



# Adverse Childhood Experiences And Personality Traits: A Correlational Study In An Indian Adult Population

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## Abstract

The present study aims to investigate the relationship between Adverse Childhood Experiences (ACEs) and Big Five personality traits among adults belonging to the age group of 25-65 years. Childhood experiences have been considered to be of vital importance in influencing psychological development. Adverse experiences in childhood have been associated with different emotional and behavioral consequences in adulthood. However, there has been relatively less research on exploring the relationship between Adverse Childhood Experiences and personality traits in the Indian context. The present study has employed quantitative research design and correlational research method for collecting data from 75 - 100 participants through the use of snowball and convenience methods. Adverse Childhood Experiences (ACE) Questionnaire and Big Five Inventory (BFI-44) are used for collecting data. The present study has employed Pearson's correlation coefficient for analyzing the data. The present study is intended to offer insight into the relationship between Adverse Childhood Experiences and personality traits such as Openness, conscientiousness, extraversion, agreeableness and neuroticism, thereby contributing to a deeper understanding of personality development from a developmental and cultural perspective.

**Index Terms** - *Adverse Childhood Experiences, Personality Traits, Big Five, Adults, Psychological Development.*

## 1 INTRODUCTION

### 1.1 Background of the Study

According to psychologists, the personality of an individual is best described as the enduring and predictable patterns of thoughts, emotions, and behaviour displayed by an individual. The major theory used to explain the development of personality types in individuals is referred to as the Big Five Personality Trait Theory. According to this theory, personality in individuals can be grouped into five major categories including Neuroticism, Extraversion, Openness to experience, Agreeableness, and Conscientiousness. These personality traits tend to be stable within adulthood but highly influenced by various factors during early development.

The first important factor in the development of personality during childhood is the Adverse Childhood Experiences (ACEs). ACEs refer to the exposure of children to potentially traumatic situations such as physical or sexual abuse or even neglect. It has been clearly demonstrated that such childhood experiences result in various disorders such as anxiety and depression in adulthood. The need to understand the relationship between adverse childhood experiences and personality development is

increasingly becoming important. This is because personality types determine how people cope with their life experiences.

## 1.2 Conceptual Framework

The link between early adversity and adult personality traits stems from the theoretical assumptions made by developmental theory concerning the effects of chronic stress on the development of the brain. According to the ACE hypothesis, there is a linear correlation, with more stressful childhood experiences increasing the likelihood of poor mental health in adults.

From a neurobiological perspective, early life stress may cause problems in the formation of emotional regulation and stabilization. For example, chronic stress can lead to heightened levels of Neuroticism. Moreover, early life stress may prevent individuals from forming proper interpersonal relationships and result in a lack of Extraversion and Agreeableness, while inconsistent parenting may impair their self-discipline.

## 1.3 Rationale and Need for the Study

Although there is plenty of research conducted by other nations on childhood trauma and its effects, little research has been done in India on its relationship with personality characteristics. Research conducted by other nations is generally limited to the presentation of clinical features and does not take into account personality characteristics.

The importance of exploring this association lies in the fact that personality characteristics play a very important role in determining one's coping ability and social functioning capacity. By examining these relationships among adult Indians between the ages of 25 to 65 years old, it is hoped that a unique understanding of the phenomenon will be gained.

## 1.4 Scope and Objectives

The current study uses a quantitative, correlational research approach for investigating the nature and strength of the relationship between total scores on ACEs and each of the Big Five factors. Using two established measures, namely the ACEs Questionnaire and BFI-44, an attempt is made by the current study to link childhood adversity experiences with personality structure in adulthood among a representative sample of Indians.

## 2. Review Of Literature

The chapter discusses the literature available on adverse childhood experiences and their effects on personality and psychological aspects. The literature review will be based on studies that have explored the long-term effects of adverse childhood experiences, especially with regard to personality traits based on the Big Five personality model.

There have been numerous studies exploring ACEs, which are believed to be important factors influencing psychological health in the long term. Indeed, the evidence base shows that adverse experiences in childhood can be linked to various emotional, behavioural, and interpersonal problems experienced by an individual in later life (Felitti et al., 1998; Hughes et al., 2017). Recently, however, more focus has been put on studying the connection between such experiences and adult personality.

