THE ROLE OF CHILD MALTREATMENT ON PERSONALITY FROM ADOLESCENCE TO YOUNG ADULTHOOD

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ABSTRACT

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Historically, a defining feature of personality characteristics has been their stability and consistency across time. However, research over the past decade has established patterns of personality change across the lifespan, with the most mean-level trait change occurring between 20 to 40 years old (Roberts & Mroczek, 2009), making young adulthood a fruitful developmental period to study personality change. There are several factors that can influence personality trait change and some literature has suggested that major life events such as childhood adversity can impact the stability and change of personality traits across time. The present study uses two waves of data from the National Longitudinal Study of Adolescent to Adult Health (Add Health; n=4,764) to assess the moderating effects of different types and varying exposure levels of child maltreatment on rank-order stability and mean-level change in personality from adolescence (ages 12-17) to young adulthood (ages 28-32). Moderation analyses revealed that child maltreatment decreases the stability of conscientiousness and emotional stability and leads to lower mean-levels of extraversion, conscientiousness, and emotional stability. The impact of maltreatment on some of these traits seem to be more pronounced in adolescence and to diminish in young adulthood, which suggests children who experience maltreatment might show some resilience as they age. However, we also

found that the impact of maltreatment persisted into adulthood for some traits, which might explain the deleterious effects of childhood caregiver-related trauma on general well-being and quality of life across time. The findings of this research contribute to our understanding of the underlying mechanisms of personality stability and change as well as the conceptualization and operationalization of child maltreatment.

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Introduction

Statement of the Problem

Historically, a defining feature of personality characteristics has been their stability over time. However, it is now recognized that personality characteristics can exhibit change, both in relative rank order across people and in mean level (Caspi & Roberts, 2001; Chopik & Kitayama, 2016). Research shows this change is generally more pronounced during childhood and adolescence, but the mechanisms of personality development remain an under explored field (Hampson, 2008; Hengartner et al., 2015). The current longitudinal study examines factors underlying normal personality development, specifically experiences of childhood maltreatment and parent Adverse Childhood Experiences (ACE's).

Personality Across the Lifespan

Evolution of Personality Research

Leading personality theorists have asserted that all basic personality traits exhibit some stability over time (Costa & McCrae, 1988) and that most personality change occurs before the age of 30 and after this point, personality becomes much more stable and less susceptible to change. However, within the last couple of decades, researchers have challenged personality stability theory, and research has supported that environmental factors, social factors, and major life events can influence personality change (Roberts & Mroczek, 2008). An abundance of research in the last ten years has shown that robust change in personality occurs in young adulthood and this is an important developmental stage to study personality development and change.

Personality Continuity and Change

Rank-Order Stability

Personality continuity and change can be measured using two indices: mean-level change and rank-order stability. Rank-order stability is the relative maintenance of traits in individuals within a group across time (Damian et al., 2018). Rank order stability can also be referred to as cumulative continuity because it captures the extent to which interindividual differences persist over time, such that if all individuals in a group have traits that are changing by the same amount and in the same direction over time then their relative ranking or ordering will not change (Specht et al, 2011). For example, rank-order stability assesses whether an individual who is agreeable compared to her peers at 10 years-old would continue to be more agreeable than her same-aged peers at 50 years-old. Research examining rank-order stability of child temperament and personality from childhood to late adulthood shows moderate continuity levels in personality for most traits (Shiner, Masten, & Roberts, 2003). Shiner et al. (2003) found that academic conscientiousness and agreeableness in childhood were positively associated with constraint in adulthood and surgency in childhood was positively associated with positive emotionality in adulthood 20 years later. The current study considers the moderate level of continuity in personality over the lifespan while also considering social, environmental, and psychological factors that impact personality change.

Mean-Level Change

Mean-level change refers to natural increases or decreases in specific traits over time and with development (Roberts & Mroczek, 2008). For instance, as people age, they naturally increase in self-confidence, warmth, self-control, and emotional stability.

General increases in positive traits and decreases in negative traits is referred to as the principle of maturation. These changes are the most significant in young adulthood and individuals 20 to 40 years old experience the most mean-level change in personality traits, making young adulthood an important time to study personality change. Additionally, the positive relationship between time and mean-level change indicates that changes in personality persist over time. The current study aims to capture these mean-level changes at the population level (Roberts & Mroczek, 2008).

Impact of Personality Change

The importance of studying personality has been demonstrated by hundreds of studies over the past 20 years. Personality is predictive of individual outcomes (i.e., happiness and well-being, self-concept and identity, psychopathology, and physical health), interpersonal functioning (i.e., peer, family, and romantic relationships), and social functioning (i.e., occupational performance, community involvement, criminality, and political status; Ozer & Benet-Martinez, 2006). Meta-analyses show that personality can predict overall life satisfaction, vocational outcomes, academic performance, social functioning, and more generally predicts cognitions, emotions, and behaviors across different settings (Sherman et al., 2015; Shiner, Masten, & Roberts, 2003). Additionally, understanding the processes that influence personality development is useful in the context of psychotherapy, such that it can help clinicians develop better informed case formulations as well as provide information that is useful for tailoring interventions for clients.

Relation of Temperament to Personality

Much of the research on child and adolescent personality often use the terms personality traits and temperament interchangeably. Many of the temperamental traits observed in infancy and childhood are correlated and extend to personality dimensions in childhood and adulthood. Temperament can be defined as "early emerging basic dispositions in the domain of activity, affectivity, attention, and self-regulation and these dispositions are the product of complex interactions among genetic, biological, and environmental factors across time" (Shiner et al., 2012 as cited by Shiner, 2015). Temperament and personality share a similar structure and many personality dimensions capture temperamental traits seen in early years. There is a link between childhood temperament and personality in adulthood (Shiner & DeYoung, 2013).

Adolescent and Adult Personality

Adolescence is considered one of the most dynamic and formative stages of life. It is not only marked by biological changes but also emotional, psychological, and environmental changes which impact development. These changes make adolescents more vulnerable and susceptible to the effects of contextual stress experienced as well as having a higher sensitivity and reactivity to the environment (Hollenstein & Lougheed, 2013). Personality traits in childhood and adolescence are associated with these biological, social, and environmental factors, making them key periods of personality development (Soto & Tacket, 2015). Soto and Tacket (2015) describe dips in personality traits and maturity over developmental periods, indicating support for the disruption hypothesis. Personality development is often not linear and life experiences and changes in the environment in addition to biological processes can all interact and impact how

traits are expressed at certain points in time. Although there are many changes that can occur during adolescence and even through young adulthood, we still see that childhood and adolescent personality is predictive of adult personality (Shiner, Masten, & Roberts, 2003).

The field has generally moved towards conceptualizing both adolescent and adult personality with the Five Factor Model. Several studies have established that the Big Five/Five Factor Model (FFM) best describes the structure of personality traits in both childhood and adulthood (Shiner & DeYoung, 2013). Big Five traits include Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (Costa & McCrae, 1985). Generally, Openness describes those who are intellectually curious, creative, imaginative, and gravitate toward new experiences and ideas. Conscientiousness refers to those with strong self-discipline, organizational skills, attention to detail, adherence to rules. Extraversion describes people who are energetic, socially dominant, and tend to seek social interactions. Agreeableness characterizes people who generally get along with others, are trustworthy, compassionate, and kind. Neuroticism captures traits related to negative affect including anxiety, depression, and moodiness. The inverse of neuroticism is emotional stability which refers to those who are balanced, able to regulate their mood, and generally secure and comfortable with themselves. These five basic dimensions are present as early as the preschool years and develop in richness and in range with age (Roberts & DelVecchio, 2000). They are universal traits and have been validated across people with diverse backgrounds from all over the world (McCrae & Costa, 1997). Historically, the Big Five was only used to describe adult personality, however research on child and adolescent personality has established preadolescents and adolescents as

reliable self-reporters on Big Five dimensions. Adolescent self-reports reliably converge with other informant reports including parent and teacher reports (Morizot, 2014).

Complex Trauma

Average personality profiles were developed in the context of typical or expected life circumstances experienced by the general population. When these personality profiles are applied to chronically traumatized individuals in extraordinary circumstances it reflects a lack of understanding of the impact that violence has on personality (Herman, 1992). The term complex trauma was coined by Judith Herman nearly 30 years ago (Herman, 1992). Complex trauma reflects extreme stress that follows exposure to chronic and repeated traumatic experiences (Herman, 1992). People with complex trauma are often misdiagnosed with personality disorders, which further stigmatizes the individual and generally pathologizes traumatic reactions to deeply disturbing experiences. Although there is clear evidence of the association between childhood trauma and the development of personality disorders in adulthood (Bozzatello et al., 2021), the majority of children who experience severe trauma will not develop personality disorders. Thus, the current study aims to focus on the change in normal personality traits and disengage from the model of pathology surrounding trauma and personality.

What is Child Maltreatment

Definitions of Maltreatment

Childhood maltreatment comprises the most adverse and stressful relational experiences from the environment that children can endure and poses a substantial hazard to children's healthy maturation and development (Cicchetti, 2013). The difficulty in defining child maltreatment lies in the complexity and multidimensionality of

maltreatment experiences. States have different policies and protocols in what is considered maltreatment and legal definitions of abuse and neglect also vary by state (Child Welfare Information Gateway, 2022). According to the World Health Organization (WHO), child maltreatment includes "…all types of physical and/or emotional ill-treatment, sexual abuse, neglect, negligence and commercial or other exploitation, which results in actual or potential harm to the child's health, survival, development or dignity in the context of a relationship of responsibility, trust or power" (World Health Organization, 2023). The most common types of child maltreatment are neglect, physical abuse, sexual abuse, and psychological abuse.

The National Child Traumatic Stress Network (2023) defines sexual abuse as "any interaction between a child and adult (or another child) in which the child is used for sexual stimulation of the perpetrator or an observer." Sexual abuse can include both touching and non-touching behaviors. According to the World Health Organization (WHO), 1 in 5 women and 1 in 13 men experience sexual abuse between the ages of 0-17 and 3 in 4 children ages 3-4 suffer from physical or psychological violence from caregivers. The legal definition of physical abuse differs by state but is generally defined as an act committed by a caregiver that results in physical injury to a child under the age of 18 years old (NCTSN, 2023). The physical injury can range from marks or bruises to broken bones and other severe damage to the body. Neglect includes not meeting a child's most basic physical and emotional needs as well as limiting access to appropriate education, healthcare, and supervision. The Child Welfare Information Gateway (2019) defines chronic child neglect as "a caregiver repeatedly failing to meet a child's basic physical, developmental, and/or emotional needs, establishing a harmful pattern with

long-term negative consequences for health and well-being." According to the Children's Bureau, about 75% of children identified by child protective services (CPS) experience neglect making it the most common form of child maltreatment in the nation (U.S. Department of Health and Human Services, 2023). Although physical neglect is often what is identified for CPS cases, there are other insidious forms of neglect including emotional neglect. Emotional neglect relates to the inattentiveness to a child's emotional needs and can include the lack of the basic need to feel loved and cared for by the caregiver (Lawler & Tablet, 2012).

Child maltreatment can be differentiated from other types of adverse childhood experiences because the trauma is perpetrated by the individual designated to provide care and safety for the child. Children who experience caregiver related traumas tend to have an earlier onset and longer duration of traumas compared to children who experience other trauma types (i.e., medical trauma, natural disaster, sexual assault; Kisiel et al, 2014). Child sexual abuse by a caregiver has the highest risk for psychopathology including more severe Posttraumatic Stress symptoms, high-risk behaviors, and revictimization above and beyond other caregiver related traumas (Putnam et al. 2013). Overall, caregiver related traumas seem to pose more severe and negative outcomes in comparison to non-caregiver related traumas. Additionally, many children who experience trauma have experienced multiple types of trauma. The community sample data collected from children involved in Child Protective Services have shown over 90% of children experience more than one type of maltreatment (Kim et al., 2017). These rates differ by sample but show a clear pattern of high co-occurrence among maltreatment types. Given the high co-occurrence of trauma it is sensible to examine

types of child maltreatment experiences in the context of other types of trauma or maltreatment.

Models for Measuring Adversity

Cumulative Risk Model

Much of the current literature uses the cumulative risk model to measure adversity (Evans et al., 2013). This model accounts for the totality of adverse experiences and captures children who have experienced multiple traumas. With this approach, total risk scores are calculated based on the number of traumas that an individual has experienced. The benefit of this approach is that it captures dose-response relationship between the cumulative ACE index to psychological and physical detriment. Identifying children with a high-risk score is useful for determining higher levels of risk for future poor outcomes. Cumulative risk captures the amount of adversity, however, it does not consider the type or exposure level of adversity. Thus, this model lacks the ability to reveal the underlying mechanisms of adversity and makes generalizations when there are many different types and levels of severity of adversity that differentially impact individuals (McLaughlin & Sheridan, 2016). Cumulative risk is useful for providing an explanation for why an intervention is needed rather than how and what intervention should be implemented based on an underlying problem (McLaughlin & Sheridan, 2016).

