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## The Influence of Childhood Abuse and Neglect on Self-Esteem, Violence, and Depressive Symptoms in Early Adulthood

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THE INFLUENCE OF CHILDHOOD ABUSE AND NEGLECT ON SELF-ESTEEM,  
VIOLENCE, AND DEPRESSIVE SYMPTOMS IN EARLY ADULTHOOD

By

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## ABSTRACT

This study explores the effects of childhood abuse and neglect on early adulthood outcomes of violent behavior, depressive symptoms, and self-esteem. Protective factors including verbal intelligence, family attachments, and neighborhood conditions measured during adolescence were included to assess whether these factors can explain why some victims of childhood abuse and neglect fare better than others in early adulthood. Using data from Waves I and III of the public-use version of the National Longitudinal Study of Adolescent to Adult Health (Add Health), bivariate correlations were employed to evaluate the strength of the relationships between childhood abuse and neglect and the dependent variables in this study. T-tests and Chi-square tests were also used to measure the differences in protective factors and outcomes across groups of victimized children and children who were not subject to abuse and neglect. Results indicated that individuals who were abused and neglected during childhood were more likely to experience negative outcomes in early adulthood. Further, abused or neglected individuals tended to have lower intelligence, weaker family attachments, and tended to live in more problematic neighborhoods during adolescence. Nevertheless, abuse and neglect during childhood does not guarantee individuals will experience negative outcomes in early adulthood, especially in the presence of protective factors.

According to the most recent statistics, 7.2 million cases of abuse and neglect involving children occur in the United States each year (Children's Bureau, 2015). This is especially problematic since researchers note that abuse or neglect at the hands of parents or caregivers increases the likelihood of violent behavior, depressive symptoms, and low self-esteem later in life (Herrenkohl, Klika, Herrenkohl, Russo, & Dee, 2012; Widom, Dumont, & Czaja, 2007b; Wright & Fagan, 2013). The far-reaching impact of childhood trauma should be of concern to criminologists, public health practitioners, school administrators, and all other professionals, alike.

While findings suggest that abuse and neglect during childhood results in adverse consequences in adulthood, most abused and neglected youth do not become delinquent, criminal, or violent (Widom, 1989). Indeed, some studies suggest that as much as 89 percent of the abused and neglected population do not have an official record of a violent offense (Widom, 1989). Furthermore, research by Widom, Dumont, and Czaja (2007a) notes that nearly half of abused and neglected children are resilient to problems such as arrest, violent behavior, and psychiatric disorder in adolescence, and 30 percent are resilient to these problems in young adulthood. Nevertheless, research indicates that there is still very little known in regards to why some abused and neglected children experience problems later in life and why others do not (Wright, Turanovic, O'Neal, Morse, & Booth, 2016).

One explanation for this may be found in the various protective factors characteristic of some youth. Protective factors are elements of an abused or neglected child's life that reduce adversity following a challenging experience (Thompson, 2010). Cited protective factors include personality aspects and circumstances such as self value, creative problem solving, positive peer relationships, availability of academic engagement programs, above average intelligence, familial

attachments, and certain neighborhood characteristics (Thompson, 2010; Jaffee, Caspi, Moffitt, Polo-Tomas, & Taylor, 2007).

The current study will utilize data from Waves I and III of the public-use version of the National Longitudinal Study of Adolescent to Adult Health (Add Health) to examine the relationship between child abuse and trauma on violent behavior, depressive symptoms, and low self-esteem in early adulthood. This self-report data from surveys administered to students (averaging fifteen years of age at Wave I, and twenty-two years of age at Wave III) offers key insight into protective factors such as intelligence, familial attachments, and neighborhood characteristics that may differentiate resilient from non-resilient children.

## CONSEQUENCES OF CHILD ABUSE AND NEGLECT

### VIOLENT BEHAVIOR

Links between child abuse and neglect and later violent behavior exist across geographical locations, throughout the life span, and within numerous studies that control for varying characteristics and use very different statistical measures. Studies find that maltreated children are often younger at the age of first arrest and commit nearly twice as many offenses as non-maltreated children (Widom & Maxfield, 2001). Committing crimes earlier and with greater frequency are commonly associated with negative life-trajectories and worsening offenses over time, including more self-reported and officially documented violent behavior (Widom, 2014). Implications of this include the understanding that, as individuals participate in more crimes over the lifespan, their crimes will increase in seriousness and variety to include violent misconduct.

Countless studies investigating the root causes of violent behavior in general have proposed several explanations to understand the phenomenon. Researchers cite early environmental

exposures to specific chemicals and biological predispositions that, when mixed with the right circumstances, result in violent behavior (Widom, 2014). For example, social learning theory posits that children learn from others that violence is an appropriate response to stressors, and merely imitate the behaviors of their role models (Akers, 2011), while strain theory states that delinquency is a reasonable response to the inability to escape stressful situations (Agnew, 2006; Widom, 2014). Widom (2014) strongly suggests, however, that the various forms of violent behavior development must be understood in their own right, and credits mental health concerns, educational achievement, IQ, parental arrest or substance abuse, and other common correlations of child abuse and neglect with the onset of maladaptive violent behavior.

While violence is also characteristic of populations not subjected to early childhood victimization, the experience of childhood abuse and neglect is frequently an antecedent to violent behavior and even doubles the risk of violence among girls (Widom, 2014). It is estimated that victims of substantiated cases of maltreatment are eleven times more likely to be arrested for a violent offense as juveniles, nearly three times more likely to be arrested for a violent offense as adults, and three times more likely to be arrested for a violent offense in general (Widom, 2014). Despite this evidence, however, child abuse and neglect and its relationship to violent behavior is not deterministic or inevitable (Widom, 2014).