### 2.1 International Studies

There is considerable literature on the connections between ACEs and poor psychological adjustment. Research carried out in Western countries has shown that individuals who experienced more adverse events in childhood tend to suffer from emotional instability, higher stress responsiveness, and greater susceptibility to developing various psychiatric problems (Shonkoff et al., 2012; Anda et al., 2006).

In the area of personality, the presence of ACEs is associated with a high level of neuroticism but a low level of agreeability (Mroczek & Spiro, 2007; Oshri et al., 2013). This implies that early negative experiences may hinder the establishment of emotional balance and trustful interpersonal relations. In relation to openness, conscientiousness, and extraversion, there is inconclusive evidence with several studies demonstrating the absence of significant associations (Bleidorn et al., 2013).

## 2.2 Indian Studies

However, empirical evidence about the role of adverse childhood experiences among Indians is rather limited. There is ample evidence that childhood adversity can result in psychological stress, poor coping mechanisms, and interpersonal problems (Kumar et al., 2018; Deb et al., 2016). However, the link between adverse childhood experiences and personality characteristics needs to be more widely studied.

Aspects of culture, like collectivistic families, hierarchical roles, and cultural expectations regarding the expression of emotions, could impact the perception and incidence of adverse childhood experiences (Verma & Saraswathi, 2002).

## 2.3 Adverse Childhood Experiences and Emotional Regulation

Research has found emotional regulation to be a vital mediator between ACEs and mental health. Exposure to early stress can interfere with the development of healthy emotional regulation skills, causing increased sensitivity and difficulties in regulating negative emotions (Gross, 2015; McLaughlin et al., 2015).

This dysregulation is highly consistent with elevated neuroticism scores, which indicates that personality characteristics could be indicative of regulatory processes influenced by early life circumstances.

## 2.4 ACEs and Personality Development: A Theoretical Perspective

The current theory of personality development focuses on the interplay between biological tendencies and environment (Caspi et al., 2005). In this context, ACEs play an important role as one of the environmental inputs that might change the course of development.

In order to explore these issues, it is helpful to use the Five-Factor Model as an organizing framework (McCrae & Costa, 1999). On the one hand, neuroticism and agreeableness can be viewed as traits that develop under the influence of the early relational and affective environment. In turn, conscientiousness and extraversion could depend more heavily on later socialization experiences.

## 2.5 Cross-Cultural Perspectives on ACEs and Personality

The studies of the relationship between ACEs and personality have largely been conducted within Western settings, making it difficult to generalize the results to other settings. Culture plays a role in the way adversity is experienced as well as how personality is manifested (Triandis, 1995).

In collectivistic cultures like India, elements like family bonding, social conformity, and emotion regulation might play a role in mitigating the effects of ACEs.

## 2.6 ACEs, Resilience, and Adaptive Outcomes

However, while most studies focus on the negative impacts of ACEs, new studies reveal the influence of resilience. For instance, some people who undergo adversities show enhanced self-reflection, mental flexibility, and resilience in their coping (Masten, 2014).

Such adaptations might even manifest themselves in the form of personality characteristics like openness to experience. It is clear that, in the face of adversity, not everyone emerges hurt; rather, some gain strength.

## 2.7 Research Gap

Though significant interest has been generated in the subject of ACEs, a number of limitations have persisted. Firstly, very little work has been carried out that investigates the connection between ACEs and personality characteristics in the Indian scenario. Secondly, much of the previous literature has emphasized only the generic effects of ACEs on psychology and not trait differences. Thirdly, the conflicting results from personality areas necessitate further exploration.

The current research seeks to overcome these limitations by investigating the differential connections of ACEs with Big Five personality characteristics in an Indian adult population.

## 3. Methodology

### 3.1 Research Design

The current study adopted a quantitative cross-sectional correlation research design to establish the correlation between ACEs and personality traits. The reason for choosing this research design is that the researcher did not need to manipulate any variable but was interested in measuring the extent and

direction of the correlation between the independent and dependent variables. Since ACEs were retrospective and personality traits relatively stable in adulthood, a correlational research design was ideal.