Dimensional Model of Adversity and Psychopathology

To capture the underlying mechanisms of the impact of childhood adversity on outcomes, Mclaughlin and Sheridan (2016) proposed an alternative model to the cumulative risk model—the Dimensional Model of Adversity and Psychopathology (DMAP). This model categorizes adversity into two underlying dimensions: threat and

deprivation. Threat refers to either experiences of harm or threats of harm to self or a close other. Experiences of threat can include different types of abuse (i.e., physical, sexual, emotional), experiencing or witnessing community violence, or witnessing domestic violence. Deprivation refers to a lack of input from the environment including but not limited to institutionalization, not getting basic needs met (i.e., food, shelter, education) and different forms of neglect. DMAP asserts that threat has an impact on emotional reactivity and regulation and is more closely associated with internalizing problems whereas deprivation is impacts cognitive control and is associated with externalizing symptoms. This alternative model to examining adversity provides clarity on how distinct adverse child experiences differentially impact childhood developmental and outcomes and how the consequence of experiencing each dimension is "at least partially distinct" (Miller et al., 2018).

Operationalizing Child Maltreatment

In 1993 the National Research Council (NRC) published a report demanding a call to action for researchers to create a conceptual framework for child maltreatment (NRC, 1993). Since the publication of this report, the field has made progress in identifying consequences of child maltreatment, however, there is still much work to be done on defining, identifying, and assessing child abuse and neglect. There is still no gold standard for defining maltreatment and many researchers operationalize child maltreatment differently. The differing definitions of child abuse and neglect impede the research on child maltreatment because it is difficult for findings to converge. The fragmented research subsequently impacts treatment and prevention (Jackson et al., 2019).

A systematic review by Georgieva et al. (2022) identified the five most valid measures of childhood maltreatment used from 2010-2020 and found that there is lack of information in the psychometric properties of these measures, thus making it difficult to identify the most psychometrically sound measure. Additionally, only a small number of these measures assessed duration, frequency, and chronicity. Even with the collection of this information, we still have not agreed on what is considered a high versus low frequency and whether this changes depending on type of abuse. The complexity and multidimensionality of maltreatment contributes to the difficulty in deciding these parameters.

Child Maltreatment Predictive of Adult Personality

Experiences in childhood are integral in the development of adult personality (Rosenman & Rodgers, 2006). Research shows that children who experience childhood maltreatment are more likely to develop less optimal personality profiles (Dagnino et al., 2020). Individuals who experience child maltreatment are associated with lower emotional stability, agreeableness, and conscientiousness (Cundiff et al., 2021). Rogosch & Cicchetti (2004) conducted a longitudinal study comparing maltreated and non-maltreated children on the Big Five from ages six to nine and found maltreated children demonstrated higher negative traits and lower positive traits; however, there was no difference between the groups on extraversion. These differences in personality profiles between the groups were maintained over time, which supports the continuity of these personality clusters. Additionally, they found that children who experienced co-occurring abuse and neglect showed more pronounced maladaptive personality profiles. This

indicates that experiences of both threat and deprivation might have a unique effect on personality development.

Rosenman & Rodgers (2006) studied three groups of adults with a history of childhood adversity and found that domestic adversity was associated with higher neuroticism, behavioral inhibition, and negative affect. They found that adversity did not significantly impact positive affect, extraversion, or behavioral activation. Childhood adversity appears to have a significant impact on the future functioning of interpersonal relationships and social skills (Rosenman & Rodgers). Impacts on interpersonal functioning include de-emphasis on the long-term investment of relationships, which can be reflected by lower levels of agreeableness (Carver et al., 2014). There is also an association of early adversity with aggression and hostility, which further impedes ability for fostering strong and healthy relationships.

Specific types of childhood adversity have shown to be associated with changes in dimensions of personality. For example, physical and emotional abuse has been shown to significantly influence personality (Schouw, 2019). Fletcher & Schurer (2017) found strong associations with Big Five and adults who experienced specific types of maltreatment as children. Sexual abuse and neglect were strongly linked to high neuroticism and parental neglect was related to low levels of conscientiousness and openness to experience. Exposure to adversity has been identified as a predictor of increases in neuroticism (i.e., decreases in emotional instability) over time in addition to decreased maturation of extraversion and conscientiousness that would be expected over time (Laceulle et al., 2012).

Parental Adverse Childhood Experiences Impact on Personality Development

There is robust literature that demonstrates impact of parent characteristics (i.e., parent psychopathology, parenting practices) on subsequent adolescent characteristics, personality traits, and future well-being (Schofield et al., 2012). However, there is a paucity of research on how parental adverse childhood experiences impact their offspring's social, emotional, cognitive, and personality outcomes. Adverse Childhood Experiences (ACE's) are defined by the Center for Disease Control (CDC) as any potentially traumatic event that occurs before the age of 18 (CDC, 2014). The first ACE scale developed in the original CDC-Kaiser Permanente study (CDC, 2014; Felitti et al., 1998) captured child adversity using a 10-item scale that was comprised of three categories: Abuse (physical, sexual, emotional), neglect (physical and emotional), and household dysfunction (parent separation or divorce, substance use, mental illness, domestic violence, and incarceration). Since this research was published, other researchers have widened the scope and created more comprehensive measures of child adversity. Researchers have added additional items to this scale to include a wider range of adverse experiences such as peer victimization, living in foster care and witness and/or victim to community violence. (Petruccelli, Davis, & Berman, 2019).

Approximately 60% of individuals in the United States have experienced at least one ACE and one in six individuals have experienced four or more ACE's. According to Giano, Wheeler, & Hubach (2020), the most common ACE domains are emotional abuse, parent separation/divorce, interpersonal violence (IPV), physical abuse, household mental illness, sexual abuse, and incarcerated parent, respectively. Individuals who are more likely to experience ACE's include females, younger adults, sexual minorities, and

multiracial individuals (Giano et al., 2020). Additionally, individuals with lower socioeconomic status, lower income, and unemployed individuals tend to have higher ACE scores.

Research shows that parents with 4 or more ACEs were more likely to have children with behavioral health problems (Schickendanz, Halfon, Sastry, & Chung, 2018). Other studies have demonstrated that parental ACE may be a marker for risk of their offspring experiencing adversity (Randell, O'Malley, & Dowd, 2015). Randell et al. (2015) demonstrated that parents with 4 or more ACEs were more likely to have a child with an ACE. Overall, there appears to be a link between parent ACE and subsequent child ACE, but, to our knowledge, this is yet to be examined as it relates to impact on personality development.

Gaps in the Literature

Although some research has addressed how child maltreatment and parent characteristics impact adolescent personality development and change over time, it remains an underexplored field. Current research has used the medical model approach to focus on how maladaptive personality traits or personality pathology impacts personality development (Whiteside & Lynam, 2001). Few research studies have examined normative personality change and its underlying processes. Some children who experience child maltreatment may develop pathological personality traits in the future, but many do not, which is why it is important to focus on how child maltreatment might impact normative personality traits. This research aims to focus on the subtle and clinically subthreshold effects of childhood maltreatment on personality. Moreover, research that has examined normative personality change has only focused on a narrow

set of traits. Researchers have highlighted the need to expand the examination of a wider range of traits including agreeableness and openness for individuals with a history of adverse events (Grusnik et al., 2020). This study aims to examine four out of five dimensions of the Big Five. Additionally, much of the literature has focused on total experienced adversity as it relates to personality rather than examining defined categories of adversity such as threat and deprivation. This study aims to examine how both the level of exposure and unique subtype of child maltreatment impacts personality development.

Current Study

The aim of the current study is to assess rank-order stability and mean-level change in personality from adolescence to young adulthood with a focus on how different types and exposure levels of child maltreatment moderates personality change across time.

Hypotheses

1. The authors hypothesize that sex, adolescent personality, incidence of child maltreatment, and high exposure to child maltreatment will be predictive of adult personality.
2. Adolescent personality will demonstrate relative stability with adult personality, but overall stability will be moderated by adolescents with child maltreatment and show increased instability for adolescents with the highest exposure of maltreatment.
3. There will be a suppression in maturation of personality traits from adolescence to young adulthood as a function of maltreatment and we expect to see further

suppression for adolescents who have experienced threat, particularly high exposure to threat.

Methods

Study Design

The dataset used for this study comes from the National Longitudinal Study of Adolescent to Adult Health, which is the largest and most comprehensive dataset of adolescent health over the lifespan to date (Add Health; Udry & Brarman, 1998). It is a racially and ethnically diverse nationally representative sample that includes hundreds of variables focusing on mental and physical health-related behaviors and outcomes. Data was collected through extensive clinical interviews using computer-assisted personal interviewing (CAPI) technology as well as multiple self and other-report questionnaires.

The first wave of data was collected from 1994-1995 and the participants in this study were adolescents in grades 7-12. Data was collected both at participants homes and school. Subsequent waves of data were collected in 1996 (Wave II), 2001-2002 (Wave III), and 2008-2009 (Wave IV). Wave I data included a total of 20, 745 students and Wave IV included 15, 701 participants from Wave I. Participants are classified as adolescents in Wave I and Wave II (grades 8-12), Young Adults (Ages 18-26) in Wave III, and Adults (ages 24-32) in Wave IV.

Data on the parents of adolescents were collected in Wave I (n=17, 670) and from 2015-2017 (n=3, 000). The data collected from 2015-2017 is a Satellite Project entitled the Add Health Parent Study, which gathered data on parents who were interviewed in the Wave I data. The parents in this sample range in age from 50-80 years old. The parent data includes social, emotional, behavioral, and health data and it was designed to better understand intergenerational transmissions of advantage and disadvantage (Udry, 2003).

Sample

Inclusion criteria for the current study include participants who participated in Wave I and Wave IV. Participants must have data on personality variables for both waves of data. Participants who did not have child maltreatment data were still included in the study. We also examined the parent data of participants who had both waves of personality data, though having data on the parent(s) was not part of the inclusion criteria. We analyzed data for 4,764 participants. At Wave I adolescents were ages 12-18 (*M*=15.78, *SD*=1.61) and at Wave IV adults were ages 24-32 (*M*=28.79, *SD*=1.63). See Table 2 for additional information on demographics of the sample.

Measures

Adolescent Personality

The independent variable in this study is adolescent personality based on self-report data. The data from Wave I includes a subset of questions on personality and family, but the study did not use a validated personality measure. We followed Young and Beaujean's (2011) lexical approach to select items that were closely related to personality dimensions based on the short-form version of the International Personality Item Pool, the Mini-IPIP (Donnellan et al., 2006), which contains 20 items based on the Five Factor Model (FFM). Young and Beaujean (2011) used 13 items from the set that assessed Emotional Stability (6 items, α=0.85), Extraversion (3 items, α =0.77), and Conscientiousness (4 items α =0.75). Following Young and Beaujean's (2011) approach, we used Mplus to conduct Principal Components Analysis (PCA) followed by an Oblique rotation. We examined the rotated factor structure and concluded that the 3-factor solution was the best fit. We examined additional items from the personality

questionnaire and, based on content analysis, identified two items (See Appendix) that appeared to measure agreeableness. We conducted Principles Component Analysis (PCA) and were able to extract 4 factors that included the two items on the agreeableness factor (2 items, α =0.54). Thus, we were able to estimate a 4-factor solution which included neuroticism, conscientiousness, extraversion, and agreeableness dimensions (See Table 1). Generally, it is recommended to have at least three items in a factor (Watkins, 2018) as two items has lower reliability. Thus, the agreeableness scale in Wave I should be interpreted with caution.

Adult Personality

We examined the adult personality traits as the dependent variable. Adult personality was collected in Wave IV using the Mini-International Personality Item Pool (Mini-IPIP; Donnellan et al., 2006), which is a 20-item short-form version of the IPIP and is based on the Five Factor Model. Our study used all four out of five of the factors and thus had a total of 16 items. The scale has acceptable reliability and validity (Donnellan et al., 2006). The Appendix shows the items and identifies items that were reverse scored to represent the scale.

Childhood Maltreatment

We examined childhood maltreatment as a moderator variable. We used four items to capture maltreatment: sexual abuse, physical abuse, physical neglect, and emotional neglect (See Appendix). We examined the total experience of all maltreatment in addition to using the dimensional model to examine threat (physical and sexual abuse) and deprivation (physical and emotional neglect) separately. We also examined the incidence of different types of childhood maltreatment occurring as well as the level of

exposure to the childhood maltreatment. The coding of the maltreatment incidence and exposure items is described in detail below.

General Data Analysis Plan

Personality has typically been measured as a snapshot in time (Hampson, 2008), which oversimplifies the dynamic and complex processes of personality change. For this research, we measured change over time using multiple assessments of data over a 15-year period. Multilevel Modeling is a flexible and powerful model that accounts for change and variation in change. It can be defined by two levels: Level 1 refers to how each individual changes over time (and the variation across individuals are called "random effects"), and at the Level 2 the individual intercepts and slopes are averaged (fixed effects). For this study we will examine within-person (how does personality change over time for each individual) and between-person (how do individuals differ from each other in personality) change. We will also examine childhood maltreatment and parent ACE as moderators in this model to examine the impact these variables have on personality development. For the analyses predicting adult personality from child and parent variables we used hierarchical regression analysis. For the analysis of the stability of personality from adolescence to adulthood we used moderated regression analysis with the child maltreatment and parent variables as moderators. For the assessment of personality change we used moderated mixed effects regression in a hierarchal data set with dummy codes 0 = adolescence and 1 = adult.

