

# Analysis of the Relationship Between Attachment, Life Event and Neuroticism Among Adolescents

Jingyi Zhang

*School of Mechanical Engineering, Tianjin University, Tianjin, 300354, China*

**Keywords:** Attachment, Life Event, Neuroticism.

**Abstract:** Neuroticism in the Big Five personality theory is one of the important aspects of studying mental health. Researchers have found a correlation between attachment types and life events and neuroticism. However, there is still a lack of unified summary and explanation of the correlations and influencing mechanisms behind these factors. Therefore, this article summarizes past experimental data and research results to investigate the relationship between attachment types, life events, and adolescent neuroticism levels. The study has found that both anxious attachment and avoidant attachment are significantly positively correlated with neuroticism, and play a mediating role in the impact of neuroticism on psychological problems such as depression. There is a significant positive correlation between life events and neuroticism, and neuroticism often plays a significant mediating effect between life events and psychological problems such as depression. In the future, with the deepening of research on attachment types and life events, it will be possible to more effectively influence neuroticism levels and provide positive interventions for mental health.

## 1 INTRODUCTION

Scholars are concerned about attachment style and its influence on individual mental health these years. Meanwhile, neuroticism, as one of the traits in the Big Five Personality Model, is seen as a main measure to evaluate the situation of individual mental health. Thus, it is possible to conduct researches in studying the correlation between these two elements.

With the rapid development of the society and technology, the living environment changes are more and more common to be seen among the young population, and it is more possible for children to experience moving houses, changing schools, and rebuilding social relationships frequently by following their parents' working areas adjustment than in the past. These changes in the external objective environment, which happened in the period of childhood, may also cause insecurity and instability. Thus, it is possible that life events bring influence on the neuroticism level of children in their mental development.

By studying how attachment types and life events jointly affect children's neuroticism levels, this study can help understand the key factors in children's emotional and behavioral development, and provide a theoretical basis for early intervention in mental health.

The study aims to explore whether there are factors in attachment and environmental changes that significantly affect children's neuroticism levels through the organization and analysis of historical experimental results and literature, and provide relevant suggestions for future interventions on children's neuroticism levels and mental health from these two perspectives.

## 2 RESEARCH SUBJECT

### 2.1 Key Concepts

#### 2.1.1 Attachment Style

Attachment usually means a long-term emotional connection formed between an individual and others, usually including two dimensions called attachment anxiety and attachment avoidance. Attachment style is used to describe the individual's different responses to emotional needs and intimate contact in intimate relationships. Attachment theory provides an important framework for understanding and interpreting behavioral patterns in intimate relationships, especially when faced with external stimuli or relationship conflicts, where different

attachment styles can explain individual coping strategies and emotional responses.

### 2.1.2 Life Event

The concept of life events was first proposed by Henry Holmes and Richard Rahe in 1967. They developed the Life Events Scale by studying the impact of different life events on health, which is used to assess the potential impact of significant events experienced by individuals on their physical health and mental health. Life events refer to significant changes and impacts that individuals experience throughout their life cycle, which typically lead to significant psychological, emotional, or social responses, involving aspects such as family, emotions, life, and work (Holmes & Rahe, 1967). Life events include both positive and negative categories, such as job success and the death of a loved one. Different types of life events trigger individuals to experience psychological adaptation processes and stress responses in different directions (Kanner et al., 1981). The theory of life events helps to explain the psychological reactions and health status of individuals when facing significant changes or stressors. Life event is widely applied in psychology, sociology, and health research, becoming one of the core theories for studying stress and adaptation. By studying the relationship between life events and the level of health, psychologists can better understand the sources of stress and their impact on physical and mental health, providing a theoretical basis for clinical intervention and mental health management.

### 2.1.3 Neuroticism of the Big Five Personality Model

According to the research results of Cattell and the Big Five model, human personality can be classified into five main dimensions for observation, namely neuroticism, extraversion, openness, agreeableness, and conscientiousness. Neuroticism is defined as an emotional trait in which individuals tend to face kinds of negative emotions such as anxiety, depression and anger, and have stronger responses to stressors. Previous studies have shown that individuals with higher levels of neuroticism are more likely to exhibit weaker emotional regulation abilities when facing stress. Therefore, interventions for neuroticism often help promote the development of mental health.