### 3.2 Participants

The study population consisted of adult respondents who were aged between 25 to 65 years old. The reason behind this age group was to ensure there would be an adequate period of time that passed since the respondents' childhood days and to capture the more fixed traits of their personalities.

The research utilized a sample of 104 participants (N=104) recruited via convenience and snowball sampling methods. Data collection was conducted through online platforms to ensure a geographically diverse representation across India. Inclusion criteria required participants to be within the 25–65 age range, proficient in English, and capable of providing informed consent.

### 3.3 Measures

#### Adverse Childhood Experiences (ACE) Questionnaire

ACEs were measured through the use of the ACE Questionnaire, a standardized measure developed by Felitti et al. (1998). The scale evaluates the presence of childhood adversities, which include child maltreatment, family dysfunction, and other experiences of adversity that occur before the age of 18. Responses for each question were rated on a binary scale (0 = no and 1 = yes).

#### Big Five Inventory (BFI-44)

Trait assessment was carried out using the Big Five Inventory (BFI-44) personality questionnaire, which is one of the popular self-reports used to assess five main aspects of personality: neuroticism, extroversion, openness, agreeableness, and conscientiousness (McCrae & Costa, 1999). Respondents answered questions using a Likert scale, whereby higher ratings indicate greater trait endorsement. The BFI-44 has been shown to have satisfactory reliability and validity.

### 3.4 Procedure

Data were collected using structured questionnaires administered through digital format. Participants were informed about the purpose of the study and provided informed consent prior to participation. Confidentiality and anonymity were ensured throughout the process.

The questionnaires were completed individually, and participants were instructed to respond honestly based on their personal experiences. No identifying information was collected, minimizing social desirability bias and encouraging candid responses.

### 3.5 Ethical Considerations

In conducting the study, all required ethical principles were followed, since the research involved the use of human subjects. All participants had the freedom of making a decision whether to take part in the experiment and had the ability to stop at any moment without facing any consequences. In addition, before collecting the data, all individuals were informed about participating in the experiment.

### 3.6 Data Analysis

Data analysis was done through the use of statistical packages. Descriptive statistics in terms of mean and standard deviation were calculated to give information on the nature of the data under study.

Pearson's correlation coefficient was used to assess the correlations among ACE scores and five different personality traits. Pearson's correlation coefficient was deemed fit for use because it can determine the presence of a linear relationship between two quantitative variables. Significance was determined at the .05 level.

Data pre-processing was done before the analysis could begin. Data screening was done to eliminate cases of data inconsistency and incomplete data. Assumptions for correlational analysis were taken into account during interpretation.

### 3.7 Rationale for Analytical Approach

The correlation technique is appropriate for this study, since it aims at discovering associations, not proving causality. Due to the multifaceted structure of personality and the additive nature of ACEs, it helps establish differential associations within different dimensions of personality. Although any causation will remain outside the scope of the study, the results can serve as a foundation for future studies with other methodologies.

## 4. RESULTS

### 4.1 Introduction

Data from 101 participants was used in the current study to develop the psychological baseline among adults between ages 25-65 years old in India. Table 4.1 shows the mean and standard deviation scores of the research variables, which are Adverse Childhood Experiences (ACE) and the Big Five personality factors. Statistical procedures included descriptive statistics and Pearson's correlation analysis, complemented by graphical visualization. The findings are interpreted with attention to both statistical significance and theoretical relevance.

### 4.2 Descriptive Statistics of Study Variables

Table 4.1: Descriptive Statistics

Variable	Mean (M)	Standard Deviation (SD)
ACE Score	1.981	2.185
Openness	36.40	5.198
Conscientiousness	34.38	6.061
Extraversion	27.76	5.161
Agreeableness	35.80	4.484
Neuroticism	21.25	5.089

#### Interpretation

The descriptive statistics provide an overview of central tendencies and variability across variables. The mean ACE score ( $M = 1.981$ ,  $SD = 2.185$ ) suggests relatively low exposure to childhood adversity within the sample, though the moderate standard deviation indicates meaningful variability.