Data Analyses

Dataset Preparation

In preparation for the data analyses, we created two datasets. The first dataset was a multivariate dataset, which we used to conduct the analyses to predict adult personality and the stability analyses. We merged the personality data from Wave I and Wave IV. Subjects that did not have both waves of personality data were removed from the dataset. We removed subjects who had eight or more personality items missing from Wave I and 10 or more missing personality items missing from Wave IV. We then reverse scored the items in the Neuroticism dimension to create an Emotional Stability dimension. Next, we conducted a missing items analysis on the personality data separately for each wave of data. We did Single Imputation using Expectation Maximization to replace the missing values. Then, we calculated the scales by averaging the items.

To determine if age of the adolescent was a moderator of personality change for stability analyses, we centered age and included it as a moderator in our Wave I analysis and found that age did not moderate the relationship of childhood maltreatment and personality change over time. We evaluated the heteroscadicity assumption and found that the age did not interact with any of the independent variables. Rather than separate the subjects by age in our analysis, we restricted the age at Wave I to 12 to 18 years old to capture personality in adolescence.

For the second dataset, we created a hierarchical dataset to conduct mean level change analyses. To create an index variable, we coded Wave I as 0 and Wave IV as 1. We centered age and examined it as a continuous variable. The centered age variable was found to be related to the change between adolescent and adult personality, so we

included it as a covariate in the mean level change analyses to control for when the age of assessment occurred.

Coding

Sexual abuse, physical abuse, and physical neglect were based on a 6-point scale (See Appendix), which captured number of times the adverse experience occurred. The sexual abuse and physical abuse items were collected in Wave IV and physical neglect is from Wave III. We dichotomized these items so that experiencing the adverse event one or more times was coded as 1 and not experiencing it at all was coded as 0. The emotional neglect item was collected in Wave I and has a different scale. The emotional neglect item required a different approach to coding because it did not ask about number of times the event was experienced. This scale comprises five items that are rated on a 1 ("strongly agree") to 5 ("strongly disagree) Likert scale (See Appendix). We coded strongly agree and agree as 0 to indicate the absence of incidence of emotional neglect and we coded disagree, strongly disagree, and neither agree nor disagree as 1 to indicate experiencing emotional neglect. Following this coding system, all maltreatment items were dichotomized. The binary maltreatment items were used for the incidence analyses to compare adolescents' who experienced a specific adverse event to those who did not. For the incidence threat subscale, we coded experiencing sexual and/or physical abuse as 1 and not experiencing either as 0. For the incidence of deprivation subscale, we coded experiencing physical neglect and/or emotional neglect as 1 and not experiencing either as 0. For the combined deprivation and threat subscale, participants who had at least 1 deprivation item endorsed, and 1 threat item endorsed were coded as 1 and subjects with neither experience were coded as 0.

To capture level of exposure to maltreatment, we recoded the 6-point Likert scale and removed 6 (i.e., never experienced the maltreatment) to only capture individuals who had experienced the maltreatment and compare exposure levels within this group. We recoded the scale into a quasi-quantitative variable (experiencing the maltreatment one time was coded as 1, two times=2, three to five times=4, six to ten times=8, and more than ten times=12) to make the parameter estimates interpretable. The threat exposure subscale combined the two abuse exposure items. The deprivation exposure subscale only included the physical neglect exposure item and not emotional neglect because, as mentioned above, the emotional neglect item did not ask about exposure. The combined threat and deprivation subscale was the sum of the threat exposure and deprivation exposure.

Primary Analyses

Analysis 1

First, we estimated the relationship between biological sex, adolescent personality variables, childhood maltreatment incidence and exposure level, and parent ACE with adult personality variables by computing Pearson correlations.

Analysis 2

To examine how well each adult personality dimension could be predicted from biological sex, adolescent personality, childhood maltreatment incidence and exposure level, and parent ACE, we examined these variables in separate regression blocks.

Analysis 3

To determine what variables were uniquely related to adult personality, we ran simultaneous linear regressions and examined all predictor variables in one model for each adult personality variable.

Analysis 4

We ran stability analyses in the multivariate dataset to examine rank-order stability of personality over time using Moderated Regression analysis with PROCESS Macro in SPSS (Hayes, 2017).

Analysis 5

Finally, we assessed mean level change using Mixed Models to determine how personality was changing over this developmental period from adolescence to young adulthood and also determine how childhood maltreatment moderated that change over time.

Results

Description of the Variables

Table 2 shows the descriptive statistics and sample sizes for all the variables used in the analyses. Continuous variables are reported as medians and standard deviations whereas categorical variables are reported as frequencies and percentages. Table 3 describes the means and standard deviations for the four personality dimensions at Wave I and Wave IV. Table 4 shows the number of participants who experienced at least one type of maltreatment and the number who experienced none. Table 5 describes the number of participants who experienced the different levels of exposure to sexual abuse, physical abuse, and physical neglect.

Predicting Adult Personality

Relation of the Individual Predictors to Adult Personality

Table 6 shows the simple correlations between the predictor variables and adult personality. We ran Pearson r correlations to examine the relationships between adolescent personality, sex, incidence of maltreatment, exposure level of maltreatment, and Parent ACE with adult personality variables. Generally, we found that all adolescent personality variables positively correlated with adult personality variables. As expected, we found that sex was significantly correlated with adult personality and, more specifically, men score higher than women on Emotional Stability whereas women score higher on Extraversion, Agreeableness, and Conscientiousness. The experience of maltreatment was generally negatively impactful on adult personality, particularly for Emotional Stability and Conscientiousness. When examining maltreatment, we found that the incidence of maltreatment was negatively correlated with adult personality, but

exposure level of maltreatment was not significantly related. Finally, we found that Parent ACE was negatively related to adult emotional stability.

Relation of the Different Sets of Predictor Variables to Adult Personality

Tables 7-10 summarize the prediction of each adult personality variable from each set of predictors. When examining the unique relations of each adolescent personality variable in the context of the others, the relations were generally smaller but were still present and show the same basic pattern as seen in the simple correlations. With the exception of agreeableness, the adolescent personality tends to predict adult personality. Generally, having maltreatment negatively impacts adult personality.

Parent ACE only predicted emotional stability, but did not predict any of the other variables. As can be seen in Table 7, sex, adolescent personality, and incidence of maltreatment significantly predict adult emotional stability. However, adolescent emotional stability and conscientiousness do not uniquely predict adult emotional stability and adult conscientiousness. Exposure level of maltreatment does not strongly predict adult emotional stability or conscientiousness, but exposure level of deprivation does uniquely predict emotional stability. Table 9 shows that sex, child personality, and maltreatment exposure significantly predict extraversion in adulthood. Although, maltreatment incidence was strongly related to adult extraversion, the incidence of deprivation had a stronger effect than incidence of threat. Conversely, exposure level of threat had a significant effect on adult extraversion and exposure level of deprivation did not. As seen in Table 10, sex, child personality, maltreatment incidence and maltreatment exposure were all strongly predictors of adult agreeableness. Emotional stability and incidence of threat had the weakest predictability for adult agreeableness.

Predicting Adult Personality from All the predictors Simultaneously

Simultaneous Linear Regressions were conducted to determine what other types of variables were uniquely contributing to adult personality dimensions. Parent ACE was not included in the simultaneous regressions given its low sample size. Biological sex was entered in step 1, four child personality variables was entered in step 2, and incidence of threat and deprivation was calculated in the final step. We examined the final step to determine if maltreatment had an incremental unique contribution to predicting adult personality after controlling for sex and child personality, which have shown to be related to adult personality (Roberts & Delvecchio, 2000). Tables 10-13 represents the results for all variables entered in final block. In general, the variables that individually predicted personality also tended to make unique contributions when predicting personality amongst other variables. Although the overall model for extraversion was not statistically significant, the child personality variables in the model were statistically significant including emotional stability, extraversion, and agreeableness. The presence of the nonsignificant predictor of conscientiousness weakened the overall predictability of the model. Tables 14-17 represent the same analyses expect the maltreatment incidence variables are not included and only the maltreatment exposures variables are included in the model. Since these analyses include the exposure variables, the sample size is dramatically smaller. The data is represented in the tables but will not be discussed here due to small sample size.

Rank Order Stability

Moderation of Incidence of Maltreatment on Personality

We examined how the incidence of maltreatment moderates the stability of adolescent personality to adult personality (See Tables 18-21). Generally, we did not find that maltreatment had a moderating effect on the stability of personality. The few effects that we found (See Table 18 and Table 21) may best be attributed to chance, however, it is interesting that physical neglect was the only variable that significantly interacted with adult emotional stability (See Figure 1). This effect was not consistent within or across personality dimensions and it might not reflect a meaningful difference.

Moderation of Exposure of Maltreatment on Personality

When we examined how exposure level of maltreatment moderates the stability of adolescent personality to adult personality, we found that threat exposure and the total exposure of threat and deprivation significantly interacted with Conscientiousness (See Figure 2). The extent to which conscientious adolescents become conscientious adults is less for adolescents who have been exposed to higher exposure of maltreatment. However, we did not find any interaction effects for maltreatment exposures on Extraversion, Agreeableness, or Emotional Stability. The Agreeableness results are shown in Table 25, however, due to low reliability of the scale we will not discuss the results in depth here. All results can be found in Tables 22-25.

Mean Level Change

Moderation of Incidence of Maltreatment on Personality

We used Mixed Models to examine how the incidence of maltreatment moderates personality change across time. Table 26 shows the mean level change in personality

dimensions without any moderators and Tables 27-30 show the analyses for moderation of incidence of maltreatment. Our results demonstrate an overall decrease in emotional stability, conscientiousness, and extraversion from adolescence to adulthood. Additionally, we found that the impact of experiencing any maltreatment, any threat, or any deprivation further decreased levels of emotional stability, conscientiousness, and extraversion in adulthood. Specifically, individuals who experience any incidence of threat or any incidence of deprivation were 1.3 times lower on emotional stability compared to those who did not experience any threat (See Figures 3 and Figure 4). Individuals who experienced any threat were 1.89 times lower on conscientiousness in adulthood (See Figure 5). Adults who had experienced emotional neglect were significantly lower on conscientiousness than adults who did not experience emotional neglect (See Figure 6). Those who experienced any maltreatment, any threat, or any deprivation had scores on extraversion that were approximately 1 time lower than those who did not (See Figure 7 and Figure 8). Agreeableness scores demonstrate a different trend than other personality dimensions, such that there is an increase in agreeableness from adolescence to adulthood. Although threat and deprivation appears to show a further increase in agreeableness, the overall increase in agreeableness overwhelms the subtle effects of these moderating variables.

Moderation of Exposure of Maltreatment on Personality

We used Mixed Models to examine how different levels of exposure of abuse and neglect, or threat and deprivation, moderates' personality across time (See Tables 31-34). Our results demonstrate an overall decrease in extraversion from adolescence to adulthood, which is largely inconsistent with previous literature; however, some literature

suggests that people increase in the extraversion facet of social dominance, but they decrease in social vitality (Roberts et al., 2006). We did not find that exposure of threat or deprivation moderated emotional stability, conscientiousness, or agreeableness; however, we found that threat exposure significantly moderates extraversion from adolescence to adulthood. Specifically, those who experienced higher exposure levels of threat were lower on extraversion in adolescence and were 1.18 times lower on extraversion in adulthood than those who experience lower exposure to threat (See Figure 9). When we examined sexual abuse exposure, we found that individuals who experienced higher levels of childhood sexual abuse exposure reported lower levels of extraversion in adolescence and remained lower on extraversion in adulthood compared to those who did not experience any exposure to sexual abuse. When we examined childhood physical abuse, we found that individuals who experienced high exposure to physical abuse were lower on extraversion in adolescence and remained lower on extraversion in adulthood compared to individuals who did not experience high exposure to physical abuse. Our results show that high exposure to threat significantly moderates extraversion across time whereas deprivation has no effect.

Discussion

Summary of the Main Findings

The primary hypothesis that motivated this research was that adverse childhood events would impact adult personality. We evaluated those impacts in terms of the direct relation of child maltreatment on adult personality and the moderating effect of child maltreatment on the stability of personality from adolescence to adulthood and the maturation of personality from adolescence to adulthood. As expected, we found that individual personality traits in adolescence are generally stable into adulthood. In addition, sex, other adolescent personality traits, incidence of maltreatment, and parent ACE were generally predictive of adult personality, although parent ACE was only predictive of their offspring's emotional stability. When we examined all the predictor variables simultaneously in one model, we see that, in general, the variables that individually predicted personality also tended to make unique contributions when predicting personality among other variables.

