltreatment victims (U.S. Department of Health & Human Services, 2017). Once children are exposed to one form of maltreatment they are extremely likely to experience multiple, rejecting an interpretation that each abuse occurs as an independent event (Dong, Anda, Felitti, Dube, Williamson, Thompson, Loo, & Giles, 2004; Dong, Anda, Dube, Giles, & Felitti, 2003; Mullen, Martin, Anderson, Romans, & Herbison, 1996). Research involving 8,629 participants measuring adverse childhood experiences (ACEs), which include emotional, physical, and sexual abuse and emotional and physical neglect, reported 86.5 percent of participants who experienced one ACE also experienced another and 38.5 percent experienced four or more additional ACEs. Those with one ACE had 2-18 times the likelihood of having another compared to participants with no reported ACEs (Dong et al., 2004).

The consequences of child maltreatment are both immediate and long-term. Children raised by abusive and neglectful caregivers often develop insecure attachment styles that stifle key relationships later in life. Maladaptive peer interactions later follow because children fail to develop social competencies due to the instability and social isolation inherited within their disorganized, chaotic home environment (Darwish, Esquivel, Houtz, & Alfonso, 2001; Fagot, 1997). Moreover, experiencing multiple ACEs increases the severity of negative emotional and behavioral outcomes for children and adolescents. Multiple ACEs predict a lack of emotional support and insecure attachment tendencies in adults (Murphy et al., 2014). A meta-analysis published by Hughes et al. (2017) reviewed 37 studies with a total of 253,719 participants and compared outcomes across various numbers of ACEs. Researchers found that individuals who had experienced multiple ACEs were at extreme risk for problematic substance abuse and behavior violence (odds ratios greater than seven). This evidence suggests that multiple ACEs predict a compounding effect on the severity of health and behavior outcomes, perhaps because numerous ACEs indicate that children are lacking support, resources, and secure relationships in multiple areas of their life.

Research regarding classroom behavior in school-aged children who were victims of abuse and neglect shows that they are significantly more likely to be disliked and rejected by their peers (Blogger & Patterson, 2001). Lack of acceptance by their peers may stem from problem behaviors such as increased physical and verbal aggression, less initiation of interaction with peers, poor self-control in conflict situations, withdrawal from others, and lack of prosocial skills when compared with their non-maltreated peers (Kim & Cicchetti, 2009). These aspects of peer interaction greatly determine their social status; ratings of

likeability show that a history of maltreatment is a predictor of being overtly disliked by other classmates (Anthonysamy & Zimmer-Gembeck, 2007; Darwish et al., 2001; Hildyard & Wolfe, 2002).

Based on the theoretical perspectives of Bowlby (1958, 1969) and Ainsworth (1964, 1967, 1969), attachment is an affectionate bond that shapes a child's future behavior and sociability. Developers of attachment theory viewed caregiver sensitivity and responsiveness as the cornerstone of defining secure attachment. Quality of attachment is founded upon appropriateness and promptness of the adult's response to the infant who signals for care (Bowlby, 1988; Bell & Ainsworth, 1972). In the presence of abuse or neglect, there is an absence of caregiver sensitivity and responsiveness to the infant's basic needs or desires which is believed to compromise their ability to build a secure attachment (Baer & Martinez, 2006).

Previous research shows that the quality of attachment experienced during infancy strongly predicts later childhood behavior (Savage, 2014). Insecure attachment correlates with the development of various behavioral problems, including aggression and poor social skills in interactions with peers (Erikson, Sroufe, & Egeland, 1985). Moreover, the infant-caregiver relationship predicts longitudinal outcomes of aggressive behavior towards peers at school. Insecure (avoidant) attachment styles have also been shown to relate to numerous other behavioral problems including assaultive behavior, aggression, antisocial behavior, and impulsiveness (Bowlby, 1984; George & Main, 1979; Finzi, Ram, Har-Even, Shnit, & Weizman, 2001). The attachment and interactions children develop with caregivers from a young age and then into childhood determine the nature of their relationships outside the home (Finzi et al., 2001) and in later developmental stages, even into adulthood (Hansen et al., 2011). In a study conducted with a sample of prison inmates, insecure (anxious and avoidant) attachment styles were the strongest predictors for aggression, more so than personality dimensions (Hansen, Wage, Eid, Johnsen, & Hart, 2011).