Among personality traits:

- Openness ( $M = 36.40$ ) and Agreeableness ( $M = 35.80$ ) show relatively high mean values, suggesting participants are generally open-minded and cooperative.
- Conscientiousness ( $M = 34.38$ ) reflects moderate levels of organization and discipline.
- Extraversion ( $M = 27.76$ ) is comparatively lower, indicating moderate sociability.
- Neuroticism ( $M = 21.25$ ) is the lowest, suggesting relatively stable emotional profiles overall.

The observed variability across all traits supports the suitability of the dataset for inferential analysis.

### 4.3 Correlation Between ACEs and Personality Traits

Table 4.2 Correlation Analysis

Variables	r	p-value	Interpretation
ACE & Openness	0.236	.016	Significant Positive
ACE & Conscientiousness	0.009	.931	Not Significant
ACE & Extraversion	-0.051	.606	Not Significant
ACE & Agreeableness	-0.225	.021	Significant Negative
ACE & Neuroticism	0.242	.013	Significant Positive

#### Interpretation

The correlation analysis reveals a selective and differentiated pattern of associations:

- Neuroticism ( $r = 0.242$ ,  $p = .013$ ) shows a significant positive relationship with ACEs, indicating higher emotional instability among individuals with greater adversity exposure.
- Agreeableness ( $r = -0.225$ ,  $p = .021$ ) is significantly negatively correlated, suggesting reduced interpersonal trust and empathy.

- Openness ( $r = 0.236$ ,  $p = .016$ ) demonstrates a modest but significant positive association, indicating increased cognitive flexibility or adaptive processing.

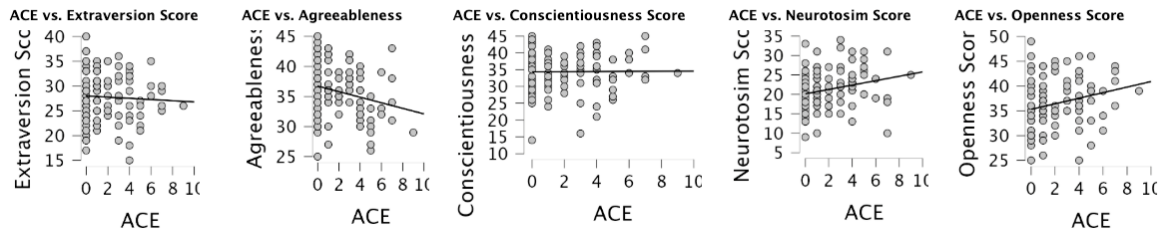
In contrast:

- Conscientiousness ( $r = 0.009$ ) and Extraversion ( $r = -0.051$ ) show no significant relationships, suggesting independence from early adversity.

Overall, the results indicate that ACEs primarily influence emotional and interpersonal domains, rather than behavioural regulation traits.

#### 4.4 Graphical Representation Of Results

Scatter Plots



##### 4.4.1 ACE vs Neuroticism

The scatter plot demonstrates a clear upward linear trend, supporting the positive correlation. Although dispersion exists, the pattern indicates that higher ACE scores are associated with increased emotional instability.

##### 4.4.2 ACE vs Agreeableness

A downward trend is evident, indicating that higher adversity corresponds with lower agreeableness. This visually reinforces reduced trust and empathy.

##### 4.4.3 ACE vs Openness

The plot shows a mild upward trend, though with notable spread, reflecting the modest strength of the relationship.

##### 4.4.4 ACE vs Conscientiousness

No discernible pattern is observed, confirming the absence of a meaningful relationship.

##### 4.4.5 ACE vs Extraversion

The plot shows a random dispersion, indicating no systematic association.

#### 4.5 Summary of Graphical Findings

The graphical analysis aligns closely with statistical results:

- Clear trends: Neuroticism, Agreeableness
- Weak/moderate trend: Openness
- No trend: Conscientiousness, Extraversion

This convergence enhances the validity of the findings.