For personality stability we found less evidence that maltreatment moderated stability, although there is a small yet statistically significant decrease in conscientiousness stability for those who experienced threat. For mean level change, the literature suggests that adults tend to increase in their level of emotional stability, conscientiousness, and extraversion compared to their adolescent levels. However, in our data we found an overall decrease in emotional stability, conscientiousness, and extraversion from adolescence to adulthood. We attribute this inconsistency to differences between the measures of these traits between adolescence and adulthood. However, despite this unexpected finding our hypothesis that experiences of

maltreatment would moderate mean level change in personality, such that we would see suppression of maturation of positive personality traits, was supported. These moderating effects were seen for the incidence of maltreatment and, in general, were not found for the exposure of maltreatment except for extraversion. We found that the mean level difference in adolescence and adulthood on extraversion is different as a function of high exposure to threat, such that that high threat exposure significantly decreased extraversion in adolescence.

Adolescent Personality Traits Impacted by High Exposure to Maltreatment

Extraversion

Adolescents who have a history of high exposure to sexual and/or physical abuse are significantly lower on extraversion in adolescence. The difference between the adolescents and adults on extraversion is smaller among the adolescents who experienced high threat exposure, but this is not because adults with lower threat exposure are higher on extraversion it is because the adolescents with higher exposures of threat were lower on extraversion. This finding shows that the effect of high threat exposure is more immediate because it is impacting the adolescents the most and is ultimately what contributes to the mean level change across time. Indeed, this effect on extraversion is reduced as the adolescent emerges into young adulthood and matures, which supports trauma resilience and recovery. Additionally, the finding that high levels of threat reduce extraversion is sensible given that maltreated children experience interpersonal difficulties including social skill deficits, difficulties with trust (D'Andrea et al., 2012), and negative attribution biases which impact how they interact and socialize with others (Perlman et al., 2008 cited by D'Andrea et al., 2012). Children who are chronically

maltreated experience difficulties in peer relationships, specifically lower prosocial behavior, lower perceived peer acceptance and fewer close reciprocal relationships (Trickett et al., 2011). Based on the finding in the current study, this impact on sociability might no longer be problematic once adolescents reach adulthood. However, it is also important to consider that we might not see the effect being carried over into adulthood because of the timing of the maltreatment in relation to when the data was collected. It is possible that we are seeing the impact on extraversion is diminished in adulthood because the timing of maltreatment occurrence was in earlier childhood rather than in older adolescence, which would be closer in time to when personality trait data was collected for young adults. Thus, it might be important to target facets of extraversion such as assertiveness and dominance in the context of psychotherapy with adolescents who have experienced maltreatment to potentially prevent revictimization.

Conscientiousness

Few results supported our hypothesis that maltreatment would impact the rank-order stability of personality, except for conscientiousness. Adolescents who have a history of high exposure to sexual and physical abuse show less stability in personality in adulthood than those who experienced lower exposure levels of threat. This means that maltreated children's personality trait values are less likely to change by the same amount or in the same direction as compared to their peers.

Additionally, we did not find an effect for incidence of maltreatment on stability of conscientiousness and only found the effect for the exposure level of the abuse. This result highlights that experiencing maltreatment or not is not as important as the level of the exposure of the maltreatment, particularly for abuse. These results support that

individuals who experienced high exposure to threat are showing less stability in traits related to self-discipline, self-efficacy, orderliness, and motivation to achieve and acquire skills. The stability analysis does not show whether these adolescents will be higher or lower on conscientiousness, but rather that it is much harder to predict how conscientious they will be in the future. However, maltreated youth are twice as likely than non-maltreated children to have lower educational qualifications and employment as they transition to adulthood (Jaffee et al., 2018). It is possible that lower conscientiousness might be a factor that helps explain these outcomes. Given that research has shown that increased conscientiousness might be a protective factor for those who have experienced maltreatment (Carlson, Oshri, & Kwon, 2015), it might be a fruitful target of psychotherapy treatment for these individuals.

Overall Impact of Threat and Deprivation on Normal Personality Traits

Although child maltreatment can have a negative impact on developmental outcomes, many children who are maltreated go on to be well-adjusted and demonstrate adaptive functioning despite these pernicious events. Our results demonstrate that child maltreatment has an impact on personality development over a critical developmental period. However, the effects of maltreatment on personality were small and were not long lasting. Notably, experiences of threat and deprivation had the most pronounced impact in adolescence and this effect was less pronounced in young adulthood.

Often, there is a focus on the deleterious effects of trauma, and it is equally important to study the developmental trajectories of resilience and recovery. Our results highlight that trauma does not drastically change personality and there is ample opportunity for positive personality change following traumatic events. In their 2022

review, Roberts and Yoon showcase research on ways that psychotherapy can promote positive personality change. The authors also describe research on the social investment principle and how engaging in certain types of activities or behaviors can promote changes in personality dimensions. The concept of changing behavior first to enact other changes in emotion or cognition is not new to the field and can be applied to personality psychology as well.

Parent ACEs and Intergenerational Transmission of Adversity

Our results suggest that parents experience of childhood adverse experiences have an impact on their child's emotional stability, such that parents who have experienced at least one ACE have children who are less emotionally stable than parents who have not experienced an ACE. Although parent ACE was not included in most analyses due to the low sample size of children who had the parent ACE variable, we see this as a valid and interesting finding. Research shows that parents who have experienced trauma might have more parental distress and the potential for their offspring to experience trauma (Cross et al., 2019). Parental distress compounded with low parental support in context of trauma can explain the relationship between child trauma and PTSD symptoms (Whitson, Bernard, Kaufman, 2014). Given this literature, it is sensible that parents with ACE would have children who are less emotionally stable especially given their vulnerability to psychopathology. It is important to consider how parent characteristics, such as parental trauma history, might impact their children's traits.

Limitations and Future Directions

Measurement Issues

The current study has several limitations, particularly as it relates to measurement. First, the variables used to measure personality in adolescence and adulthood were not the same. Additionally, the number of items in each dimension were not the same within adolescent personality and across adolescent and adult personality. The first wave of data did not include a specific personality measure. We were able to develop a 4-factor solution to create four dimensions of personality, but we were not able to create the Openness dimension. Although this is certainly a limitation, it is important to consider that the construct of Openness might require a certain amount of maturity before it is meaningful. The fourth wave of data included all Big Five personality dimensions, but we could not include Openness because we did not have that dimension in the first wave of data. So, we were not able to measure all five dimensions across time and the dimensions we were able to use were not the same items in both waves. This posed a significant limitation in measuring changes across time and led to a lack of measurement invariance. However, within this constraint, we were still able to find meaningful results from the moderation analyses. Future research should examine all five dimensions of personality and additional waves of personality data to better assess change across time.

The Agreeableness factor was created as an ad hoc measure. Agreeableness consists of only two items, which raises concerns for content validity and reliability. Our results related to the agreeableness factor are enigmatic and often paradoxical, which we attribute to the failure of the scale we constructed. The results on Agreeableness are included in the results section but should be treated with some skepticism.

Using single items to measure each type of experience of maltreatment is an oversimplification of a very complex experience. There are multiple dimensions of maltreatment that are not accounted for including duration, perpetrator type, chronicity, and severity (Gabrielli, Jackson, Tunno, & Hambrick, 2017). The emotional neglect variable differed from the other maltreatment variables because it used a different scale and only asked about mothers. Only asking about mothers and not caregivers in general limits the scope of this construct. Similar to the maltreatment items, the Parent ACE item also oversimplifies adversity. This item captures any and all adverse life experiences and leaves much to the interpretation of the person answering the question of what is considered to be an ACE. Essentially, this leaves the participant to grapple with the same definition issue that the field struggles to agree on. Additionally, the interval scale we created to indicate exposure level of maltreatment is an oversimplification and does not capture the heterogeneity of experiences of maltreatment. We also coded all variables the same which treats the level of exposure to distinct types of traumas the same. The field has not concluded on a way to operationalize maltreatment, which is why inconsistencies in measurement across studies persist as does the difficulty of generalization. Another limitation of our data is that it is a nonclinical sample, so many of the participants did not have maltreatment experiences. When we examined the exposure variables in the models our sample size decreased since we did not include participants who did not experience maltreatment, which had an impact on power.

We were also confronted with the general limitation of single self-report measures. Multi-method and multi-informant reports provide more comprehensive and reliable data. Future studies should include both parent and adolescent report of

personality. Self-report measures for personality have been shown to have strong convergence with other informant reports of personality (Kim et al., 2019). However, research on retrospective self-report for child maltreatment has been somewhat mixed in terms of the reliability of retrospective reporting. Some studies have shown that there are biases that can contribute to differences in reporting and that it might be that certain types of abuse are more vulnerable to lower reliability rates (Wielaard, Stek, Comijs, & Rhebergen, 2018). However, a study by Dube et al. (2004) found that older adults demonstrated good reliability in their reports on experiences of child maltreatment, which highlights the general consistency in reporting over time. Of note, these studies focus on the reliability of the incidence of the abuse rather than the reported level of exposure or number of times the abuse occurred. In general, retrospective self-reports limit the degree to which exposure levels can comprehensively be assessed over critical time periods.

Lastly, for subjects in the current study, maltreatment occurred at various ages so there was diversity in the timing or temporal ordering of when the maltreatment occurred compared to when the adolescent or adult was asked to provide the report. The age of when the maltreatment occurred as well as the proximity of when the maltreatment occurred in relation to when the individual participated in the study might have had an impact on our outcome variables. A future study could examine the developmental timing of child maltreatment and the age at which the onset of the abuse occurred.

Conclusion

Despite the limitations of the measures and data available for this study, we found clear evidence that child maltreatment does relate to adult personality, and it has some impact on the stability of conscientiousness and emotional stability and on the mean level of adult extraversion, conscientiousness, and emotional stability. In general, childhood maltreatment leads to lower levels of these traits. Interestingly, the impact of maltreatment on the levels of these traits seems to be more pronounced in adolescence and to diminish in adulthood. The impact of maltreatment on adult personality may explain some of the far-reaching consequences of maltreatment on career success, social relationships, and general well-being. However, our results also suggest that many children who experience maltreatment show some resilience as they progress from adolescence to adulthood.

Table 1

Exploratory Factor Analysis of the Four Adolescent Personality Dimensions

Personality item	Factor loading			
	1	2	3	4
Factor 1: Emotional Stability				
H1PF30	**0.790**	-0.013	0.072	-0.175
H1PF32	**0.875**	-0.015	0.050	-0.095
H1PF33	**0.782**	-0.032	-0.039	0.131
H1PF34	**0.711**	0.007	-0.039	0.184
H1PF35	**0.691**	0.165	-0.002	0.063
H1PF36	**0.775**	0.082	0.008	-0.014
Factor 2: Extraversion				
S62B	-0.053	**0.806**	0.007	0.011
S62E	0.019	**0.814**	0.012	-0.043
S62O	0.198	**0.637**	-0.012	0.021
Factor 3: Conscientiousness				
H1PF18	0.033	-0.007	**0.752**	0.028
H1PF19	0.011	0.012	**0.796**	-0.042
H1PF20	-0.014	0.030	**0.717**	0.050
H1PF21	0.002	-0.027	**0.697**	0.003
Factor 4: Agreeableness				
H1PF7	-0.001	-0.006	0.119	**0.587**
H1PF13	0.020	0.008	0.023	**0.663**

Note. Total *N*=4764. See Appendix for item descriptions of Add Health Identifiers. A Principle Components Analysis (PCA) with an oblique rotation was conducted.

Table 2

Descriptive Statistics for Demographic Variables

	n	% or *M (SD)*
Age		
Adolescent	4764	15.78 (1.61)
Adult	4764	28.79 (1.63)
Sex		
Female	2168	45.5%
Male	2596	54.5%
Ethnicity		
Hispanic	479	10.1%
Race		
White	3035	63.7%
Black	1071	22.4%
Asian	134	2.8%
American Indian	44	1%
Other Race	480	10.1%

Note. Mean (*M*) and Standard Deviation (*SD*) are presented for continuous variables and percent (%) is presented for all categorical variables.

Table 3

Descriptive Statistics of the Personality Dimensions for Adolescents and Adults

Personality Dimension	Adolescent *M(SD)*	Adult *M(SD)*
Emotional Stability	4.127 (.588)	3.40(.694)
Conscientiousness	3.791(.627)	3.66(.678)
Extraversion	3.642(.773)	3.31(.769)
Agreeableness	2.465(.807)	3.82(.604)

Note. *N*=4764

Table 4

Description of Maltreatment Incidence

Maltreatment Incidence Variable	Never Experienced	Experienced at least Once
Sexual Abuse	4477	242
Physical Abuse	3885	824
Any Threat	3754	942
Physical Neglect	3374	386
Emotional Neglect	3374	386
Any Deprivation	2980	622
Any Maltreatment	3345	1389

Table 5

Description of Maltreatment Exposure Levels

Exposure Variable	1x	2x	3-5x	6-10x	>10
Sexual Abuse	84	35	49	26	48
Physical Abuse	218	155	166	74	211
Physical Neglect	148	56	47	31	104

Note. x= amount of times occurred.