Given the status of research in child maltreatment, two hypotheses were considered for the present study to extend past efforts. The first hypothesis predicts that earlier onset of abuse during infancy would predict higher levels of aggression and lower levels of cooperation compared to an onset of abuse during toddlerhood, preschool age, and school age. The second hypothesis predicts that — parallel to the compounding effect of ACEs — children suffering from multiple types of maltreatment would show more aggression and less cooperation than children suffering from only one single type of maltreatment.

Method

Data and Participants

The data used in this publication were made available by the National Data Archive on Child Abuse and Neglect (NDACAN), Cornell University, Ithaca, New York, and have been used with the permission of the researchers. Data were originally collected by Dante Cicchetti, Fred Rogosch, Jody Todd Manly, and Michael Lynch (2005) for a study entitled *Longitudinal Pathways to Resilience in Maltreated Children*. Funding for the project was provided by the National Center on Child Abuse and Neglect, U.S. Department of Health and Human Services (Award Number: 90CA1635). The collector of the original data, the funder, NDACAN, Cornell University and their agents or employees bear no responsibility

for the analyses or interpretations presented here.

Participants included 300 children ranging from ages 5 to 11 during baseline assessments for the four-year longitudinal study. Of the 300 children, 56% had a history of child maltreatment and were referred for participation from the local Department of Social Services agency. The remainder of the sample included demographically comparable children without any previous incidence of maltreatment. The families that participated in the study resided in Upstate New York, particularly in urban neighborhoods with a high concentration of poverty, crime, and community violence.

The study was conducted through a week-long summer camp program. Children were assigned to groups of same-sex, same-age peers that they would participate in all the recreational activities provided throughout the week. Within these groups, half of the children had a history of maltreatment while the other half did not. Along with recreation, children played an active role in the research by completing interviews with research assistants. Each group was directed by three camp counselors who also participated in the research assessments of the children. Caregivers of each child were interviewed during a home visit that occurred within one month of the camp to ensure that parents' responses and ratings occurred in the same time frame as their children's.

Measures

Maltreatment Classification System. Maltreatment history for each child was determined using official records obtained by the Department of Social Services. Trained research assistants used the Barnett, Manly, and Cicchetti (1993) nosological classification system which allowed them to identify many factors of maltreatment including subtype, severity, frequency, developmental period in which maltreatment occurred, perpetrator, and number of court-ordered separations between primary caregiver and child.

Given the statistical probability of early onset of abuse both in general (Kaplow & Widom, 2014) and within our sample, stage of maltreatment onset was classified as in infancy ($n = 72$) or after infancy ($n = 37$). A variable to indicate whether a child had suffered a single type ($n = 33$) of maltreatment or multiple types ($n = 76$) of maltreatment was also constructed. There were 23 children who experienced only one type of maltreatment that began in infancy, 60 children who experienced more than one type of maltreatment beginning in infancy, 16 children who experienced only one type of maltreatment that began after infancy, and 29 children who experienced more than one type of maltreatment beginning after infancy. A chi-square test of independence revealed that there was not a statistically significant relationship between stage of onset and number of maltreatments in the sample, $\chi^2(1, N = 128) = .85, p = .357, \phi = .08$.

Pupil Evaluation Inventory (PEI). The PEI contains 35 items that identify types of behavior associated with psychopathology. The PEI was designed for first through ninth grade children, which warrants its use on this specific sample (Pekarik, Prinz, Liebert, Weintraub, & Neale, 1976). It was conducted by each child's camp counselor who was asked to name one to two children that best fit a given description. Some examples of descriptions are: "Start a fight over nothing," "Get mad when they don't get their way," and "Are mean and cruel to other children." The PEI scores for the present data were standardized.