## DEPRESSION

A positive correlation between youth victimization and depression also exists, such that as victimization increases, reported depressive symptoms also increase (Turanovic & Pratt, 2015). Findings support the notion that not only does the abused and neglected population experience greater symptoms of depression, but they also experience significantly more episodes of depression

throughout early adulthood (Widom et al., 2007b; Widom, 2014). These episodes typically begin considerably earlier in the lifespan for abused and neglected populations (Widom et al., 2007b). In regards to depressive disorder diagnoses, the odds of a diagnosis are elevated for individuals with histories of maltreatment to three to four times that of youth without histories of maltreatment (Brown, Cohen, Johnson, & Smailes, 1999). These heightened rates are characteristic of both adolescence and early adulthood for victimized individuals, as well as in neglect-only circumstances (Brown et al., 1999).

These findings support the notion that both physical abuse and neglect have individual impacts on depression. Depression and other adverse outcomes can be initiated as maladaptive coping mechanisms are used to manage past victimization experiences. These may also include substance abuse and social isolation that further exacerbate the effects of such outcomes (Turanovic & Pratt, 2015). Maladaptive coping mechanisms are the aversive means by which affected individuals attempt to come to terms with their victimization (Agnew, 2006). The negative outcomes of abuse and neglect may not manifest in outward behavior like violence, but can instead appear as internal conflicts such as depression, substance abuse, and social isolation.

## LOW SELF-ESTEEM

Childhood maltreatment remains a significant predictor of self-esteem, even when controlling for other important factors such as socioeconomic status (SES) and gender (Herrenkohl et al., 2012). Prior research has found self-esteem to be negatively-correlated with both childhood physical abuse and neglect, where the more physical abuse and neglect individuals experience, the lower their self-esteem (Herrenkohl et al., 2012). In some prior studies, the self-esteem findings

were specific to women (Turanovic & Pratt, 2015), while in others, the effects were general across males and females (Herrenkohl et al., 2012).

Low self-esteem is also cited as a result of maladaptive coping mechanisms in response to prior victimization, similar to depression (Turanovic & Pratt, 2015). Several studies have also considered self-esteem in the context of a protective factor, where a higher self-esteem distinguishes between well-adjusted individuals and those with psychological well-being concerns (David, Ceschi, Billieux, & Van der Linden, 2008; Herrenkohl et al., 2012). These studies have further called for continued research that considers how self-esteem is related to different types of childhood maltreatment, which is the focus of the present study.

#### PROTECTIVE FACTORS FOR VICTIMS OF CHILD ABUSE AND NEGLECT

A study of the effects of adolescent abuse and neglect would not be complete without consideration of protective factors, as countless studies indicate varying levels of resiliency among abused and neglected children that cannot be explained in the absence of a protective factor analysis. (e.g. Jaffee et al., 2007; Widom et al., 2007a; Herrenkohl et al., 2012; Thompson, 2010) Circumstances present at the onset, duration, and directly following a stressor will have some impact on the overall influence of the stressor. The availability of positive features in relation to the cognitive, emotional, environmental, social, and spiritual experiences of an individual are associated with resilience in response to victimization, and aid in explaining why some children experience issues that others do not (Thompson, 2010). The present study intends to consider protective factors related to the individual, the family, as well as the broader community.

#### INTELLIGENCE

Intelligence has been subjected to additional scrutiny over other protective factors. However, advanced intelligence is related to a host of relevant factors that play both direct and indirect roles in inhibiting negative outcomes that include violent behavior, depression, and low self-esteem. Higher intelligence is directly linked to greater self-control in youth, and higher self-control has been found to contribute strongly to general life success including engaging in prosocial behavior as well as accruing wealth and achieving economic stability (Meldrum, Petkovsek, Boutwell, & Young, 2016). Proficiency in self-regulation of impulses demonstrates a myriad of executive control functions that include emotional, attentional, and inhibitory control, as well as the ability to pursue long-term goals (Meldrum et al., 2016). Intelligence may mitigate other factors such as school performance or problem-solving skills that discourage violence and encourage other means of rectification during conflicts (Widom, DuMont, & Czaja, 2007a). Perhaps the ability to communicate effectively as a result of higher intelligence decreases the need for violent behavior in particular, simultaneously curbing punitive exposure that would increase chances for depressive and self-esteem deficits.

Further, intelligence measures are growing increasingly precise over time, and with links to health, mortality, occupational and career success, intelligence has the ability to protect against the need for violent behavior and decrease the odds of depression and low self-esteem (Meldrum et al., 2016). Conversely, low intelligence quotient (IQ) has links to increased likelihood of committing crime, which additionally entails a dramatic decrease in resource availability and societal standing that typically correlates negatively with the observed, predicted outcomes in this study (Beaver et al., 2013). Advanced intelligence likewise correlates with increased self-esteem, greater rates of resiliency, and the process of attributing successes to one's own efforts (Jaffee et al., 2007; Meldrum et al., 2016). Therefore, it would be expected that abused and neglected

children would be less likely to experience negative outcomes such as depression, low self-esteem, and violent behavior later in life if they had higher levels of intelligence.