Table 6

Relation of the Individual Predictor to Adult Personality

	Adult Emotional Stability	Adult Conscien-tiousness	Adult Extraversion	Adult Agreeableness
1. Sex[a]	-.204**	.100**	.046**	.277**
2. Adolescent Emotional Stability	.189**	.119**	.090**	.043**
3. Adolescent Conscientiousness	.067**	.092**	.019	.078**
4. Adolescent Extraversion	.150**	.089**	.118**	.086**
5. Adolescent Agreeableness	.081**	.046**	-.046**	-.024
6. Threat Incidence[b]	-.137**	-.058**	-.001	-.010
7. Deprivation Incidence[c]	-.105**	-.039*	-.035*	-.068**
8. Threat Exposure[d]	-.055	.021	.020	-.009
9. Deprivation Exposure[e]	.054	-.038	.038	.016
10. Parent ACE[f]	-.095**	.002	-.025	-.064

Note. ACE=Adverse Childhood Experience.
[a]0=male, 1=female. [b]0=no, 1=yes. [c]0=no, 1=yes. [d, e]exposure level 1=1, 2=2, 4=3 to 5, 8=6 to 10, 12=more than 10. [f]0=no, 1=yes.
*p<.05, **p<001

Table 7

Relation of the Different Sets of Predictors to Adult Emotional Stability

Predictor Variable	*B*	*SE B*	β	*t*	95% CI		*R*	*p*
					LL	*UL*		
Sex[a]	-.284	.020	-.204	-14.36	-.323	-.246	.204	<.001
Adolescent Personality							.209	<.001
Emotional Stability	.169	.019	.144	8.78	.132	.207		<.001
Conscientiousness	.005	.017	.005	.304	-.028	.038		0.761
Extraversion	.076	.014	.085	5.46	.049	.104		<.001
Agreeableness	.038	.013	.044	3.02	.013	.063		0.003
Maltreatment Incidence							.022	<.001
Threat[b]	-.194	.030	-.109	-6.51	-.252	-.135	.150	<.001
Deprivation[c]	-.166	.031	-.090	-5.42	-.226	-.106		<.001
Threat Exposure[d]	-.008	.004	-.056	-1.71	-.016	.001	.056	.086
Deprivation Exposure[e]	.007	.007	.051	1.00	-.007	.022	.051	.314
Parent ACE[f]	-.204	.074	-.095	-2.75	-.349	-.059	.095	.006

Note. CI=Confidence Interval, *LL*=Lower Limit, *UL*=Upper Limit.
[a]0=male, 1=female. [b]0=no, 1=yes. [c]0=no, 1=yes. [d, e]exposure level 1=1, 2=2, 4=3 to 5, 8=6 to 10, 12=more than 10. [f]0=no, 1=yes.

Table 8

Relation of the Different Sets of Predictors to Adult Conscientiousness

Predictor Variable	*B*	*SE B*	β	*t*	95% CI		*R*	*p*
					LL	*UL*		
Sex[a]	.137	.020	.100	6.97	.098	.175	.100	<.001
Adolescent Personality							.140	<.001
Emotional Stability	.091	.019	.079	4.75	.053	.128		<.001
Conscientiousness	.064	.016	.059	3.90	.032	.097		<.001
Extraversion	.041	.014	.047	2.99	.014	.069		.003
Agreeableness	.012	.012	.014	.95	-.013	.036		.341
Maltreatment Incidence							.063	<.001
Threat[b]	-.090	.030	-.051	-3.04	-.148	-.032		.002
Deprivation[c]	-.057	.030	-.031	-1.86	-.117	.003		.063
Threat Exposure[d]	.003	.004	.021	0.64	-.006	.012	.021	.516
Deprivation Exposure[e]	-.006	.008	-.038	-0.74	-.021	.009	.038	.458
Parent ACE[f]	.004	.072	.002	0.05	-.138	.146	.002	.957

Note. CI=Confidence Interval, *LL*=Lower Limit, *UL*=Upper Limit.
[a]0=male, 1=female. [b]0=no, 1=yes. [c]0=no, 1=yes. [d, e]exposure level 1=1, 2=2, 4=3 to 5, 8=6 to 10, 12=more than 10. [f]0=no, 1=yes.

Table 9

Relation of the Different Sets of Predictors to Adult Extraversion

Predictor Variable	*B*	*SE B*	β	*t*	95% CI		*R*	*p*
					LL	*UL*		
Sex[a]	.071	.022	.046	3.17	.027	.115	.046	.001
Adolescent Personality							.143	<.001
Emotional Stability	.081	.022	.062	3.75	.039	.124		<.001
Conscientiousness	.001	.019	.001	0.07	-.035	.038		.942
Extraversion	.098	.016	.099	6.26	.068	.129		<.001
Agreeableness	-.065	.014	-.068	-4.60	-.093	-.037		<.001
Maltreatment Incidence							.041	.052
Threat[b]	.032	.033	.016	.96	-.033	.097		.333
Deprivation[c]	-.080	.034	-.039	-2.33	-.147	-.013		.020
Threat Exposure[d]	.003	.005	.020	0.62	-.007	.013	.020	.532
Deprivation Exposure[e]	.007	.009	.039	0.75	-.010	.023	.039	.448
Parent ACE[f]	-.058	.079	-.025	-0.73	-.214	.097	.025	.463

Note. CI=Confidence Interval, *LL*=Lower Limit, *UL*=Upper Limit.
[a]0=male, 1=female. [b]0=no, 1=yes. [c]0=no, 1=yes. [d, e]exposure level 1=1, 2=2, 4=3 to 5, 8=6 to 10, 12=more than 10. [f]0=no, 1=yes.

Table 10

Relation of the Different Sets of Predictors to Adult Agreeableness

Predictor Variable	*B*	*SE B*	β	*t*	95% CI		*R*	*p*
					LL	*UL*		
Sex[a]	.337	.017	.277	19.92	.303	.370	.277	<.001
Adolescent Personality							.119	<.001
Emotional Stability	-.007	.017	-.007	-.39	-.040	.027		.691
Conscientiousness	.076	.015	.079	5.16	.047	.105		<.001
Extraversion	.065	.012	.084	5.28	.041	.090		<.001
Agreeableness	-.035	.011	-.046	-3.11	-.056	-.013		.002
Maltreatment Incidence							.064	<.001
Threat[b]	-.009	.026	-.006	-.331	-.059	.042		.741
Deprivation[c]	-.100	.027	-.063	-3.76	-.152	-.048		<.001
Threat Exposure[d]	-.001	.004	-.009	-.27	-.009	.007	.009	.781
Deprivation Exposure[e]	.002	.007	.014	.282	-.012	.016	.014	.778
Parent ACE[f]	-.112	.060	-.064	-1.87	-.229	.005	.064	.062

Note. CI=Confidence Interval, *LL*=Lower Limit, *UL*=Upper Limit.
[a]0=male, 1=female. [b]0=no, 1=yes. [c]0=no, 1=yes. [d, e]exposure level 1=1, 2=2, 4=3 to 5, 8=6 to 10, 12=more than 10. [f]0=no, 1=yes.

Table 11

Simultaneous Regression Analyses for Emotional Stability With Maltreatment Incidence

Model Summary					
R	R^2 Δ	*F*Δ	*df*1	*df*2	*p*
.293	.013	25.437	2	3556	<.001
Coefficients					
	Predictor Variable	*B*	*SE B*	β	*t*	*p*
	Sex[a]	-.261	.023	-.187	-11.533	<.001
	Emotional Stability	.110	.022	.094	4.989	<.001
	Conscientiousness	.005	.019	.005	.288	.774
	Extraversion	.066	.016	.074	4.194	<.001
	Agreeableness	.028	.014	.032	1.949	.051
	Any Threat	-.155	.029	-.087	-5.349	<.001
	Any Deprivation	-.125	.030	-.068	-4.133	<.001

Note. [a]0=male, 1=female

Table 12

Simultaneous Regression Analyses for Conscientiousness With Maltreatment Incidence

Model Summary					
R	ΔR^2	Δ*F*	*df*1	*df*2	*p*
.191	.002	3.576	2	3556	.028
Coefficients					
	Predictor Variable	*B*	*SE B*	β	*t*	*p*
	Sex[a]	.168	.023	.122	7.339	<.001
	Emotional Stability	.109	.022	.094	4.858	<.001
	Conscientiousness	.075	.019	.068	3.920	<.001
	Extraversion	.027	.016	.030	1.672	.095
	Agreeableness	.015	.014	.017	1.025	.306
	Any Threat	-.075	.029	-.043	-2.573	.010
	Any Deprivation	-.014	.031	-.008	-.457	.648

Note. [a]0=male, 1=female

Table 13

Simultaneous Regression Analyses for Extraversion With Maltreatment Incidence

Model Summary					
R	ΔR^2	ΔF	*df*1	*df*2	*p*
.164	.001	1.400	2	3556	.247
Coefficients					
Predictor Variable	*B*	*SE B*	β	*t*	*p*
Sex[a]	.085	.026	.055	3.300	<.001
Emotional Stability	.125	.025	.097	4.983	<.001
Conscientiousness	.007	.021	.006	.324	.746
Extraversion	.085	.018	.087	4.769	<.001
Agreeableness	-.061	.016	-.064	-3.767	<.001
Any Threat	.052	.033	.027	1.584	.113
Any Deprivation	-.024	.034	-.012	-.703	.482

Note. [a]0=male, 1=female

Table 14

Simultaneous Regression Analyses for Agreeableness With Maltreatment Incidence

Model Summary					
R	ΔR^2	ΔF	*df*1	*df*2	*p*
.292	.002	3.876	2	3556	.021
Coefficients					
Predictor Variable	*B*	*SE B*	β	*t*	*p*
Sex[a]	.323	.019	.271	16.673	<.001
Emotional Stability	.031	.019	.031	1.658	.097
Conscientiousness	.050	.016	.052	3.072	.002
Extraversion	.055	.013	.072	4.058	<.001
Agreeableness	-.021	.012	-.029	-1.730	.084
Any Threat	-.008	.025	-.005	-.336	.737
Any Deprivation	-.070	.026	-.045	-2.714	.007

Note. [a]0=male, 1=female

Table 15

Simultaneous Regression Analyses for Emotional Stability With Maltreatment Exposure

Model Summary					
R	ΔR^2	ΔF	*df*1	*df*2	*p*
.299	.046	2.718	2	107	.071
Coefficients					
Predictor Variable	*B*	*SE B*	β	*t*	*p*
Sex[a]	-.061	.140	-.045	-.438	.662
Emotional Stability	.197	.112	.192	1.757	.082
Conscientiousness	.012	.120	.010	.100	.920
Extraversion	-.077	.096	-.088	-.801	.425
Agreeableness	.036	.084	.044	.430	.668
Threat Exposure	.006	.011	.055	.538	.591
Deprivation Exposure	.033	.014	.217	2.262	.026

Note. [a]0=male, 1=female

Table 16

Simultaneous Regression Analyses for Conscientiousness With Maltreatment Exposure

Model Summary					
R	ΔR^2	ΔF	*df*1	*df*2	*p*
.261	.016	.934	2	107	.396
Coefficients					
Predictor Variable	*B*	*SE B*	β	*t*	*p*
Sex[a]	.164	.138	.123	1.188	.237
Emotional Stability	.228	.110	.229	2.069	.041
Conscientiousness	.028	.118	.023	.234	.816
Extraversion	-.087	.094	-.103	-.926	.356
Agreeableness	-.093	.083	-.115	-1.125	.263
Threat Exposure	.006	.011	.055	.528	.599
Deprivation Exposure	-.018	.014	-.123	-1.267	.208

Note. [a]0=male, 1=female

Table 17

Simultaneous Regression Analyses for Extraversion With Maltreatment Exposure

Model Summary					
R	ΔR^2	ΔF	*df*1	*df*2	*p*
.330	.041	2.455	2	107	.091
Coefficients					
Predictor Variable	*B*	*SE B*	β	*t*	*p*
Sex[a]	.104	.156	.067	.663	.509
Emotional Stability	.062	.125	.054	.497	.620
Conscientiousness	.201	.133	.145	1.507	.135
Extraversion	-.056	.107	-.057	-.520	.620
Agreeableness	-.009	.094	-.009	-.094	.925
Threat Exposure	.026	.013	.213	2.111	.037
Deprivation Exposure	.010	.016	.061	.646	.520

Note. [a]0=male, 1=female

Table 18

Simultaneous Regression Analyses for Agreeableness With Maltreatment Exposure

Model Summary					
R	ΔR^2	ΔF	*df*1	*df*2	*p*
.317	.037	2.179	2	107	.118
Coefficients					
Predictor Variable	*B*	*SE B*	β	*t*	*p*
Sex[a]	.147	.136	.109	1.077	.284
Emotional Stability	.085	.109	.085	.783	.435
Conscientiousness	.100	.116	.083	.861	.391
Extraversion	-.066	.093	-.078	-.708	.481
Agreeableness	-.030	.082	-.036	-.363	.718
Threat Exposure	.023	.011	.212	2.084	.040
Deprivation Exposure	.001	.014	.010	.104	.918

Note. [a]0=male, 1=female

Table 19

Moderation of Maltreatment Incidence on Stability of Emotional Stability

Interaction Terms	Δ R^2	*F*	*df*1	*df*2	*p*
SA*Emotional Stability	.0001	.2695	1	4715	.6037
PA*Emotional Stability	.0000	.1958	1	4705	.6581
PN*Emotional Stability	.0010	3.8874	1	3756	.0487
EN**Emotional Stability	.000	.0253	1	4543	.8736
AnyMaltx* Emotional Stability	.0005	2.3174	1	4730	.1280
AnyThreat**Emotional Stability	.0001	0.5677	1	4692	.4512
AnyDep*Emotional Stability	.0001	.4439	1	3598	.5053

Note. SA=child sexual abuse; PA=child physical abuse; EN=child emotional neglect; PN=child physical neglect; AnyMaltx=any incidence of child maltreatment; AnyThreat=any incidence of threat; AnyDep=any incidence of deprivation.