#### Assumption Testing and Data Quality

Prior to analysis:

- Reverse scoring was applied to relevant personality items.
- Normality was confirmed through skewness and kurtosis within acceptable limits.
- Linearity and homoscedasticity were verified through scatter plot inspection.

These steps confirm the appropriateness of Pearson's correlation.

#### 4.6 Hypothesis Testing

Trait	Result
Openness	Null Hypothesis Rejected
Agreeableness	Null Hypothesis Rejected
Neuroticism	Null Hypothesis Rejected
Conscientiousness	Null Hypothesis Retained
Extraversion	Null Hypothesis Retained

#### 4.7 Integrated Interpretation

The findings indicate that ACEs exert a targeted influence on personality:

- Emotional Dimension: Strongly affected (Neuroticism ↑)
- Interpersonal Dimension: Negatively affected (Agreeableness ↓)
- Cognitive Dimension: Moderately influenced (Openness ↑)
- Behavioral Regulation: Largely unaffected (Conscientiousness, Extraversion)

The positive association with openness may reflect adaptive coping mechanisms, such as increased introspection or psychological flexibility.

#### 4.8 Effect Size Consideration

Despite statistical significance, all correlations are small in magnitude ( $r \approx .20-.25$ ). This suggests:

- ACEs contribute partially, not deterministically, to personality.
- Other factors (genetics, environment, life experiences) play substantial roles.

#### 4.9 Summary of Key Findings

- ACEs are positively related to:
  - Neuroticism
  - Openness
- ACEs are negatively related to:
  - Agreeableness
- ACEs show no relationship with:
  - Conscientiousness
  - Extraversion

### 5. Discussion

The present study examined the relationship between Adverse Childhood Experiences (ACEs) and the Big Five personality traits, revealing a selective pattern of associations that contributes to the growing body of literature on personality development and early life adversity. The findings indicate that ACEs are significantly related to neuroticism, agreeableness, and openness, while showing no meaningful association with conscientiousness and extraversion.

Consistent with existing theoretical frameworks, the positive relationship between ACEs and neuroticism suggests that early exposure to stress and adversity may disrupt emotional regulation systems, leading to increased vulnerability to anxiety, emotional instability, and negative affect in adulthood. This aligns with developmental and stress-response models, which posit that chronic early stress can heighten sensitivity to environmental threats and impair adaptive coping mechanisms.

The significant negative association between ACEs and agreeableness highlights the interpersonal consequences of childhood adversity. Individuals exposed to adverse environments may develop difficulties in trust, empathy, and cooperation, potentially due to insecure attachment patterns or maladaptive relational schemas formed during early development. This finding reinforces the role of early caregiving experiences in shaping social and interpersonal functioning.

An important and relatively novel finding of this study is the positive relationship between ACEs and openness to experience. While not consistently supported in prior research, this result may reflect adaptive processes, whereby individuals exposed to adversity develop greater cognitive flexibility, introspection, or openness as a means of coping with complex life experiences. However, given the modest strength of this association, it should be interpreted cautiously and explored further in future research.

In contrast, the absence of significant relationships between ACEs and both conscientiousness and extraversion suggests that these traits may be less sensitive to early adverse experiences and more influenced by later environmental factors such as education, occupational structure, and social contexts. This supports the notion that personality development is multifactorial, with different traits being shaped by distinct developmental pathways.

Although several findings were statistically significant, the observed effect sizes were small, indicating that ACEs account for only a limited proportion of variance in personality traits. This underscores the importance of considering additional influences, including genetic predispositions, cultural factors, and life experiences across the lifespan.

Overall, the study highlights that the impact of adverse childhood experiences on personality is selective, complex, and multidimensional, primarily affecting emotional and interpersonal domains rather than behavioural regulation. These findings contribute to a more nuanced understanding of how early adversity shapes adult personality and provide a foundation for future research exploring underlying mechanisms and long-term psychological outcomes.

## 6. Conclusion

The present study investigated the relationship between Adverse Childhood Experiences (ACEs) and the Big Five personality traits, revealing that the impact of early adversity on personality is selective rather than universal. Significant associations were observed between ACEs and neuroticism, agreeableness, and openness, while no meaningful relationships were found with conscientiousness and extraversion.