## 2.2 Classifications of Attachment Style

According to the theory first proposed by Bowlby, J., attachment style is categorized as secure attachment

and insecure attachment which includes anxious attachment and avoidant attachment. After that, Bartholomew, K. and Hall, L. provided a more detailed extension of adult attachment theory, proposing a four-quadrant model of adult attachment types based on the origin. They extracted anxiety and avoidance from attachment and drew a coordinate axis that divides the attachment style into four types based on the level of these two elements.

### 2.2.1 Anxious Attachment

Individuals with anxious attachment may experience inconsistent emotional responses in interactions with their primary caregiver, tend to exhibit strong insecurity in intimate relationships, overly rely on the other person, and often worry that the other person will abandon them. Anxious attachment sufferers have a strong dependence on intimate relationships and crave more attention and affirmation. They usually hope that their partner can always care about them, and often overly rely on their partner's emotional support. These individuals often experience extreme emotional fluctuations and exhibit high sensitivity to conflicts or apathy in intimate relationships (Anagnostopoulos & Botse, 2016). Even small changes in relationships can trigger their anxiety and unease. Anxious attachment sufferers often overinterpret their partners' emotional expressions, fearing neglect or abandonment, and may exhibit excessive attention-seeking or attachment behaviors. They need to constantly receive emotional confirmation from their partner in order to feel safe and satisfied.

When the environment cannot meet their needs, they are more inclined to generate unstable emotions, which may lead to the development of high levels of neuroticism. Meanwhile, neurotic traits increase the perception of relationship insecurity and excessive emotional reactions, making individuals more likely to form anxious attachments.

### 2.2.2 Avoidant Attachment

Avoidant attachment typically manifests as avoidance or estrangement from intimate relationships, often associated with an individual's early experiences of overly indifferent or neglected parenting environments. Avoidant attachment individuals typically exhibit lower emotional needs, are cautious about relying on others, tend to maintain emotional independence and distance, and avoid overexposure to their emotional needs, especially in intimate relationships. They may feel uncomfortable with their partner's intimate behavior and exhibit

distant or indifferent behavior. Avoidant attachment sufferers may adopt avoidance strategies when facing emotional conflicts, avoiding facing problems, or discussing emotional issues. They tend to protect themselves from potential harm by maintaining emotional isolation, often unwilling to seek help or support from others, and even in difficult times, they may handle problems alone, demonstrating strong self-dependence (Anagnostopoulos & Botse, 2016).

On the other hand, individuals with high neuroticism may also cope with stress by avoiding negative emotions, which may lead to the development of avoidant attachment patterns. If individuals with high neuroticism choose to withdraw when faced with emotional distress, it will further exacerbate their tendency to avoid attachment.

### 2.2.3 Secure Attachment

People with secure attachment often have lower levels of both avoidance and anxiety. At the same time, they are more likely to have a lower level of neuroticism, exhibiting higher emotional health and adaptability in adult intimate relationships. Their stable emotional characteristics often enable them to acquire good emotional regulation abilities and are less likely to interact with neuroticism. Therefore, there will be no discussion on secure attachment in this study.

### 2.2.4 Fearful Attachment

Individuals with fearful attachment style are influenced by a combination of high levels of avoidance and anxiety. This combination makes the mutual influence mechanism between fearful attachment and neuroticism diverse. Scholars can study these two factors by separately discussing the influence of anxious attachment and neuroticism, as well as the influence of avoidance attachment and neuroticism. And that is why fearful attachment is excluded from the research range.