Behavior Ratings. Behavior ratings (BR) were also completed by camp counselors, twice throughout the week-long camp. The ratings measured three areas of interpersonal

functioning: prosocial behavior, aggression, and withdrawal. Evaluations of the children's behavior were determined by observing the children during 45 minutes of unstructured play time ranging from 0 (not at all descriptive) to 6 (highly descriptive). Descriptions varied from "Was considerate and thoughtful of others; helpful and cooperative" to "Was physically aggressive; hit, pushed, acted out against others."

Peer Nominations. Peer nominations (PN) were assessed by the children on the last day of camp. Children both nominated other children in their group and themselves. They are presented pictures of each group member to keep every member in mind. Each child nominates other group members for the following: likes most, likes second most, likes least, likes second least, most cooperative, most disruptive, acts shy, most likely to start fights, and leader. Children can nominate a single individual for more than one descriptive. Then the child is also asked to pick one of the last five descriptions to characterize themselves. The total peer nominations belonging to each child for each category are calculated and then converted into proportions of possible nominations within each category.

Outcome Variables. Using these three forms of behavioral assessment, multivariate outcomes for cooperation and aggression were constructed. A PN, PEI, and BR were considered for each of the multivariable constructions. The bivariate correlations between the cooperation variables at Year 3 were all statistically significant, $ps \leq .001$, and ranged from $.21 \leq r \leq .44$. The bivariate correlations between the aggression variables at Year 3 were all statistically significant, $ps < .001$, and ranged from $.38 \leq r \leq .66$. The bivariate correlations between the cooperation variables at Year 4 were all statistically significant, $ps < .001$, and ranged from $.32 \leq r \leq .48$. The bivariate correlations between the aggression variables at Year 4 were all statistically significant, $ps < .001$, and ranged from $.50 \leq r \leq .68$.

Results

Two multivariate analyses of covariance (MANCOVAs) were performed to assess the effects of stage of onset (infancy or after infancy) and number of maltreatments (single or multiple) on the Cooperation and Aggression—each indicated by three variables—controlling for the age of the child at assessment and the child's sex. Using Wilk's criteria (Λ) for the multivariate analysis of Cooperation at Year 3, there were no significant effects of stage of onset or number of maltreatments. These results were replicated in the Year 4 Cooperation data, as there were no effects of stage of onset or number of maltreatments. There were no significant effects of the covariates either (see Table 1).

Similarly, for the MANCOVA for Aggression there were no significant effects of stage of onset or number of abuses at Year 3. In Year 4 for Aggression, there was still not a significant effect of number of maltreatments; however, there was a significant effect of stage of onset. There was a significant effect of Sex at Year 3 and Year 4, with males having higher average ratings of Aggression. There was not a significant effect of age at Year 3 or Year 4. The univariate follow-up tests revealed that the effect of stage of onset was significant for the PN and for the BR, but not for the PEI (see Table 1). Higher levels of Aggression as measured by the PN were observed for those whose abuse started after infancy ($M = .59$, $SE = .17$) than for those who started during infancy ($M = .06$, $SE = .14$). This result was mimicked in the BR measure for Aggression (infancy: $M = 1.29$, $SE = .14$; after infancy: $M = 1.97$, $SE = .18$). Although the effect was not significant, the same tendency

was observed for the PEI measure (infancy: $M = .11$, $SE = .14$; after infancy: $M = .46$, $SE = .18$).

Discussion

Overall, the results indicate that the number of maltreatments experienced by a child did not significantly affect Cooperation or Aggression. Stage of onset (infancy or later) did not have a significant effect on Cooperation or Aggression at the first follow-up measure (Year 3). However, stage of onset was related significantly with Aggression measures taken at Year 4 with children experiencing onset of abuse *after infancy* having higher levels of

Aggression, specifically as measured by the Peer Nominations and Behavior Ratings. The results are contrary to the hypothesized effect. They indicate that greater Aggression might result from an onset of abuse after infancy. However, these results should be interpreted in light of the use of per-comparison alpha values ($\alpha = .05$) and the remainder of the null findings.