Specifically, higher ACE scores were linked to increased emotional instability (neuroticism) and reduced interpersonal trust and empathy (agreeableness), highlighting the lasting emotional and social consequences of childhood adversity. The positive association with openness suggests a potential adaptive dimension, where individuals may develop greater cognitive flexibility in response to adverse experiences. However, this finding warrants cautious interpretation due to its modest strength.

Overall, the results indicate that while ACEs contribute to personality development, their influence is limited and interacts with multiple other factors, including environmental, social, and biological influences. The study underscores the complexity of personality formation and emphasizes the importance of early life experiences in shaping emotional and interpersonal functioning.

## 7. Limitations Of The Study

Despite providing meaningful insights, the present study has several limitations that should be considered when interpreting the findings.

First, the study employed a cross-sectional research design, which restricts the ability to draw causal conclusions. While significant relationships between ACEs and certain personality traits were identified, it cannot be determined whether early adversity directly caused these personality outcomes or whether other intervening variables influenced the relationships.

Second, the reliance on self-report measures for both ACEs and personality traits may introduce response biases, such as social desirability or recall bias. Participants may underreport or inaccurately recall adverse childhood experiences, particularly those that are sensitive or traumatic in nature.

Third, the study sample appears to reflect relatively low levels of ACE exposure, as indicated by the mean ACE score. This limited variability may reduce the generalizability of findings, particularly to populations with higher levels of adversity or clinical samples.

Additionally, the study did not account for potential confounding variables, such as socioeconomic status, family environment, current stress levels, or genetic predispositions. These factors may play a significant role in shaping personality and could influence the observed relationships.

Another limitation is the use of correlational analysis, which identifies associations but does not capture the complexity of interactions between variables. Personality development is multifactorial, and more advanced analytical approaches (e.g., longitudinal or structural modelling) may provide deeper insights.

Finally, the study is limited in its cultural and contextual scope, as the findings may not be generalizable across different cultural backgrounds or demographic groups. Cultural factors can significantly influence both the experience of adversity and the expression of personality traits.

These limitations highlight the need for future research using longitudinal designs, diverse samples, and multi-method approaches to better understand the relationship between ACEs and personality development.

## 8. Future Research

Building on the findings and limitations of the present study, several avenues for future research are recommended to deepen the understanding of the relationship between Adverse Childhood Experiences (ACEs) and personality development.

First, future studies should adopt longitudinal research designs to examine causal pathways between childhood adversity and personality traits over time. Tracking individuals across different developmental stages would provide clearer insight into how early experiences shape personality trajectories and whether these effects persist, intensify, or diminish across the lifespan.

Second, there is a need to include larger and more diverse samples, particularly individuals with higher levels of ACE exposure and from varied cultural and socioeconomic backgrounds. This would enhance the generalizability of findings and allow for cross-cultural comparisons in how adversity influences personality.

Third, future research should incorporate multi-method approaches, combining self-report measures with observational data, clinical assessments, or informant reports. This would help reduce bias and provide a more comprehensive understanding of both childhood experiences and personality traits.

Another important direction involves examining mediating and moderating variables, such as resilience, social support, coping strategies, and attachment styles. These factors may explain how or why ACEs influence certain personality traits while leaving others unaffected.

Additionally, future studies could explore the mechanisms underlying unexpected findings, particularly the positive association between ACEs and openness to experience. Investigating whether this reflects adaptive coping, post-traumatic growth, or cognitive restructuring would contribute valuable theoretical insights.

Advanced statistical techniques, such as structural equation modelling or path analysis, may also be employed to better capture the complex and multidimensional nature of personality development.

Finally, research could extend beyond the Big Five framework to include other psychological outcomes, such as emotional intelligence, well-being, or psychopathology, to provide a more holistic understanding of the long-term impact of adverse childhood experiences.

Overall, future research should aim to adopt more rigorous, comprehensive, and integrative approaches to better understand the nuanced and multifaceted relationship between early adversity and personality development.

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