## FAMILIAL ATTACHMENTS

Mitigating the negative outcomes after child abuse and neglect may also be possible via family attachments and social bonds that serve the function of familial attachments. Attachment theory posits that relationships with others are at the core of human nature, and the foundation of familial relationships outlines all future affiliations (Yoder, Brisson, & Lopez, 2016). Previous studies have revealed that depression in boys and self-esteem in girls may be reduced by means of family attachments, while other adverse effects of victimization are meaningfully reduced in all adults (Turanovic & Pratt, 2015). Observed relationships between adolescents and their fathers proved to influence youth cognitive, emotional, and behavioral outcomes, further playing vital roles in the development and maintenance of delinquent behaviors (Yoder et al., 2016). Researchers have proposed that positive social attachments signify social support and inspire development of prosocial coping mechanisms (Turanovic & Pratt, 2015). Advancement of prosocial coping mechanisms averts an individual's life-trajectory away from detrimental outcomes that may include violence, depression, and low self-esteem and in the direction of constructive habits. These secure attachments prompt resiliency when confronted by stress, aid in attaining independence, and support the performance of various developmental feats (Salzinger, Rosario, & Feldman, 2007).

Optimism still exists for those with severely fractured families, as researchers conclude that greater attachments to adults and peers outside of the family also leads to greater resiliency among youth (Jaffee et al., 2007). Additionally, in regards to the father-child relationship, the

absence of a father within the household is mitigated by the presence of a nonresidential father (Yoder et al., 2016). With positive adult guidance from a family member, a nonresidential family member, or from an adult role model just outside the family in-group, individuals with abuse and neglect histories are more protected against negative life outcomes.

## NEIGHBORHOOD CONDITIONS

Researchers have proposed that the likelihood of negative outcomes resulting from childhood abuse and neglect may be contextualized by neighborhood conditions (Wright & Fagan, 2013). While some might conclude that disadvantaged neighborhoods would only make a bad situation worse, recent research has recognized that neighborhood disadvantage fosters a unique setting in which violent abuse is tolerated. Individuals residing in neighborhoods affected by deprivation are more likely to be investigated and therefore hold different views on the topic of child abuse (Wright & Fagan, 2013). Disadvantaged neighborhoods cultivate exclusive beliefs within the community, also known as cognitive landscapes, where some members actively attempt to halt the violence, some encourage it, and others tolerate it without intervening (Wright & Fagan, 2013). Mixed signals regarding the matter heighten the level of acceptance of abuse, as not all members of the community can agree upon a level of toleration. In these settings, many residents believe that exhibition of violence toughens children up for life on the street, and exposure is necessary to achieve maturity (Wright & Fagan, 2013). Children and community members are subsequently desensitized to violent abuse and even normalize exposure to misconduct so that the abuse is no longer experienced as victimization (Wright & Fagan, 2013). The precise meaning of child maltreatment undergoes a modification of definition from a form of victimization to a necessity or common occurrence in the life of a youth in a disadvantaged community.

In response to these seemingly backwards results, scholars proposed two concepts to better explain the mitigating effects of disadvantaged neighborhoods on victims of child abuse and neglect, which are the saturation effect and social push theory (Zimmerman & Messner, 2011; Raine, 2002). The saturation effect suggests that the impact of any risk factor is lessened in an environment where introduction to that factor is much more likely to occur (Wright & Fagan, 2013). Introduction to that risk factor is likely to become boring and ineffective in inspiring change (Zimmerman & Messner, 2011). Social push theory posits that the effect of any one risk factor is diluted in an environment rich in disadvantage (Raine, 2002; Wright & Fagan, 2013). Therefore, areas of lower risk would feel such exposures to abuse and neglect much more strongly because they would not be plentiful or redundant in line with other experiences. Both explanations clarify circumstances in which childhood and adolescent maltreatment may be interrupted by one's environment and provide worthy mitigating accounts.

## CURRENT FOCUS

The purpose of the present study is to explore the effects of childhood abuse and neglect on early adulthood measures of violent behavior, depressive symptoms, and low self-esteem. Attention will be given to protective factors measured during adolescence, beginning with the individual and expanding outwards to the family and to the neighborhood to clarify whether these factors can explain why some victims of childhood abuse and neglect fare better than others in early adulthood. The protective factors that are examined include verbal intelligence, family attachments, and neighborhood conditions during adolescence.

## METHODS

### DATA

This study uses data from Waves I and III of the public-use version of the National Longitudinal Study of Adolescent to Adult Health (Add Health). The Add Health is a prospective and nationally representative study of American adolescents enrolled in middle or high school during the 1994-1995 academic school year (Udry, 2003). A sample of 80 high schools and 52 feeder middle schools and junior high schools was selected through a disproportionately stratified, school-based, clustered sampling design. The sample was representative of U.S. schools with respect to region of the country, urbanicity, school type, school size, and ethnicity (Harris, 2011). Surveys were administered to more than 90,000 students from over 100 schools, from which a subsample of 20,745 adolescents was selected to participate in the Wave I, in-home component of the study. Waves I and II of data collection took place annually during September 1994 and August 1996, and original Wave I respondents were re-interviewed during Wave III between August 2001 and April 2002. The average age of respondents was 15 years at Wave I (ranging from 11 to 19 years) and 22 years at Wave III (ranging from 18 to 26 years).

The public-use data file consists of a random subsample of 6,504 subjects drawn from the full contractual version of the Wave I in-home sample, 4,882 of which were re-interviewed at Wave III (Harris, 2013). The Wave III survey is crucial to include because it interviews participants during early adulthood, and it contains information on childhood victimization that was not captured in previous waves. All variables used in this study were constructed according to prior research.