Despite the present findings, past research evinces that childhood maltreatment in very young populations — infants and toddlers — leads to negative effects for children and those within their social spheres. Maltreatment and abuse are traditionally categorized by emotional abuse, physical abuse, sexual abuse, and neglect. Developmentally, children that experience each form of maltreatment have a greater risk of experiencing emotional, physical, and sociopsychological abnormalities, including increased aggression and decreased cooperation. Moreover, a single form of maltreatment significantly increases the likelihood of experiencing another form of maltreatment. To extend the state of current research, the present study addressed two primary hypotheses. Firstly, researchers predicted that an exposure to maltreatment during earlier stages of development would predict greater levels of aggression and lower levels of cooperation, per the framework of Bowlby's attachment theory

(1958, 1969). Secondly, researchers predicted that the presence of multiple forms of maltreatment would also predict greater aggression and lower cooperation, aligning with research concerning the compounded negative effects of multiple ACEs (Dong et al., 2004).

The analyses did not provide significant grounds for rejecting the null hypotheses. All effects resulted in non-significant conclusions, excluding one. There was a significant effect of age of onset for aggression, however only at Year 4. This finding could be explained by Albert Bandura's social learning theory (1973, 1978). Bandura and colleagues experimented

Table 1. Summary of Model Results

	<i>F</i>	<i>dfn</i>	<i>dfd</i>	<i>p</i>	<i>R</i> ²
Cooperation					
Stage of Onset					
Year 3	.52	3	101	.669	.02
Year 4	.75	3	104	.527	.02
Maltreatments					
Year 3	.79	3	101	.504	.02
Year 4	.44	3	104	.728	.01
Sex					
Year 3	.35	3	101	.786	.01
Year 4	.72	3	104	.545	.02
Age					
Year 3	2.68	3	101	.051	.07
Year 4	2.18	3	104	.095	.06
Aggression					
Stage of Onset					
Year 3	.67	3	101	.572	.02
Year 4	3.53	3	104	.017*	.09
PN	5.94	1	106	.016*	.05
BR	8.77	1	106	.004*	.08
PEI	2.37	1	106	.127	.02
Maltreatments					
Year 3	.63	3	101	.597	.02
Year 4	.62	3	104	.605	.02
Sex					
Year 3	5.34	3	101	.002*	.14
Year 4	3.27	3	104	.024*	.09
Age					
Year 3	1.42	3	101	.241	.04
Year 4	1.63	3	104	.186	.05

Note. PN = Peer Nominations; BR = Behavior Ratings; PEI = Pupil Evaluation Inventory.

* $p < .05$

on children from ages 3 to 5 and demonstrated that exposure to both human and filmed models of aggression doubled aggressive behavior observed in children compared to a control group that was not exposed to aggressive models (Bandura, Ross, & Ross, 1963). Social learning theory stemming from this experiment asserts that children learn aggressive behaviors through modeling, or rather observational learning processes (Bandura, 1973). Frequent exposure to aggression in childhood teaches that hitting and hurting should be replicated in their own interpersonal relationships. Children are observing these behaviors from the adults in their household, whom they regard implicitly as role models. A home environment characterized by aggression creates a behavioral norm that encourages the child's mimicry (Bandura, 1973). Receiving and observing frequent aggression leads to emulation of aggression outside the home and within their peer interactions (Garcia, Restubog, & Denson, 2010).

The results of the present study claim that abuse after infancy (including toddlerhood, preschool age, and school age) significantly influence an increase in aggressive behaviors, interpreted in light of social learning theory where children have been shown to double their own aggressive behaviors when shown models of aggression. This interpretation is supported by the work of Kaplow and Widom (2007) who found that early onset of maltreatment led to anxiety and depressive symptoms in adulthood, whereas later onset of abuse during childhood led to anti-social personality symptoms. Thornberry, Ireland, and Smith (2001) also found that individuals abused in later childhood were more likely to drop out of high school and be rated by their parents as having externalizing behavioral problems but not internalizing problems such as anxiety and depression.