## 3 RELATIONSHIP BETWEEN ATTACHMENT STYLE AND NEUROTICISM

### 3.1 Overview

Based on existing researches, most of the articles declare that both anxious and avoidant attachment styles have positive and significant relations with neuroticism. For example, according to Kaur and

Soni's research in 2024, they found a result that could confirm this finding (Kaur & Soni, 2024). They conducted a cross-sectional study that included 77 heterogeneous couples aged 25-45. All participants completed three questionnaires, including the Adult Attachment Scale, Relationship Assessment Scale, and NEO-FFI. The main analysis is based on Spearman's Rank Correlation and the Mann-Whitney U test. According to research, it has also been found that, especially when insecure attachment styles and neuroticism work together on certain mental health indicators, they often interact with each other, and produce a mediating effect at the same time (Mavrandrea & Giovazolias, 2022). For example, the research conducted by Mavrandrea and Giovazolias on depressive symptoms, studied the effects of neuroticism acting alone on depressive symptoms and attachment and neuroticism acting simultaneously on depressive symptoms by controlling for the variable attachment. The results showed that the anxiety and avoidance of adult attachment styles mediate the relationship between neuroticism and depressive symptoms in the big five personality traits.

Moreover, few studies have separately investigated the impact mechanism of avoidant attachment on neuroticism levels (Shaver & Brennan, 1992), and avoidant attachment is often studied together with anxious attachment as an insecure attachment in relation to neuroticism levels. Although people with avoidant attachment are often believed to tend to suppress emotional expression, reduce the intensity of emotional reactions, and exhibit relatively low levels of neuroticism when dealing with emotions and stress, both avoidant attachment and anxious attachment have been shown to be positively correlated with neurological levels in existing research. However, under the same experimental design, the correlation between avoidant attachment and neuroticism is generally not as close and strong as the correlation between anxious attachment and neuroticism level.

### 3.2 Detailed Examination

The study conducted by Zhang, Z., Zhang, X., Wang, X. et al. in 2023 also confirmed this conclusion (Zhang et al., 2023). The study used a questionnaire to investigate the relationship between neuroticism and intolerance towards uncertainty, as well as the role of attachment style in it. This study involved 643 high school and college students aged 15 to 24, with a male-to-female ratio of 1:2. Teenagers in this age group often face more environmental changes and

external uncertainties, which can easily lead to feelings of confusion.

In the study, participants were asked to complete various self-evaluation scales, including Big Five Inventory-2 (BFI-2), Experiences in Close Relationships Inventory (ECR), and Entrance of Uncertainty Scale-12 (IUS-12), to assess their neuroticism levels, attachment styles, and tolerance for uncertainty. This process involves using demographic research papers to collect necessary basic data, including gender, age, ethnicity, family location, only child status, education level, grade level, major, and other demographic factors.

After completing the questionnaire information collection, SPSS was used to conduct an independent sample t-test, together with analysis of variance and correlation analysis on the valid data obtained. The Process plugin and Bootstrap method were used to examine the mediating role of attachment style between neuroticism and intolerance of uncertainty. The difference is considered statistically significant with  $P < 0.05$ , which means that it is reasonable to be accepted as a true hypothesis.

The research results found that the Pearson's correlation coefficient (represented by "r") between attachment avoidance and neuroticism was  $0.1 < r = 0.250 < 0.3$ , indicating a weak positive correlation between attachment avoidance and neuroticism; The "r" between attachment anxiety and neuroticism is  $0.5 < r = 0.534 < 0.7$ , indicating a significant positive correlation between attachment anxiety and neuroticism;  $P < 0.01$  indicates a low significance of the null hypothesis. The mediation effect test results showed that attachment anxiety partially mediated between neuroticism and intolerance of uncertainty, accounting for 40.91% of the total effect. However, the mediating effect of avoidant attachment between neuroticism and intolerance of uncertainty is not significant and can be considered negligible.

Meanwhile, in another study conducted by Shaver and Brennan, they explored the relationship between neuroticism as a personality trait and an individual's attachment style, particularly anxious attachment. This type of research can elucidate the essence of attachment styles, ensuring that they do not replicate existing structures. This study examined the association between attachment measurement, quality of relationship, measurement of outcome, and the Big Five personality traits assessed by the NEO Personality Inventory. The NEO scale is generally less effective than attachment style measurement in predicting the outcomes of romantic relationships, possibly due to the higher specificity of attachment

measurement. Specifically, people with high neuroticism levels often have a higher possibility to experience negative emotions (such as anxiety, depression, anger, etc.) and exhibit strong feelings of insecurity and emotional reactions in intimate relationships, which is particularly related to anxious attachment types.