### KEY INDEPENDENT VARIABLES

Childhood Abuse

During the Wave III interview, Add Health respondents were asked to retrospectively report information on physical and sexual victimization that occurred during childhood. The following two questions were asked: “By the time you started 6th grade, how often had your parents or other adult caregivers slapped, hit, or kicked you?” and “By the time you started 6<sup>th</sup> grade, how often had one of your parents or other adult caregivers touched you in a sexual way, forced you to touch him or her in a sexual way, or forced you to have sexual relations?” These items were used to create measures of childhood physical abuse and childhood sexual abuse and were coded so that 1 = yes and 0 = no. Approximately 26.8% of respondents reported experiencing childhood physical abuse, and 4.3% reported experiencing childhood sexual abuse. These items were also combined to reflect a measure of any childhood abuse (1 = yes, 0 = no) (frequency = 27.3%).

#### Childhood Neglect

Childhood neglect was measured using a survey item from Wave III that asked respondents, “By the time you started 6<sup>th</sup> grade, how often had your parents or other adult caregivers not taken care of your basic needs, such as keeping you clean or providing food or clothing?” This item was coded to capture any childhood neglect (1 = yes, 0 = no) (frequency = 10.5%). Note that in these data, neglect was less common than physical abuse.

### PROTECTIVE FACTORS IN ADOLESCENCE

This study assesses three protective factors in adolescence: verbal intelligence, family attachments, and neighborhood conditions.

#### Verbal Intelligence

Intelligence was captured using respondents' age-normed Add Health Picture Vocabulary Test (PVT) score at Wave I. Add Health PVT scores come from a shorter, computerized version of the Peabody Picture Vocabulary Test (Revised) that was administered to participants at the beginning of their interview. During this test, interviewers read a series of words aloud, and respondents selected pictures that best fit the words' meanings. Each word in the PVT corresponded to four simple, black-and-white illustrations arranged in a multiple-choice format. There were 87 items in the Add Health PVT, and the data includes scores that were standardized by age (range = 14 – 139, mean = 100.62).

#### Family Attachments

Attachment to family was a summated index composed of the following five items from Wave I: “people in your family understand you,” “you and your family have fun together,” and “your family pays attention to you.” Responses to each item ranged from 1 (strongly disagree) to 5 (strongly agree), and were summed so that larger values reflect stronger family attachments (range = 3 – 15, mean = 11.29). The Cronbach's alpha for this scale was 0.795.

#### Neighborhood Conditions

Neighborhood conditions were measured using the following six self-reported items from Wave I: “you know most of the people in your neighborhood,” “in the past month, you stopped on the street to talk with someone who lives in your neighborhood,” “people in this neighborhood look out for each other,” “you usually feel safe in your neighborhood,” “you are happy living in your neighborhood,” and “you would be unhappy if you had to move from here to some other neighborhood.” Survey responses to each item were recorded as either 1 (true) or 2 (false). Items were summed to create an index where higher scores reflect worse neighborhood conditions (range = 6 – 12, mean = 7.31). The Cronbach's alpha for this scale was 0.587.

## DEPENDENT VARIABLES IN EARLY ADULTHOOD

Three dependent variables are assessed in early adulthood: depressive symptoms, low self-esteem, and violent behavior.

### Depressive Symptoms

Depressive symptoms in early adulthood were captured using nine items from the Center for Epidemiologic Studies Depression Scale (CES-D) available at Wave III. Respondents reported how often during the past seven days they experienced the following: “you were bothered by things that don’t usually bother you,” “you could not shake off the blues, even with help from your family and your friends,” “you felt that you were just as good as other people” (reversed), “you had trouble keeping your mind on what you were doing,” “you were depressed,” “you were too tired to do things,” “you enjoyed life” (reversed), “you were sad,” and “you felt that people disliked you.” Survey responses for each item ranged from 0 (never/rarely) to 3 (most/all of the time), and were summed to create a scale where larger values reflect more depressive symptoms (range = 0 – 25, mean = 4.47). The Cronbach’s alpha for this scale was 0.807.

### Low self-esteem

Low self-esteem at Wave III was measured using the following four items: “you have many good qualities,” “you have a lot to be proud of,” “you like yourself just the way you are,” and “you feel you are doing things just about right.” Items ranged from 1 (strongly agree) to 5 (strongly disagree), and were summed so that higher scores indicate lower levels of self-esteem (range = 4 – 20, mean = 7.07). The Cronbach’s alpha for this scale was 0.777.

### Violent behavior

Violent behavior captured whether participants engaged in the following types of violence in the past 12 months at the Wave III interview: “used or threatened to use a weapon to get something from someone,” “used a weapon in a fight,” “took part in a physical fight where a group of your friends was against another group” or “hurt someone badly in a physical fight.” The current study combined these measures to capture the presence of any violent behavior in the past year (1 = yes, 0 = no) (frequency = 12.3%). Descriptive statistics for all variables in the current study can be found in Table 1.

[INSERT TABLE 1]

## ANALYTIC STRATEGY

The analyses proceeded in two stages. First, the current study used bivariate correlations to assess the strength of the relationships between childhood abuse and neglect and later depression, low self-esteem, and violent behavior. T-tests and Chi-square tests were also employed to evaluate the differences in protective factors and outcomes across groups of maltreated individuals and individuals who were not subjected to abuse and neglect in childhood. Second, bivariate correlations were applied to examine relationships between adolescent protective factors and early adult outcomes within subsamples of abused and neglected youth.