Retaining the null in this case still upholds impactful conclusions. These findings emphasize that abuse beginning at any age, whether at infancy or beyond school age, all produce negative social effects. Surprising to the researchers and contrary to past research, developmental periods did not have a substantial impact on social outcomes for child. This suggests that perhaps that abuse during any developmental stage disrupts child-caregiver attachment and accordingly reflects negative social effects in peer relations. Furthermore, these findings may indicate a more nuanced effect of developmental period on externalizing behavior. The results suggest that maltreatment in later childhood may be uniquely predictive of antisocial behaviors patterns in adulthood (Kaplow & Widom, 2007; Thornberry et al., 2001). Future studies should test this interpretation by juxtaposing externalizing symptoms and internalizing symptoms as a function of maltreatment onset during childhood.

These findings also emphasize that experiencing one type of abuse leads to similar outcomes as experiencing multiple types of abuse. Children who experienced one form of abuse were likely to experience similar social repercussions endured by children who experienced all four forms of abuse. Whether experiencing a single or multiple types of abuse, being victimized increased aggression and decreased cooperation. Future studies should assess abuse across varying levels of frequency, severity, and variety and examine impact across behavioral, social, and emotional symptom spectra.

Limitations

The current study has limitations that warrant some discussion. First, the sample size was relatively small, with slightly over half of the 300 participants having a history of maltreatment and qualifying to be included in our research design. The participants

were also drawn from an urban community, the inner city of Rochester, New York. The neighborhoods where families of the study resided were characterized by high rates of violent crime and poverty. With these unique circumstances, the findings of this study may only generalize to children similarly living in urban neighborhoods exposed to community violence and poverty. Another limitation is that the participants' camp counselors were solely responsible for the PEI and BR measures. The camp counselors only spent five days with the children and might not stand as reliable sources for answering such telling questions of psychopathology and interpersonal functioning.

Clinical and Future Implications

Although the findings of this study were contrary to our expectations, it still does not refute the consequences child maltreatment can have on social functioning and behavior. Receiving signals of dislike and rejection due to antisocial behavior along with experiencing maltreatment at home, can produce several unwanted ramifications. Children in this scenario are projected to develop a wide range of mental disorders including depressive disorders, anxiety disorders, eating disorders, personality disorders, and childhood behavioral/conduct disorders. Other health consequences of physical, emotional, sexual abuse and neglect include drug and alcohol use, suicide attempt, sexually transmitted infections, risky sexual behavior, prostitution, and teenage parenthood (Norman, Byambaa, De, Butchart, Scott, & Vos, 2012; Hildyard & Wolfe, 2002). The aftermath of child maltreatment also has lasting impacts on their functioning in society. Twenty-eight year olds with a history of abuse and neglect scored lower on tests of intelligence, including reading abilities, than did those who did not experience maltreatment (Hildyard & Wolfe, 2002). A history of neglect also predicts a life of delinquency, adult criminal behavior, arrests for violent crimes, and incarceration (Hildyard & Wolfe, 2002; Roos, Afifi, Martin, Pietrzak, Tsai, & Sareen, 2016; Widom, 1996). Child maltreatment should continue to be explored by the clinical field to grasp a better understanding of the effects child maltreatment has on social functioning and aggressive behavior. This topic must be exhaustively and rigorously examined in order to provide solutions, in the form of interventions and treatment, available to individuals experiencing these terrorizing effects on behalf of prior abuse and/or neglect.