Table 20

Moderation of Maltreatment Incidence on Stability of Conscientiousness

Interaction Terms	Δ R^2	*F*	*df*1	*df*2	*p*
SA*Conscientious	.0000	.1418	1	4715	.7065
PA*Conscientious	0.0004	1.6792	1	4705	.1951
PN*Conscientious	.0001	.2880	1	3756	.5915
EN*Conscientious	0.005	2.1472	1	4543	.1429
AnyMaltreatment* Conscientiousness	0.0001	.2483	1	4730	.6183
AnyThreat*Conscientious	0.003	1.2085	1	4692	.2717
Any Dep*Conscientious	0.0009	3.3962	1	3598	.0654

Note. SA=child sexual abuse; PA=child physical abuse; EN=child emotional neglect; PN=child physical neglect; AnyMaltx=any incidence of child maltreatment; AnyThreat=any incidence of threat; AnyDep=any incidence of deprivation.

Table 21

Moderation of Maltreatment Incidence on Stability of Extraversion

Interaction Terms	ΔR^2	*F*	*df*1	*df*2	*p*
SA*Extraversion	.0001	.5245	1	4715	.4689
PA*Extraversion	.0002	1.1841	1	4705	.2766
PN*Extraversion	.0000	.1595	1	3756	.6896
EN*Extraversion	.0000	.1746	1	4543	.6761
Any Maltx*Extraversion	.0000	.2340	1	4730	.6286
Any Threat*Extraversion	.0003	1.2128	1	4692	.2708
Any Dep*Extraversion	.0002	.6236	1	3598	.4298

Note. SA=child sexual abuse; PA=child physical abuse; EN=child emotional neglect; PN=child physical neglect; AnyMaltx=any incidence of child maltreatment; AnyThreat=any incidence of threat; AnyDep=any incidence of deprivation.

Table 22

Moderation of Maltreatment Incidence on Stability of Agreeableness

Interaction Terms	ΔR^2	*F*	*df*1	*df*2	*p*
SA*Agreeableness	.0001	.3513	1	4715	.5534
PA*Agreeableness	.001	.5054	2	4705	.4772
PN*Agreeableness	.000	.1127	1	3756	.7371
EN*Agreeableness	.0012	5.2655	1	4543	.0218
Any Maltx *Agreeableness	.0001	.2891	1	4730	.5908
AnyThreat*Agreeableness	.001	.3409	1	4692	.5593
Any Dep*Agreeableness	.000	.000	1	3598	.9971

Note. SA=child sexual abuse; PA=child physical abuse; EN=child emotional neglect; PN=child physical neglect; AnyMaltx=any incidence of child maltreatment; AnyThreat=any incidence of threat; AnyDep=any incidence of deprivation.

Table 23

Moderation of Maltreatment Exposure on Stability of Emotional Stability

Interaction Terms	Δ R^2	*F*	*df*1	*df*2	*p*
SA*Emotional Stability	.0082	2.0348	1	238	.1550
PA* Emotional Stability	.0010	.8714	1	820	.3508
PN* Emotional Stability	.0005	.1998	1	382	.6551
DepThrExpo* Emotional Stability	.0002	.2336	1	1222	.6290
Threat Exp* Emotional Stability	.0000	.0089	1	951	.9249
Dep Exp* Emotional Stability	.0005	.1998	1	382.00	.6551

Note. SA=child sexual abuse exposure; PA=child physical abuse exposure; EN=child emotional neglect exposure; PN=child physical neglect exposure; DepThrExpo= deprivation and threat exposure composite; Threat Exp= threat exposure subscale; Dep Ext= deprivation exposure subscale; centered age included as a covariate for all analyses.

Table 24

Moderation of Maltreatment Exposure on Stability of Conscientiousness

Interaction Terms	Δ R^2	*F*	*df*1	*df*2	*p*
SA*Conscientious	.0104	2.5121	1	238	.1143
PA*Conscientious	.0039	3.2742	1	820	.0707
PN*Conscientious	.0072	2.7929	1	382	.0955
DepThrExpo*Conscientious	.0056	6.9089	1	1222	.0087
Threat Expo*Conscientious	.0049	4.7202	1	951	.0301
Dep Exp**Conscientious	.0072	2.7929	1	382	.0955

Note. SA=child sexual abuse exposure; PA=child physical abuse exposure; EN=child emotional neglect exposure; PN=child physical neglect exposure; AnyMaltx=any incidence of child maltreatment; DepThrExpo= deprivation and threat exposure composite; Threat Exp= threat exposure subscale; Dep Ext= deprivation exposure subscale; centered age included as a covariate for all analyses.

Table 25

Moderation of Maltreatment Exposure on Stability of Extraversion

Interaction Terms	ΔR^2	*F*	*df*1	*df*2	*p*
SA*Extraversion	.0012	.2860	1	238	.5933
PA*Extraversion	.0021	1.7104	1	820	.1913
PN*Extraversion	.0000	.0001	1	382	.9905
DepThrExpo*Extraversion	.0013	1.6562	1	1222	.1984
Threat Expo*Extraversion	.0007	.6330	1	951	.4264
Dep Exp*Extraversion	.0000	.0001	1	382	.9905

Note. SA=child sexual abuse exposure; PA=child physical abuse exposure; EN=child emotional neglect exposure; PN=child physical neglect exposure; AnyMaltx=any incidence of child maltreatment; DepThrExpo= deprivation and threat exposure composite; Threat Exp= threat exposure subscale; Dep Exp= deprivation exposure subscale; centered age included as a covariate for all analyses.

Table 26

Moderation of Maltreatment Exposure on Stability of Agreeableness

Interaction Terms	ΔR^2	*F*	*df*1	*df*2	*p*
SA*Agreeable	.0013	.3129	1	238	.5765
PA*Agreeable	.007	.5968	1	820	.4400
PN*Agreeable	.0144	5.5689	1	382	.0188
DepThrExpo* Agreeable	.0023	2.7863	1	1222	.0953
Threat Expo* Agreeable	.0006	.5750	1	951	.4485
Dep Exp* Agreeable	.0144	5.5689	1	382	.0188

Note. SA=child sexual abuse exposure; PA=child physical abuse exposure; EN=child emotional neglect exposure; PN=child physical neglect exposure; AnyMaltx=any incidence of child maltreatment; DepThrExpo= deprivation and threat exposure composite; Threat Exp= threat exposure subscale; Dep Exp= deprivation exposure subscale; centered age included as a covariate for all analyses.

Table 27

Change in Personality Dimensions Across Time

	Estimate	*SE*	*df*	*t*	*p*	95% CI	
						LL	UL
Emotional Stability							
Intercept	4.126	.008	4755.055	485.246	.000	4.109	4.143
AdolAdult01	-.724	.004	4763.014	-60.887	.000	-.747	-.701
Conscientiousness							
Intercept	3.791	.009	4759.377	417.754	.000	3.773	3.809
AdolAdult01	-.128	.0127	4763.012	-10.059	<.001	-.153	-1.033
Extraversion							
Intercept	3.642	.0111	4753.886	362.662	.000	3.620	3.664
AdolAdult01	-.333	.014	4763.005	-22.449	<.001	-.362	.3041
Agreeableness							
Intercept	2.465	.011	5321.391	218.438	.000	2.442	2.487
AdolAdult01	1.36	.013	6174.597	98.873	.000	1.336	1.389

Note. AdolAdult01 is the index variable indicating Adolescent is coded as 0 and Adult is coded as 1; CI=Confidence Interval, *LL*=Lower Limit, *UL*=Upper Limit.

Table 28

Moderation of Maltreatment Incidence on Mean Level Change in Emotional Stability

Parameter	Estimate	*SE*	*df*	*t*	*p*	95% CI	
						LL	UL
SA*AdolAdult01	-.197	.054	4716.988	-3.65	<.001	-.30	-.091
PA*AdolAdult01	-.077	.022	4706.989	-2.44	.014	-.13	-.015
EN*AdolAdult01	.278	.042	4545.014	6.61	<.001	0.19	.361
PN*AdolAdult01	-.035	.044	3757.990	-0.79	.428	-.12	.051
AnyMaltx*AdolAdult01	-.042	.026	4732.013	-1.60	.109	-.09	.009
AnyThreat*AdolAdult01	-.092	.029	4693.990	-3.07	.002	-.15	-.033
AnyDep*AdolAdult01	.088	.036	3600.008	2.42	.014	0.01	.016

Note. AdolAdult01 is the index variable indicating Adolescent is coded as 0 and Adult is coded as 1; CI=Confidence Interval, *LL*=Lower Limit, *UL*=Upper Limit; SA=child sexual abuse; PA=child physical abuse; EN=child emotional neglect; PN=child physical neglect; AnyMaltx=any incidence of child maltreatment; AnyThreat=any incidence of threat; AnyDep=any incidence of deprivation. Age is centered and included as a covariate in all analyses.

Table 29

Moderation of Maltreatment Incidence on Mean Level Change in Conscientiousness

Parameter	Estimate	*SE*	*df*	*t*	*p*	95%	
						LL	UL
SA*AdolAdult	-.110	.058	4717.989	-1.90	.057	-.224	.003
PA*AdolAdult01	-.066	.033	4707.012	-1.95	.050	-.132	.000
EN*AdolAdult01	.098	.045	4545.010	2.17	.030	.009	.187
PN*AdolAdult01	-.003	.047	3758.009	-0.08	.933	-.095	.089
Any Maltx*AdolAdult01	-.044	.028	4731.989	-1.57	.115	-.099	.011
AnyThreat*AdolAdult01	-.074	.032	4693.988	-2.31	.021	-.137	-.011
AnyDep*AdolAdult01	.034	.038	3599.992	0.89	.371	-.041	.110

Note. AdolAdult01 is the index variable indicating Adolescent is coded as 0 and Adult is coded as 1; CI=Confidence Interval, *LL*=Lower Limit, *UL*=Upper Limit; SA=child sexual abuse; PA=child physical abuse; EN=child emotional neglect; PN=child physical neglect; AnyMaltx=any incidence of child maltreatment; AnyThreat=any incidence of threat; AnyDep=any incidence of deprivation. Age is centered and included as a covariate in all analyses.

Table 30

Moderation of Maltreatment Incidence on Mean Level Change in Extraversion

Parameter	Estimate	*SE*	*df*	*t*	*p*	95% CI	
						LL	UL
SA*AdolAdult	.145	.067	4716.071	2.139	.032	.012	.277
PA*AdolAdult01	.184	.039	4706.657	4.697	<.001	.107	.261
EN*AdolAdult01	.308	.052	4544.629	5.852	<.001	.205	.411
PN*AdolAdult01	.113	.054	3757.995	2.073	.038	.006	.221
AnyMaltx*AdolAdult01	.186	.033	4731.926	5.713	<.001	.122	.249
AnyThreat*AdolAdult01	.190	.037	4693.797	5.113	<.001	.117	.263
AnyDep*AdolAdult01	.197	.044	3600.005	4.398	<.001	.109	.285

Note. AdolAdult01 is the index variable indicating Adolescent is coded as 0 and Adult is coded as 1; CI=Confidence Interval, *LL*=Lower Limit, *UL*=Upper Limit; SA=child sexual abuse; PA=child physical abuse; EN=child emotional neglect; PN=child physical neglect; AnyMaltx=any incidence of child maltreatment; AnyThreat=any incidence of threat; AnyDep=any incidence of deprivation. Age is centered and included as a covariate in all analyses.

Table 31

Moderation of Maltreatment Incidence on Mean Level Change in Agreeableness

Parameter	Estimate	*SE*	*df*	*t*	*p*	95% CI	
						LL	UL
SA*AdolAdult	.199	.062	6074.612	3.167	.002	.07	.32
PA*AdolAdult01	.080	.036	6074.937	2.204	.028	.01	.15
EN*AdolAdult01	.119	.049	5813.087	2.421	.016	.02	.21
PN*AdolAdult01	-.293	.049	4987.858	-5.862	<.001	-.39	-.19
AnyMaltx*AdolAdult01	.028	.030	6108.772	.929	.353	-.03	.08
AnyThreat*AdolAdult01	.121	.034	6036.828	3.488	<.001	.05	.18
Any Dep*AdolAdult01	-.108	.041	4732.070	-2.649	.008	-.18	-.02

Note. AdolAdult01 is the index variable indicating Adolescent is coded as 0 and Adult is coded as 1. CI=Confidence Interval, *LL*=Lower Limit, *UL*=Upper Limit; SA=child sexual abuse; PA=child physical abuse; EN=child emotional neglect; PN=child physical neglect; AnyMaltx=any incidence of child maltreatment; AnyThreat=any incidence of threat; AnyDep=any incidence of deprivation. Age is centered and included as a covariate in all analyses.