## RESULTS

### DIFFERENCES BY ABUSE AND NEGLECT

Table 2 shows the differences between the abused and neglected populations. On average, significantly more individuals experienced depressive symptoms (5.44 versus 4.06), low self-esteem (7.48 versus 6.91), and exhibited violent behavior (18.81% versus 9.18%) following any childhood abuse. There was a significant difference in the average amount of individuals reporting

weaker family attachments (10.71 versus 11.56) and worse neighborhood conditions (7.37 versus 7.20) following any childhood abuse, while the difference in verbal intelligence measures was not found to be significant for any childhood abuse (102.29 versus 101.42).

[INSERT TABLE 2]

More specifically, those reporting physical child abuse showed a significant difference in average depressive symptoms (5.41 versus 4.10), low self-esteem (7.50 versus 6.91), and violent behavior (19.09% versus 9.32%). Significant differences existed between those reporting physical child abuse and family attachments (10.69 versus 11.55) and poor neighborhood conditions (7.38 versus 7.20), but the differences in those reporting physical child abuse and average verbal intelligence were not found to be significant (102.25 versus 101.36).

In addition, those reporting sexual child abuse showed a significant difference in average depressive symptoms (6.42 versus 4.35), low self-esteem (7.47 versus 7.05), and violent behavior (27.55% versus 11.28%). Significant differences were exhibited between sexual child abuse and verbal intelligence (96.66 versus 101.87) and family attachments (10.67 versus 11.35), while the differences between those reporting sexual child abuse and neighborhood conditions was not significant (7.39 versus 7.24).

Significant differences also existed between those reporting childhood neglect and depressive symptoms (5.85 versus 4.28), low self-esteem (7.49 versus 7.01), and violent behavior (23.64% versus 10.61%). Significant differences were also found between reported childhood neglect and verbal intelligence (95.75 versus 102.34), family attachments (10.98 versus 11.36), and neighborhood conditions (7.39 versus 7.23).

Overall, the pattern of findings in Table 2 indicates that individuals who were abused and neglected during childhood were more likely to experience negative outcomes in early adulthood.

These findings also show that abused or neglected individuals tended to have lower intelligences, weaker family attachments, and that they tended to live in more problematic neighborhoods during adolescence.

## BIVARIATE CORRELATIONS

Bivariate correlations between all the variables in the current study are presented in Table 3. These findings mirror the same pattern of results reflected in Table 2. However, a few correlations are worth discussing. In particular, the correlation matrix shows that the adolescent protective factors were generally related to the early adult outcomes in the sample. More specifically, verbal intelligence was negatively correlated with depressive symptoms ( $r = -.153$ ,  $p < .001$ ) and violent behavior ( $r = -.066$ ,  $p < .001$ ), but positively correlated with low self-esteem ( $r = .030$ ,  $p < .05$ ). Family attachments were negatively correlated with depressive symptoms ( $r = -.179$ ,  $p < .001$ ) and low self-esteem ( $r = -.217$ ,  $p < .001$ ), but not significantly correlated with violent behavior ( $r = -.027$ ,  $p > .05$ ). Neighborhood conditions were positively correlated with depressive symptoms ( $r = .120$ ,  $p < .001$ ) and low self-esteem ( $r = .084$ ,  $p < .001$ ), but were not significantly correlated with violent behavior ( $r = -.011$ ,  $p > .05$ ).

[INSERT TABLE 3]

Having established these relationships in the full sample, the next step in the analysis was to determine whether the adolescent protective factors (intelligence, family attachments, and neighborhood conditions) were related to the early adult outcomes among individuals who were abused and neglected.

## BIVARIATE RELATIONSHIPS WITHIN ABUSED AND NEGLECTED SUBSAMPLES

The bivariate correlations among subsamples of abused and neglected individuals are presented in Table 4. Overall, these results show that the adolescent protective factors may reduce depressive symptoms, low self-esteem, and violent behavior among individuals who experienced childhood maltreatment. In particular, Table 4 shows that adolescent verbal intelligence was negatively related to depressive symptoms in early adulthood in all abused and neglected populations, including individuals who experienced any abuse ( $r = -.151, p < .001$ ), physical abuse ( $r = -.136, p < .001$ ), sexual abuse ( $r = -.163, p < .05$ ), and neglect ( $r = -.165, p < .05$ ). Verbal intelligence was related to violence in a similar way, such that as verbal intelligence increases, violent behavior decreases. This relationship was true across the abused populations, including those who experienced any abuse ( $r = -.106, p < .001$ ), physical abuse ( $r = -.095, p < .001$ ), and sexual abuse ( $r = -.267, p < .001$ ), but not among individuals who were neglected ( $r = -.091, p > .05$ ). None of the correlations between verbal intelligence and low self-esteem were statistically significant in any of the abused or neglected subsamples.

[INSERT TABLE 4]

The bivariate correlations in Table 4 also show that family attachments were negatively correlated with depressive symptoms and low self-esteem in several of the abused and neglected subsamples. More specifically, the relationship between family attachments and depressive symptoms was significant in the any abuse ( $r = -.161, p < .001$ ), physical abuse ( $r = -.164, p < .001$ ), and neglect ( $r = -.093, p < .05$ ) samples, but not in the sexual abuse sample ( $r = -.110, p > .05$ ). The relationship between family attachments and low self-esteem was significant across all forms of abused and neglected individuals, including the any abuse ( $r = -.236, p < .001$ ), physical abuse ( $r = -.231, p < .001$ ), sexual abuse ( $r = -.187, p < .001$ ), and neglect ( $r = -.222, p < .001$ ) samples. Contrary

to expectations, however, family attachments were not related to violent behavior in any of the abused or neglected samples.