References

- Ainsworth, M. D. (1964). Patterns of attachment behavior shown by the infant in interaction with his mother. *Merrill-Palmer Quarterly of Behavior and Development*, *10*(1), 51–58.
- Ainsworth, M.D.S. (1967). *Infancy in Uganda: Infant care and the growth of attachment*. Baltimore, MD: Johns Hopkins Press.
- Ainsworth, M. S. (1969). Object relations, dependency, and attachment: A theoretical review of the infant-mother relationship. *Child Development*, *40*(4), 969–1025.
- Anthonsamy, A., & Zimmer-Gembeck, M. J. (2007). Peer status and behaviors of maltreated children and their classmates in the early years of school. *Child Abuse & Neglect*, *31*(9), 971–991. doi:10.1016/j.chiabu.2007.04.004
- Baer, J. C., & Martinez, C. D. (2006). Child maltreatment and insecure attachment: a meta-analysis. *Journal of Reproductive and Infant Psychology*, *24*(3), 187–197.
- Bandura, A., Ross, D., & Ross, S. A. (1963). Imitation of film-mediated aggressive models. *Journal of Abnormal and Social Psychology*, *66*, 3–11.
- Bandura, A. (1973). *Aggression: A social learning analysis*. Prentice-Hall, Englewood Cliffs, NJ.
- Bandura, A. (1978). Social learning theory of aggression. *Journal of Communication*, *28*(3), 12–29. doi:10.1111/j.1460-2466.1978.tb01621.x
- Barnett, D., Manly, J. T., & Cicchetti, D. (1993). Defining child maltreatment: The interface between policy and research. In D. Cicchetti & S. L. Toth (Eds.), *Child abuse, child development, and social policy* (pp. 7–73). Norwood, NJ: Ablex.
- Bell, S. M., & Ainsworth, M. D. (1972). Infant crying and maternal responsiveness. *Child Development*, *43*(4), 1171–1190. doi:10.2307/1127506
- Bloger, K. E. & Patterson, C. J. (2001). Developmental pathways from child maltreatment to peer rejection. *Child Development*, *72*(2), 549–568.
- Bowlby, J. (1958) The nature of the child's tie to his mother. *International Journal of Psycho-Analysis*, *39*, 350–373.
- Bowlby, J. (1969). *Attachment and loss, Vol. I: Attachment*. New York: Basic Books.
- Bowlby, J. (1984). Violence in the family as a disorder of the attachment and caregiving system. *The American Journal of Psychoanalysis*, *44*(1), 9–27.
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. New York: Basic Books.
- Centers for Disease Control and Prevention. (2017). *Child abuse and neglect: risk and protective factors*. Retrieved from <https://www.cdc.gov/violenceprevention/childabuseandneglect/riskprotectivefactors.html>
- Cicchetti, D., Rogosch, F., Manly, J. T., & Lynch, M. (2005). Longitudinal pathways to resilience in maltreated children [Dataset]. Available from National Data Archive on Child Abuse and Neglect Web site at <http://www.ndacan.cornell.edu>
- Darwish, D., Esquivel, G. B., Houtz, J. C., & Alfonso, V. C. (2001). Play and social skills in maltreated and non-maltreated preschoolers during peer interactions. *Child Abuse & Neglect*, *25*(1), 13–31. doi:10.1016/S0145-2134(00)00228-3
- Dong, M., Anda, R., Dube, S., Giles, W., & Felitti, V. (2003). The relationship of exposure to childhood sexual abuse to other forms of abuse, neglect, and household dysfunction during childhood. *Child Abuse & Neglect*, *27*(6), 625–639.
- Dong, M., Anda, R., Felitti, V., Dube, S., Williamson, D., Thompson, T., Loo, C., & Giles, W. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect*, *28*(7), 771–784.
- Erickson, M. F., Sroufe, L. A., & Egeland, B. (1985). The relationship between quality of attachment and behavior problems in preschool in a high-risk sample. *Monographs of the Society for Research in Child Development*, *50*(1–2), 147–166. <https://doi.org/10.2307/3333831>
- Fagot, B. I. (1997). Attachment, parenting, and peer interactions of toddler children. *Developmental Psychology*, *33*(3), 489–499. doi:10.1037/0012-1649.33.3.489
- Field, T., Woodson, R., Greenberg, R., & Cohen, D. (1982). Discrimination and imitation of facial expressions by neonates. *Science*, *218*(4568), 179–181.
- Fenzi, R., Ram, A., Har-Even, D., Shnit, D., & Weizman, A. (2001). Attachment styles and aggression in physically abused and neglected children. *Journal of Youth And Adolescence*, *30*(6), 769–786. doi:10.1023/A:1012237813771