Table 32

Moderation of Maltreatment Exposure on Mean Level Change in Emotional Stability

Fixed Effects	Estimate	*SE*	df	*t*	*p*	95% CI	
						LL	UL
SA*AdolAdult	.008	.013	239.999	.642	.521	-.018	.035
PA*AdolAdult01	.004	.006	822.002	.638	.523	-.009	.017
ThreatDep*AdolAdult01	.002	.004	1223.997	.655	.513	-.006	.011
ThreatExp*AdolAdult01	.001	.005	952.998	.193	.847	-.009	.011
Dep Exp (PN) *AdolAdult01	-.002	.009	383.999	-.188	.851	-.020	.016

Note. AdolAdult01 is the index variable indicating Adolescent is coded as 0 and Adult is coded as 1. SA= sexual abuse exposure; PA=physical abuse exposure. ThreatDep=composite of threat and deprivation items; ThreatExp=threat exposure composite; Dep Exp=deprivation exposure which includes single item physical neglect exposure; CI=confidence interval; *LL*=lower limit; *UL*=upper limit; Age is centered and included as a covariate in each analysis.

Table 33

Moderation of Maltreatment Exposure on Mean Level Change in Conscientiousness

Fixed Effects	Estimate	*SE*	df	*t*	*p*	95% CI	
						LL	UL
SA*AdolAdult	.022	.014	240.00	1.61	.108	-.01	.050
PA*AdolAdult01	.006	.007	821.998	0.94	.345	-.00	.020
ThreatDep*AdolAdult01	.001	.004	1224.003	0.31	.756	-.00	.010
ThreatExp*AdolAdult01	.007	.005	952.998	1.34	.180	-.00	.018
DepExp(PN)*AdolAdult01	-.016	.009	383.999	-1.62	.107	-.03	.003

Note. AdolAdult01 is the index variable indicating Adolescent is coded as 0 and Adult is coded as 1. SA= sexual abuse exposure; PA=physical abuse exposure. ThreatDep=composite of threat and deprivation items; ThreatExp=threat exposure composite; Dep Exp=deprivation exposure which includes single item physical neglect exposure; CI=confidence interval; *LL*=lower limit; *UL*=upper limit; Age is centered and included as a covariate in each analysis.

Table 34

Moderation of Maltreatment Exposure on Mean Level Change in Extraversion

Fixed Effects	Estimate	*SE*	df	*t*	*p*	95% CI	
						LL	UL
SA*AdolAdult	.035	.016	240.003	2.109	.036	.002	.068
PA*AdolAdult01	.019	.008	821.999	2.303	.022	.002	.036
ThreatDep*AdolAdult01	.016	.005	1223.992	2.927	.003	.005	.026
Threat Exp*AdolAdult01	.018	.007	952.998	2.612	.009	.004	.031
Dep Exp (PN) *AdolAdult01	.004	.011	384.001	.407	.684	-.068	.003

Note. AdolAdult01 is the index variable indicating Adolescent is coded as 0 and Adult is coded as 1. SA= sexual abuse; PA=physical abuse exposure. ThreatDep=composite of threat and deprivation items; ThreatExp=threat exposure composite; Dep Exp=deprivation exposure which includes single item physical neglect exposure; CI=confidence interval; *LL*=lower limit; *UL*=upper limit; Age is centered and included as a covariate in each analysis.

Table 35

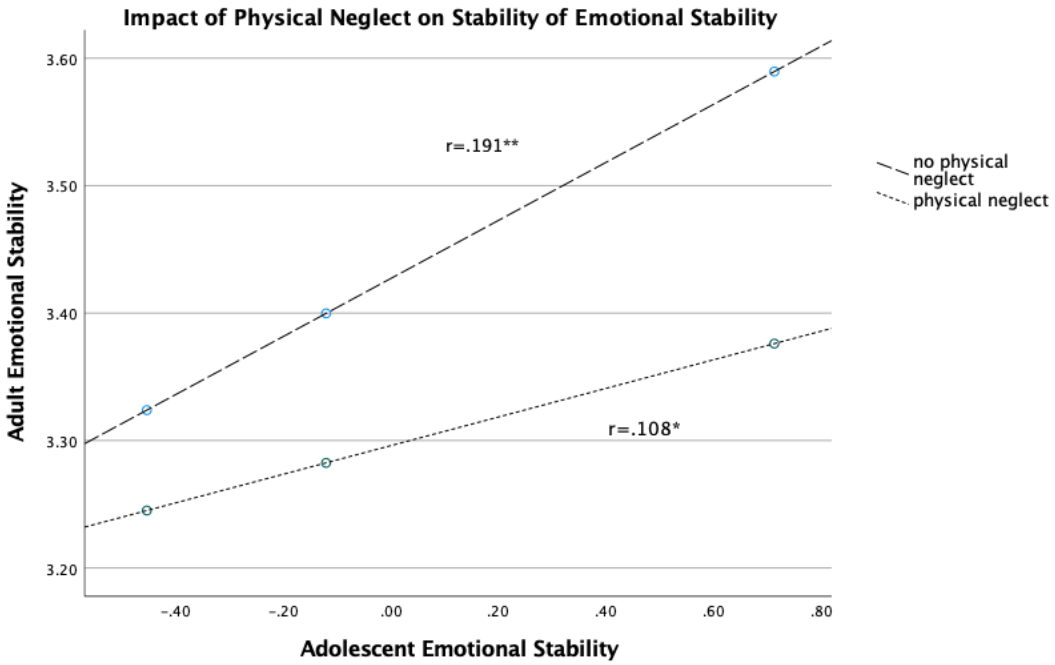
Moderation of Maltreatment Exposure on Mean Level Change in Agreeableness

Fixed Effects	Estimate	*SE*	df	*t*	*p*	95% CI	
						LL	UL
SA*AdolAdult	.019	.014	291.031	1.332	.184	-.009	.049
PA*AdolAdult01	.008	.008	821.989	.104	.918	-.014	.016
ThreatDep*AdolAdult01	.003	.005	1411.974	.611	.541	-.006	.012
Threat Exp*AdolAdult01	.002	.006	952.966	.432	.666	-.009	.015
Dep Exp (PN) *AdolAdult01	.007	.011	462.187	.659	.510	-.014	.028

Note. AdolAdult01 is the index variable indicating Adolescent is coded as 0 and Adult is coded as 1. ThreatDep=composite of threat and deprivation items; ThreatExp=threat exposure composite; Dep Exp=deprivation exposure which includes single item physical neglect exposure; CI=confidence interval; *LL*=lower limit; *UL*=upper limit; Age is centered and included as a covariate in each analysis.

Figure 1

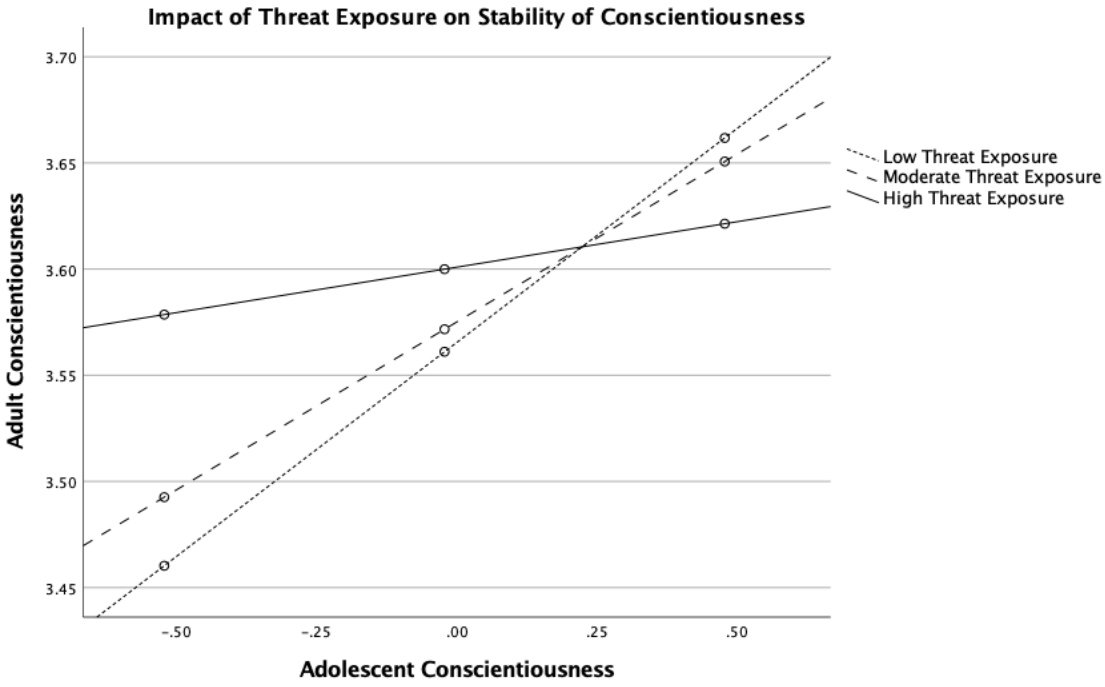
Stability Analysis for Impact of Incidence of Physical Neglect on Emotional Stability



Note. This figure demonstrates the moderating effects the incidence of physical neglect on the stability of emotional stability from adolescence to young adulthood.
*p<.05, **p<.001

Figure 2

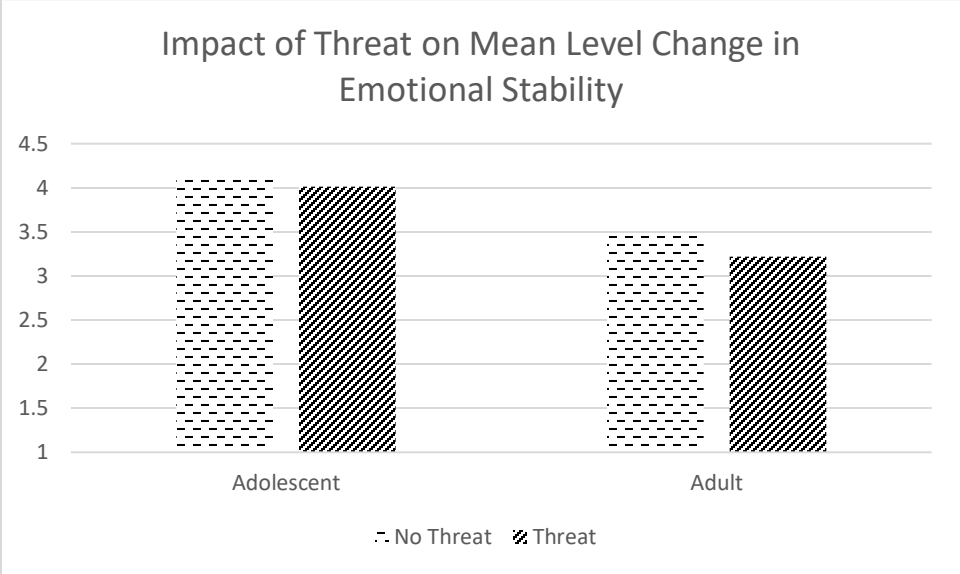
Stability Analysis for Impact of Exposure of Threat on Conscientiousness



Note. This figure demonstrates the moderating effects of threat exposure on the stability of Adolescent Conscientiousness and Adult Conscientiousness. Levels of exposure are labeled as High Threat Exposure (B=.04, p=.43), Moderate Threat Exposure (B=.16, p<.001), Low Threat Exposure (B=.20, p<.001).

Figure 3

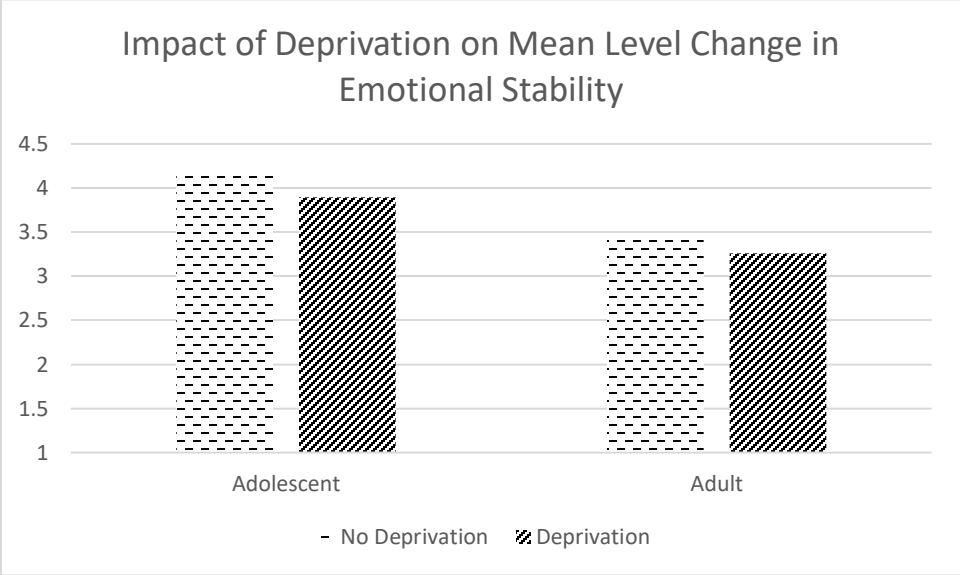
Mean Level Change for Impact of Incidence of Any Threat on Emotional Stability



Note. Scale does not start at 0.