It can also be seen in Table 4 that neighborhood conditions were correlated with the early adult outcomes in several of the abused and neglected subsamples. Indeed, neighborhood conditions were positively and significantly correlated with depressive symptoms in the any abuse ( $r = .104, p < .001$ ) and physical abuse ( $r = .094, p < .001$ ) subsamples; and neighborhood conditions were positively correlated with low self-esteem in the any abuse ( $r = .105, p < .001$ ) and physical abuse ( $r = .105, p < .001$ ) subsamples. Even so, there was no relationship between neighborhood conditions and depressive symptoms or low self-esteem among sexually abused or neglected individuals. Lastly, Table 4 shows that neighborhood conditions were inversely related to violent behavior and found to be significant across all of the abused and neglected populations, including the any abuse ( $r = -.066, p < .05$ ), physical abuse ( $r = -.065, p < .05$ ), sexual abuse ( $r = -.155, p < .05$ ), and neglect ( $r = -.148, p < .001$ ) subsamples. This seems to indicate that as neighborhood conditions worsen, violent behavior decreases among individuals who were abused and neglected in childhood. These findings and their implications for future research are discussed in more detail below.

## DISCUSSION

This study was conducted to clarify why some children who experience various forms of childhood abuse and neglect appear to be resilient to adverse outcomes later in life, while others suffer negative consequences. The need for such an understanding is paramount, since over 7 million children experience abuse and neglect each year in the United States (Children's Bureau, 2015). Given the results presented in this study, four conclusions are warranted.

First, individuals who are abused and neglected are at an increased risk of depressive symptoms, low self-esteem, and violent behavior in early adulthood. The relationship between childhood abuse and neglect and violent behavior in early adulthood is particularly strong and consistent. The prevalence of violent behavior reported by individuals who experienced childhood abuse and neglect was more than double that of individuals who did not report past experiences with childhood abuse and neglect. This occurred regardless of abuse type. This particular finding is in line with the vast literature proposing a link between childhood abuse and violent behavior (Widom, 1989; Widom & Maxfield, 2001; Widom, 2014; Wright, et al., 2016), and it also emphasizes the important link between neglect and violent behavior. Furthermore, the relationship between childhood abuse and neglect and depressive symptoms in early adulthood contributes to the literature that continues to explore this phenomenon (Brown et al., 1999; Widom et al., 2007b; Widom, 2014; Turanovic & Pratt, 2015). More research could be done to examine how depression may result from maladaptive coping in response to childhood maltreatment. The significant, positive relationship between specific kinds of childhood abuse and neglect and low self-esteem in early adulthood reveals a meaningful link worthy of continued investigation, and further, contributes to the call for more research on the topic (Herrenkohl et al., 2012).

Second, protective factors helped explain why some abused and neglected youth were less likely to experience negative outcomes in early adulthood, and certain protective factors were more influential than others. Specifically, verbal intelligence seemed to have the greatest mitigating effect overall on depressive symptoms among abused and neglected individuals. Research has shown that advanced intelligence correlates with the process of attributing successes to one's own efforts (Jaffee et al., 2007; Meldrum et al., 2016), and perhaps this attribution leads to a decrease in depressive symptoms as self-worth is realized. Moreover, family attachments seemed to have

the greatest mitigating effect overall on low self-esteem. In this case, maybe abused or neglected individuals are better equipped to discover their own self-worth due to the support and validation provided by family. Lastly, while somewhat unexpected, neighborhood conditions seemed to have the greatest moderating effect overall on violent behavior, where, as neighborhood conditions increased, violent behavior decreased among individuals who were abused or neglected during childhood. Similar to the social push theory discussed earlier, perhaps this relationship can be explained by the fact that the effect of any one risk factor is diluted in an environment rich in disadvantage (Raine, 2002; Wright & Fagan, 2013). So, the effect of childhood abuse and neglect on violent behavior might be mitigated by the fact that individuals were already feeling the effects of disadvantage and negative life experiences. The saturation effect also sheds light on this phenomenon in that the impact of childhood abuse and neglect is lessened in the presence of an environment where introduction to such abuse is much more likely to occur (Wright & Fagan, 2013).

Third, the implications of these findings suggest that we may be able to intervene in the lives of victimized or neglected youth by increasing verbal intelligence through initiating educational programs and attachments to educational systems. Opportunities for educational advancement and verbal ability achievement support positive alternatives to several of the adverse outcomes considered in this study (Widom et al., 2007b). Further, family-centric interventions that can connect siblings, parents, or others within the family to one another could aid in the healing of abused and neglected children, decreasing repercussions in early adulthood (Turanovic & Pratt, 2015). In the case that these bonds are not possible or are found to be unhealthy within the family, similar bonds can be made to adults and friends outside of the family for abused and neglected youth. Research has shown that connections outside of the family can have similar, constructive

effects as connections within the family (Jaffee et al., 2007). More research must be conducted to study the relationship between neighborhood conditions and their effect on adverse outcomes in early adulthood, especially as they relate to violent behavior. Though they have negative consequences for internalizing outcomes such as depressive symptoms and low self-esteem, they appear to be playing a role in moderating expressions of violent behavior among abused and neglected individuals.