- Garcia, P. M., Restubog, S. D., & Denson, T. F. (2010). The moderating role of prior exposure to aggressive home culture in the relationship between negative reciprocity beliefs and aggression. *Journal of Research in Personality, 44*(3), 380–385.
- George, C., & Main, M. (1979). Social interactions of young abused children: Approach, avoidance, and aggression. *Child Development, 50*(2), 306–318. doi:10.2307/1129405
- Hansen, A. L., Waage, L., Eid, J., Johnsen, B. H., & Hart, S. (2011). The relationship between attachment, personality and antisocial tendencies in a prison sample: A pilot study. *Scandinavian Journal of Psychology, 52*(3), 268–276. doi:10.1111/j.1467-9450.2010.00864.x
- Hildyard, K. L., & Wolfe, D. A. (2002). Child neglect: developmental issues and outcomes. *Child Abuse & Neglect, 26*(6), 679–695. doi:10.1016/S0145-2134(02)00341-1
- 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. *Lancet Public Health, 2*(8), 356–366. doi:10.1016/S2468-2667(17)30118-4
- Meltzoff, A. N., & Moore, K. M. (1983). Newborn infants imitate adult facial gestures. *Child Development, 54*(3), 702–709. doi:10.2307/1130058
- 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.
- Kaplow, J. B., & Widom, C. S. (2007). Age of onset of child maltreatment predicts long-term mental health outcomes. *Journal of Abnormal Psychology, 116*(1), 176–187. doi:10.1037/0021-843X.116.1.176
- Kim, J., & Cicchetti, D. (2009). Longitudinal pathways linking child maltreatment, emotion regulation, peer relations, and psychopathology. *Journal of Child Psychology Psychiatry, 51*(6), 706–716.
- Mullen, P. E., Martin, J. L., Anderson, J. C., Romans, S. E., & Herbison, G. P. (1996). The long-term impact of the physical, emotional, and sexual abuse of children: A community study. *Child Abuse & Neglect, 20*(1), 7–21. doi:10.1016/0145-2134(95)00112-3
- Norman, R. E., Byambaa, M., De, R., Butchart, A., Scott, J., & Vos, T. (2012). The long-term health consequences of child physical abuse, emotional abuse, and neglect: A systematic review and meta-analysis. *Plos Medicine, 9*(11), e1001349.
- Pekarik, E., Prinz, R., Liebert, D., Weintraub, S., & Neale, J. (1976). The Pupil Evaluation Inventory: A sociometric technique for assessing children's school behavior. *Journal of Abnormal Child Psychology, 4*(1), 83–97.
- Roos, L. E., Afifi, T. O., Martin, C. G., Pietrzak, R. H., Tsai, J., & Sareen, J. (2016). Linking typologies of childhood adversity to adult incarceration: Findings from a nationally representative sample. *American Journal of Orthopsychiatry, 86*(5), 584–593. doi:10.1037/ort0000144
- Savage, J. (2014). The association between attachment, parental bonds and physically aggressive and violent behavior: A comprehensive review. *Aggression & Violent Behavior, 19*(2), 164–178. doi:10.1016/j.avb.2014.02.004
- Thornberry, T. P., Ireland, T. O., & Smith, C. A. (2001). The importance of timing: The varying impact of childhood and adolescent maltreatment on multiple problem outcomes. *Development and Psychopathology, 13*, 957–979.
- U.S. Department of Health & Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2017). *Child maltreatment 2015*. Retrieved from <https://www.acf.hhs.gov/cb/research-data-technology/statistics-research/child-maltreatment>.
- Widom, C. S. (1996). Childhood sexual abuse and its criminal consequences. *Society, 33*(4), 47–53.

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