Figure 4

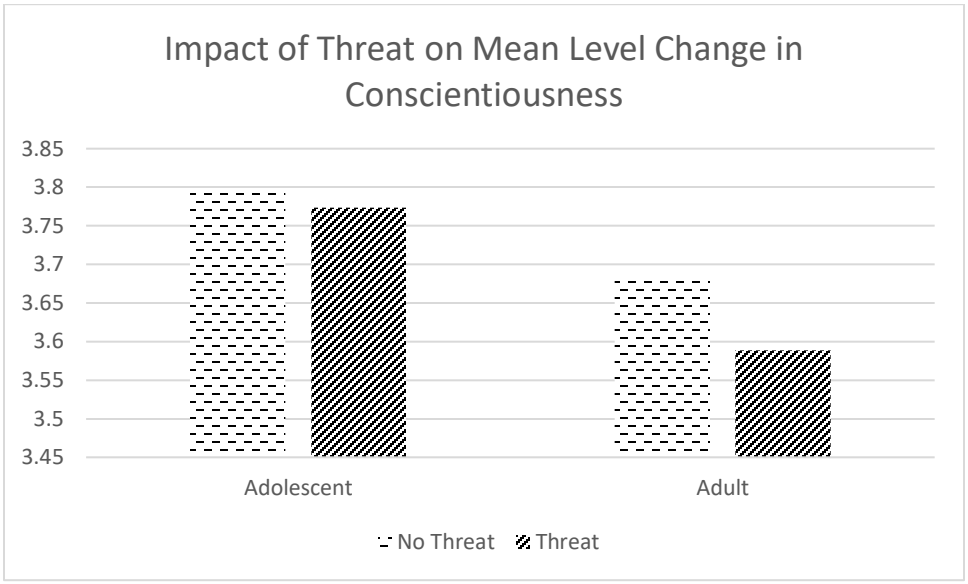
Mean Level Change for Impact of Incidence of Any Deprivation on Emotional Stability



Note. Scale does not start at 0.

Figure 5

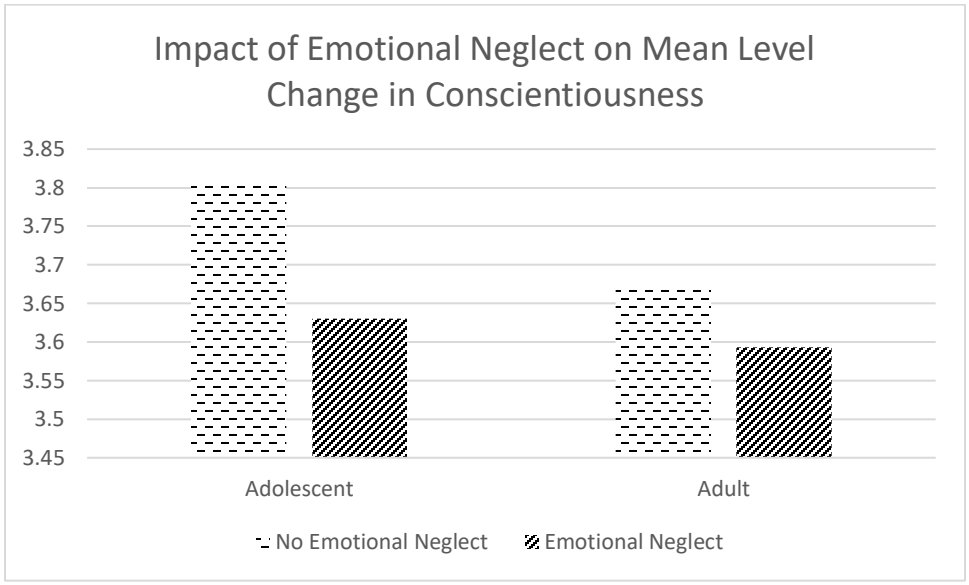
Mean Level Change for Impact of Incidence of Any Threat on Conscientiousness



Note. Scale does not start at 0.

Figure 6

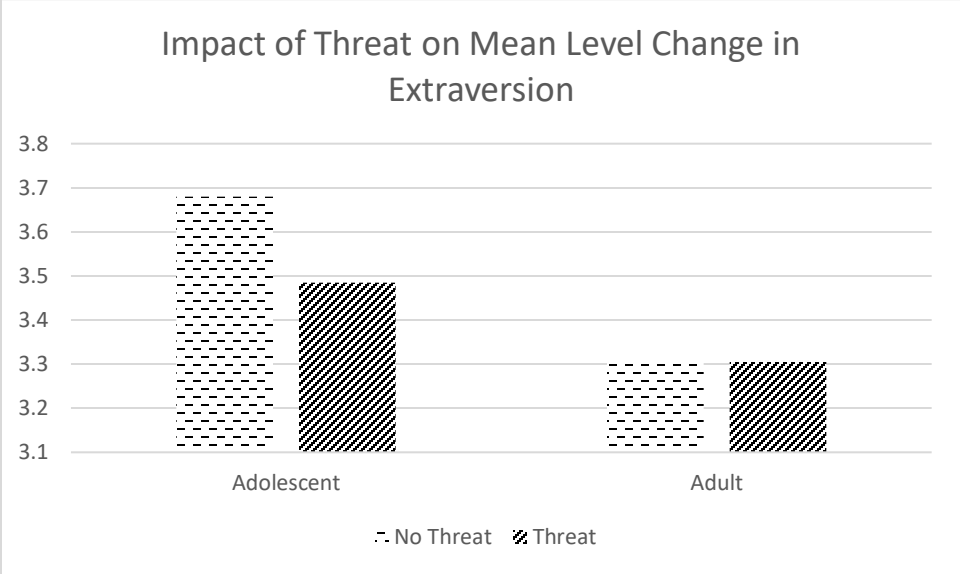
Mean Level Change for Impact of Incidence of Emotional Neglect on Conscientiousness



Note. Scale does not start at 0.

Figure 7

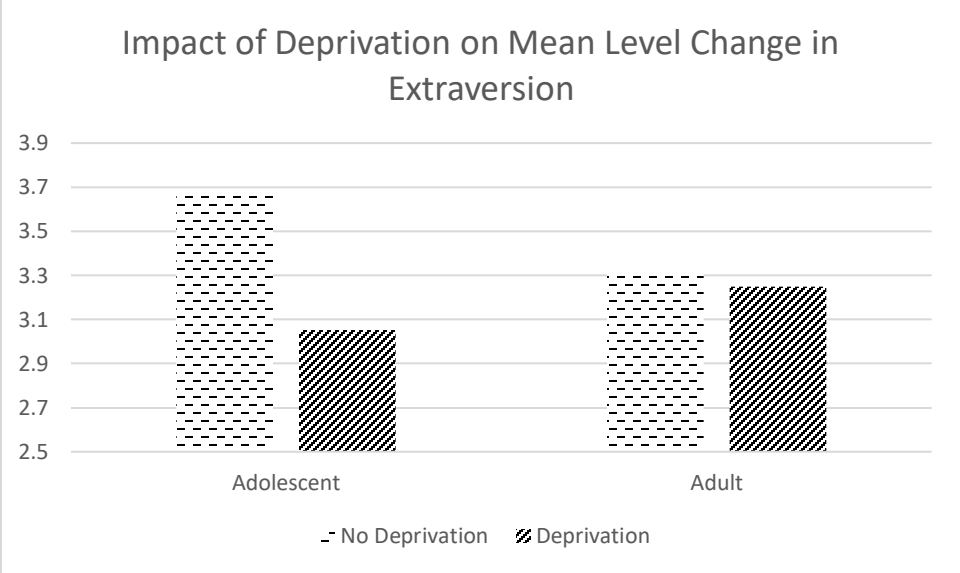
Mean Level Change for Impact of Incidence of Any Threat on Extraversion



Note. Scale does not start at 0.

Figure 8

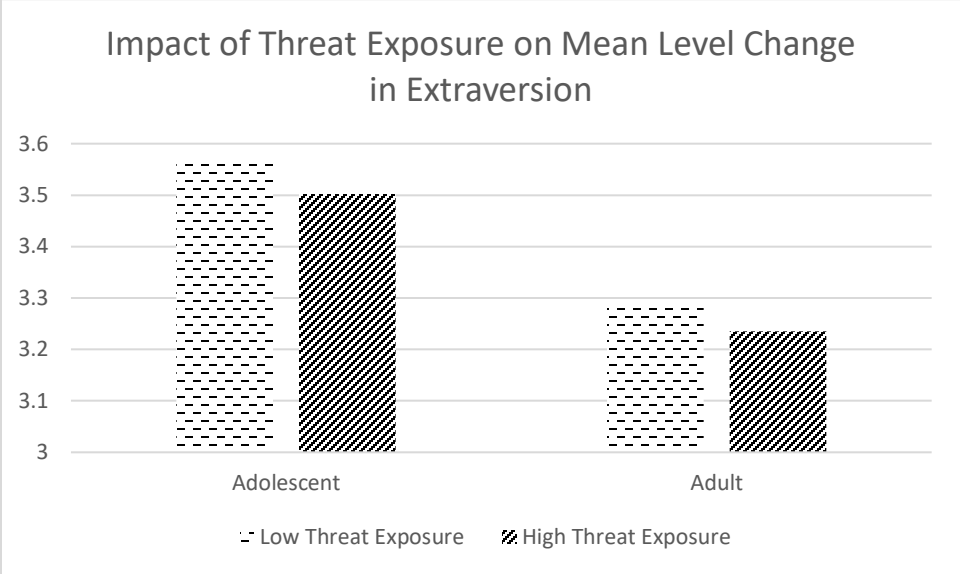
Mean Level Change for Impact of Incidence of Any Deprivation on Extraversion



Note. Scale does not start at 0.

Figure 9

Mean Level Change for Impact of Threat Exposure on Extraversion



Note. Scale does not start at 0.

Appendix

Wave I Personality Items

Emotional Stability
H1PF30. You have a lot of good qualities
H1PF32. You have a lot to be proud of
H1PF33. You like yourself just the way you are
H1PF34. You feel like you are doing everything just about right
H1PF35. You feel socially accepted
H1PF36. You feel loved a wanted

Conscientiousness
H1PF18. When you have a problem to solve, one of the first things you do is get as many facts about the problem as possible.
H1PF19. When you are attempting to find a solution to a problem, you usually try to think of as many different ways to approach the problem as possible.
H1PF20. When making decisions, you generally use a systematic method for judging and comparing alternatives.
H1PF21. After carrying out a solution to a problem, you usually try to analyze what went right and what went wrong.

Extraversion
S62B. I feel close to people at school
S62E. I feel like I am a part of this school
S62O. I feel socially accepted.

Agreeableness
H1PF7. You never argue with anyone
H1PF13. You never criticize other people

Wave IV Personality Items

Emotional Stability
H4PE4. I have frequent mood swings*
H4PE20. I get upset easily*
H4PE12. I am relaxed most of the time
H4PE28. I seldom feel blue

Conscientiousness
H4PE3. I get chores done right away
H4PE11. I often forget to put things back in their proper place*
H4PE19. I like order
H4PE27. I make a mess of things*

Extraversion

H4PE1. I am the life of the party
H4PE17. I socialize freely at parties
H4PE9. I don't talk a lot*
H4PE25. I keep in the background*

Agreeableness
H4PE2. I sympathize with others feelings
H4PE18. I feel others' emotions
H4PE26. I am not really interested in others*
H4PE10. I am not interested in other people's problems*

Child Maltreatment Items

H4MA3. Physical Abuse
Before your 18th birthday, how often did a parent or adult caregiver hit you with a fist, kick you, or throw you down on the floor, into a wall, or down stairs?

H4MA5. Sexual Abuse
Before your 18th birthday, how often did a parent or other adult caregiver touch you in a sexual way, force you to touch him or her in a sexual way, or force you to have sexual relations?

H3MA2. Physical Neglect.
By the time you started 6th grade, how often had your parents or other adult caregivers not taken care of your basic needs

H1PF1. Emotional Neglect
Most of the time, your mother is warm and loving toward you.

[1]

[1] * indicates personality item was reverse scored.
Note. All personality items are based on a 5-point Likert Scale. H4MA3, H4MA5, AND H4MA2 are based on the following scale: 1=1 time, 2=2 times, 3= 3-5 times, 4=6 to 10 times, 5=more than 10 times, 6=never experienced. H1PF1 is based on a 5-point Likert Scale 1 ("strongly agree"), 2 ("agree"), 3 ("neither agree nor disagree"), 4 ("disagree"), 5 ("strongly disagree").

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