Fourth, no study is without its limitations, and it is important to recognize a few limitations here that may be viewed as opportunities for future research. For instance, this study included only bivariate analyses of the variables, and future models utilizing multivariate regression models are needed. Such models would depict a more in-depth understanding of the interconnections of the variables included in this study. Another possible limitation to this study is the fact that this data used the publicly available version of Add Health, which represents only a random subsample of respondents from the full Add Health study. The full data set would perhaps be able to capture more variability in the experiences of individuals who were abused and neglected as children. The publicly available data also do not contain the more detailed information on respondents' communities and neighborhoods that can be found in the full version of Add Health. Perhaps a larger population would have returned even more reliable results to be further generalizable to a broader community.

To conclude, there is still much to be learned about the negative outcomes of childhood abuse and neglect, the diverse protective factors present at various stages in the lifespan, and the resulting outcomes. To think that this situation is fully understood at the present time is to drastically simplify and underestimate the complexities of human behavior. Abused and neglected youth are not predestined to experience negative outcomes, due to the presence of protective

factors and life events. Treating the cycle of violence as an inevitable phenomenon is at best simplistic, and at worst deceptive. Human development is complex and multidimensional, and it is time that our research and theories on childhood maltreatment reflect this complexity as well.

## REFERENCES

- Agnew, R. (2006). *Pressured into Crime: An Overview of General Strain Theory*. Los Angeles, California: Roxbury.
- Akers, R. L. (2011). *Social Learning and Social Structure: A General Theory of Crime and Deviance*. New Brunswick, New Jersey: Transaction Publishers.
- Beaver, K. M., Schwartz, J. A., Nedelec, J. L., Connolly, E. J., Boutwell, B. B., & Barnes, J. C. (2013). Intelligence is Associated With Criminal Justice Processing: Arrest Through Incarceration. *Intelligence*, 277-288.
- Brown, J., Cohen, P., Johnson, J., & Smailes, E. (1999). Childhood Abuse and Neglect: Specificity of Effects on Adolescent and Young Adult Depression and Suicidality. *American Academy of Child and Adolescent Psychiatry*, 38(12), 1490-196.
- Children's Bureau. (2015). *Child Maltreatment 2015*. US Department of Health & Human Services.
- David, M., Ceschi, G., Billieux, J., & Van der Linden, M. (2008). Depressive Symptoms After Trauma: Is Self-Esteem a Mediating Factor? *The Journal of Nervous and Mental Disease*, 196(10), 735-742.
- Herrenkohl, T. I., Klika, J. B., Herrenkohl, R. C., Russo, M. J., & Dee, T. (2012). A Prospective Investigation of the Relationship Between Child Maltreatment and Indicators of Adult Psychological Well-Being. *Violence and Victims*, 27(5), 764-776.
- Jaffee, S. R., Caspi, A., Moffitt, T. E., Polo-Tomas, M., & Taylor, A. (2007). Individual, Family, and Neighborhood Factors Distinguish Resilient from Non-Resilient Maltreated Children: A Cumulative Stressors Model. *Child Abuse & Neglect*, 231-253.

- Meldrum, R. C., Petkovsek, M. A., Boutwell, B. B., & Young, J. T. (2016). Reassessing the Relationship Between General Intelligence and Self-Control in Childhood. *Intelligence*, 1-9.
- Raine, A. (2002). Biosocial Studies of Antisocial and Violent Behavior in Children and Adults: A Review. *Abnormal Child Psychology*, 311-326.
- Salzinger, S., Rosario, M., & Feldman, R. S. (2007). Physical Child Abuse and Adolescent Violent Delinquency: The Mediating and Moderating Roles of Personal Relationships. *Child Maltreatment*, 12(3), 208-219.
- Truman, J. L., & Morgan, R. E. (2016). *Criminal Victimization, 2015*. Bureau of Justice Statistics, US Department of Justice. Bureau of Justice Statistics.
- Turanovic, J. J., & Pratt, T. C. (2015, April). Longitudinal Effects of Violent Victimization During Adolescence on Adverse Outcomes in Adulthood: A Focus on Prosocial Attachments. *The Journal of Pediatrics*, 1062-1069.
- Widom, C. S. (1989, April). The Cycle of Violence. *Science*, 160-166.
- Widom, C. S. (2014). Varieties of Violent Behavior. *Criminology*, 52(3), 313-344.
- Widom, C. S., & Maxfield, M. G. (2001). An Update on the "Cycle of Violence". 1-8.
- Widom, C. S., DuMont, K. A., & Czaja, S. J. (2007a). Predictors of Resilience in Abused and Neglected Children Grown-Up: The Role of Individual and Neighborhood Characteristics. *Child Abuse & Neglect*, 255-274.
- Widom, C. S., Dumont, K., & Czaja, S. J. (2007b). A Prospective Investigation of Major Depressive Disorder and Comorbidity in Abused and Neglected Children Grown Up. *Arch Gen Psychiatry*, 64, 49-56.

- Wright, E. M., & Fagan, A. A. (2013). The Cycle of Violence In Context: Exploring the Moderating Roles of Neighborhood Disadvantage and Cultural Norms. *Criminology*, 217-249.
- Wright, K. A., Turanovic, J. J., O'Neal, E. N., Morse, S. J., & Booth, E. T. (2016). The Cycle of Violence Revisited: Childhood Victimization, Resilience, and Future Violence. *Interpersonal Violence*, 1-26.
- Yoder, J. R., Brisson, D., & Lopez, A. (2016). Moving Beyond Fatherhood Involvement: The Association Between Father-Child Relationship Quality and Youth Delinquency Trajectories. *Family Relations*, 462-476.
- Zimmerman, G. M., & Messner, S. F. (2011). Neighborhood Context and Nonlinear Peer Effects On Adolescent Violent Crime. *Criminology*, 873-903.