Additionally, this article suggests a significant positive correlation between neuroticism and attachment types, particularly anxiety attachment. People with high neuroticism are more likely to have anxious attachment styles, which can lead to emotional instability, relationship conflict, and lower relationship satisfaction in intimate relationships. In other words, neuroticism is not only a potential predictor of attachment style, but may also interact with attachment style to jointly influence an individual's romantic relationship outcomes. In this study, the romantic relationship outcome is measured by the satisfaction questionnaire taken from the larger Relationship Rating Scale (RRF) developed by Davis and Todd (1982), which contains seven subscales, and only two of them (satisfaction and closeness) were used in the study.

#### 4 RELATIONSHIP BETWEEN LIFE EVENT AND NEUROTICISM

According to most of the existing research results, it is basically confirmed that there is a remarkable positive correlation between the amount of negative life events and the level of neuroticism (Tang et al., 2013). For example, in the research conducted by Liu, S. J. and Hu, Y. Q. on studying the impact of life events and neuroticism on depression symptoms among college students, they conducted a survey on 330 college students using measurements such as the Eysenck Personality Inventory and the Adolescent Life Events Scale, and conducted correlation analysis on the results (Liu et al., 2018). In the end, they found that life events and neuroticism were significantly and positively correlated with depression. Moreover, the results of the mediation test indicate that neuroticism significantly mediates the pathway from life events to depression, which means that life events will indirectly affect college students' depression by affecting their neuroticism levels. Similarly, Tang, H. B. and Luo, H. J. conducted an experiment in 2013 to study the effects of life events, neuroticism, and coping styles on negative emotions among college



students. They also concluded that life events affect negative emotions through the mediation of neuroticism. These results can directly prove that a notable positive correlation between life events and neuroticism level exists.

This conclusion can also be proven by the study of Yao, C. and You, X. (Yao et al., 2019) They conducted a survey on 882 college students from various aspects such as life events, neuroticism, depression, and self-esteem. In the end, from the experimental result, they discovered that there were significant pairwise correlations between these factors, and both neuroticism and life events play moderating roles in the formation of depression.

The studies above could also introduce the possibility, that life events and neuroticism can interact and affect mental health together. Moreover, there are some other researches that could provide the evidences. For instance, the research conducted by Zhang, X. H. and Luo, Y. H. has given an analysis of life events and emotional experiences of high school students, as well as the role of neuroticism (Zhang et al., 2019). In the result of this article, neuroticism can enhance the positive predictive effect of negative life events on negative emotional experiences, and weaken the positive predictive effect of positive life events on positive emotional experiences. In addition, neuroticism plays a moderating role between life events and high school students' emotional experiences.

## 5 DISCUSSION AND SUGGESTION

### 5.1 General Result

Based on the relevant experiments and their results covered in this article, the following overall conclusion can be drawn through comprehensive analysis: insecure attachment types and life events are both important factors affecting individual neuroticism levels. Specifically, anxious attachment and avoidant attachment can affect an individual's level of neuroticism, especially among students in high schools and colleges. The validation results in different age groups indicate that these insecure attachment patterns often work together with neuroticism levels, thereby significantly affecting mental health and causing symptoms such as depression.

In addition, the number and nature of life events have been shown to have a significant impact on neuroticism levels in different groups. Among the population of high school and college students, individuals who frequently experience life events, especially negative ones, have significantly higher levels of neuroticism compared to other individuals. This result indicates that the impact of life events is similar in both adolescent and adult populations, and the nature and quantity of events are important factors affecting individual neuroticism levels.

### 5.2 Future Direction

According to the conclusion of this article, future research can further explore the relationship between life events experienced by adolescents and different attachment types, in order to investigate whether life events have a significant impact on attachment formation and jointly affect neuroticism levels, as well as the moderating effect of different attachment types on the relationship between life events and neuroticism in adolescents. For example, anxious attachment and avoidant attachment may have different emotional regulation mechanisms when adolescents cope with the stress of life events, which in turn affect their neuroticism levels through different pathways. Therefore, it is necessary to further clarify how these attachment types affect emotional regulation and stress coping.

In addition, future researches should focus on the multidimensional impact of life events, including negative life events, positive life events, traumatic events, and small changes in daily life, to explore their differential effects on neuroticism levels, especially the cumulative effects and persistence of life events on emotional fluctuations. Cross-cultural research is also an important direction for the future. Studying the differences in attachment types and life events under different cultural backgrounds and their impact on neuroticism levels can help scholars understand how cultural differences regulate the mechanisms of adolescent emotions and mental health. Finally, research on application is also worth paying attention to, especially through tracking studies to verify the impact of accumulated life events on neuroticism levels. These studies will help provide more precise mental health intervention strategies for the adolescent population, promoting their emotional stability and comprehensive development of mental health.

## 6 CONCLUSION

This study explores the impact of attachment types and life events on adolescent neuroticism levels. Based on existing research findings, it has been found that both the type of insecure attachment and the number of life events are significantly positively correlated with the level of neuroticism in adolescents, and the mechanism of their combined effects can have a significant impact on mental health and depression.

Based on these findings, this study suggests that families and schools strengthen parent-child communication and emotional support to promote the formation of secure attachment. At the same time, it is recommended to avoid frequent changes in the living environment and sudden changes in the quality of life of adolescents as much as possible, in order to reduce excessive instability and insecurity in their psychological development and help them deal with the emotional distress caused by negative life events. In addition, it is valuable to strengthen mental health education to help teenagers improve their emotional management abilities and cope with challenges in life.

Empirical evidence is provided in this study for the intervention of adolescent mental health, which helps to improve the emotional stability and mental health of the adolescent population, and promote their development of physical and mental health. In the future, with the deepening of research on attachment types and life events, it is expected to find effective ways to regulate and improve the mental health level of adolescents, and have a positive impact on their growth and social adaptation.

## REFERENCES

- T. H. Holmes, & R. H. Rahe. The Social Readjustment Rating Scale. *J. Psychosom. Res.*, 11(2), 213-218 (1967)
- A. D. Kanner, J. C. Coyne, C. Schaefer, & R. S. Lazarus. Comparison of two modes of stress measurement: Daily hassles and uplifts versus major life events. *J. Behav. Med.*, 4(1), 1-39 (1981)
- F. Anagnostopoulos, & T. Botse. Exploring the role of neuroticism and insecure attachment in health anxiety, safety-seeking behavior engagement, and medical services utilization. *SAGE Open* (2016)
- J. Kaur, & S. Soni. Investigating the relationship between personality traits, attachment styles, and relationship satisfaction in romantic relationships of couples. *Int. J. Interdiscip. Approaches Psychol.*, 2(4), 731-764 (2024)
- P. Mavrandrea, & T. Giovazolias. The effect of personality on depressive symptoms: The mediating effect of adult attachment. *Curr. Psychol.*, 41(10), 6978-6986 (2022)
- P. R. Shaver, & K. A. Brennan. Attachment styles and the "Big Five" personality traits: Their connections with each other and with romantic relationship outcomes. *Pers. Soc. Psychol. Bull.*, 18(5), 536-545 (1992)
- Z. Zhang, X. Zhang, X. Wang, J. Peng, P. Wang, R. Ren, & H. Wu. A study on the relationship between neurotic personality and intolerance of uncertainty in adolescents: The mediating effect of attachment. *Int. J. Psychiatry*, 02, 237-240 (2023)
- H. Tang, H. Luo, C. Zhu, X. Li, & X. Wang. The impact of life events on negative emotions in college students: The mediating effect of neuroticism and coping styles. *Chin. J. Health Psychol.*, 06, 904-906 (2013)
- S. Liu, Y. Hu, & H. Sun. The effect of life events on depression in college students: The chain mediation effect of neuroticism and coping styles. *Chin. J. Clin. Psychol.*, 06, 1230-1233+1229 (2018)
- C. Yao, X. You, S. Liu, C. Zhou, & Q. Hui. The relationship between life events and depression in college students: The moderated mediation effect. *Psychol. Sci.*, 04, 935-941 (2019)
- X. Zhang, Y. Luo, X. Xuan, & Y. Wang. Multilevel analysis of daily life events and emotional experiences in high school students: The moderating role of neuroticism. *Psychol. Behav. Res.*, 03, 348-353 (2019)