**Table 1.** Descriptive Statistics for the Early Adulthood Sample.

<b>Variables</b>	<b>Mean (SD) or %</b>	<b>Range</b>
Adverse Outcomes in Early Adulthood		
Depressive symptoms	4.47 (4.06)	0 – 25
Low self-esteem	7.07 (2.26)	4 – 20
Violent behavior	12.3%	0 – 1
Key Childhood Variables		
Childhood abuse (any)	27.3%	0 – 1
Childhood abuse (physical)	26.8%	0 – 1
Childhood abuse (sexual)	4.3%	0 – 1
Childhood neglect	10.5%	0 – 1
Adolescent Variables		
Verbal intelligence	100.62 (15.08)	14 – 139
Family attachments	11.29 (2.50)	3 – 15
Neighborhood conditions	7.31 (1.40)	6 – 12

N = 4587 - 6452 Early Adult participants.

**Table 2.** Differences by Abuse and Neglect.

<b>Variables</b>	<b>Yes</b>	<b>No</b>	<b>p-value</b>
<b>Any Abuse</b>			
Adverse Outcomes in Early Adulthood			
Depressive symptoms	5.44	4.06	p<.001
Low self-esteem	7.48	6.91	p<.001
Violent behavior	18.81%	9.18%	p<.001
Protective Factors			
Verbal intelligence	102.29	101.42	p=.082
Family attachments	10.71	11.56	p<.001
Neighborhood conditions	7.37	7.20	p<.001
<b>Physical Abuse</b>			
Adverse Outcomes in Early Adulthood			
Depressive symptoms	5.41	4.10	p<.001
Low self-esteem	7.50	6.91	p<.001
Violent behavior	19.09%	9.32%	p<.001
Protective Factors			
Verbal intelligence	102.25	101.36	p=.075
Family attachments	10.69	11.55	p<.001
Neighborhood conditions	7.38	7.20	p<.001
<b>Sexual Abuse</b>			
Adverse Outcomes in Early Adulthood			
Depressive symptoms	6.42	4.35	p<.001
Low self-esteem	7.47	7.05	p=.010
Violent behavior	27.55%	11.28%	p<.001
Protective Factors			
Verbal intelligence	96.66	101.87	p<.001
Family attachments	10.67	11.35	p<.001
Neighborhood conditions	7.39	7.24	p=.129
<b>Neglect</b>			
Adverse Outcomes in Early Adulthood			
Depressive symptoms	5.85	4.28	p<.001
Low self-esteem	7.49	7.01	p<.001
Violent behavior	23.64%	10.61%	p<.001
Protective Factors			
Verbal intelligence	95.75	102.34	p<.001
Family attachments	10.98	11.36	p=.002
Neighborhood conditions	7.39	7.23	p=.017

N = 4390 - 4669 Early Adult participants.

**Table 3. Bivariate correlations**

		Y1	Y2	Y3	X1	X2	X3	X4	X5	X6	X7
Y1	Depressive symptoms	--									
Y2	Low self-esteem	.383**	--								
Y3	Violent behavior	.112**	.033*	--							
X1	Verbal intelligence	-.153**	.030*	-.066**	--						
X2	Family attachments	-.179**	-.217**	-.027	-.069**	--					
X3	Neighborhood conditions	.120**	.084**	-.011	-.041**	-.229**	--				
X4	Any child abuse	.153**	.113**	.133**	.026	-.154**	.058**	--			
X5	Physical child abuse	.143**	.113**	.133**	.027	-.154**	.056**	.980**	--		
X6	Sexual child abuse	.104**	.038**	.101**	-.071**	-.056**	.022	.343**	.261**	--	
X7	Child neglect	.119**	.065**	.123**	-.138**	-.046**	.035*	.250**	.260**	.340**	--

NOTE: \*p < .05, two-tailed test. \*\*p < .001, two-tailed test.

N = 4390 - 6313

**Table 4.** Bivariate Correlations Among Subsamples of Abused & Neglected Youth.

	<b>Depression</b>	<b>Low Self-Esteem</b>	<b>Violent Behavior</b>
<b>Any Abuse<sup>a</sup></b>			
Verbal intelligence	-.151**	.026	-.106**
Family attachments	-.161**	-.236**	.036
Neighborhood conditions	.104**	.105**	-.066*
<b>Physical Abuse<sup>b</sup></b>			
Verbal intelligence	-.136**	.024	-.095**
Family attachments	-.164**	-.231**	.025
Neighborhood conditions	.094**	.105**	-.065*
<b>Sexual Abuse<sup>c</sup></b>			
Verbal intelligence	-.163*	-.002	-.267**
Family attachments	-.110	-.187**	.004
Neighborhood conditions	.137	.070	-.155*
<b>Neglect<sup>d</sup></b>			
Verbal intelligence	-.165**	.044	-.091
Family attachments	-.093*	-.222**	-.044
Neighborhood conditions	.056	.077	-.148**

NOTE: \*p < .05, two-tailed test. \*\*p < .001, two-tailed test.

<sup>a</sup> N = 1165 – 1242

<sup>b</sup> N = 1155 – 1231

<sup>c</sup> N = 181 – 199

<sup>d</sup> N = 455 – 487