

Research Paper

## Role of Neuroticism and Conscientiousness in Adolescents' Health Risk Behaviour

Shashikala Yadav<sup>1\*</sup>, Udayan Misra<sup>2</sup>

### ABSTRACT

Adolescence is a crucial developmental period during which people undergo physical, emotional, and cognitive changes as they grow from infancy to maturity. Adolescents are particularly susceptible to health-risky activities during this time. Many researchers have found that neuroticism and conscientiousness significantly correlate with health-risk behaviour in adolescents. This research explores the role of neuroticism and conscientiousness in health risk behaviour and how neuroticism and conscientiousness contribute to adolescents' health-risk behaviors. Using purposive sampling included 100 adolescents aged 10 to 19 from diverse backgrounds. They were administered the Risk-Taking scale to evaluate health risk behaviour and BFI-2 to assess personality traits, especially conscientiousness and neuroticism. Pearson product moment correlation and regression used for the analyses and results of the study indicated that conscientiousness is negatively and significantly correlated with health risk behaviour, and neuroticism has a positive and significant correlation with health risk behaviour. Conscientiousness and neuroticism are substantial predictors of adolescents' health risk behaviour.

**Keywords:** *Adolescents, Neuroticism, Conscientiousness, Health Risk Behaviour*

The teenage years are a time of significant growth and greater autonomy, which may result in engagement with various risky health behaviors. Health risk behaviors refer to actions that can harm physical, emotional, and social well-being, including substance abuse, unhealthy eating patterns, lack of physical activity, and unprotected sexual practices. These behaviors typically have serious long-term effects, leading to chronic illnesses, mental health issues, and early mortality.

Health-risk behaviors contribute to major causes of death, illness, disability, and social issues in adults and children. Often formed in childhood and adolescence, these behaviors persist into adulthood and are interconnected. Examples include substance abuse, risky sexual practices, reckless driving, violent behavior, and poor nutrition. Adolescence is when many behaviors linked to disease, injury, death, or other unfavorable outcomes start. The global school-based student health survey found that 37% of teenage girls and 42% of adolescent boys had experienced bullying.

<sup>1</sup>Research scholar, Department of Psychology, MGKVP, Varanasi, UP

<sup>2</sup>Principal of LBS PG College, Mughalsarai, Chandauli, UP

\*Corresponding Author

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A significant percentage of young people experience sexual violence, with 1 in 8 reporting sexual abuse. This can lead to injuries, HIV and STDs, mental health issues, poor academic performance, early pregnancy, and other health problems. Most alcohol and smoking habits begin during adolescence, and rarely do individuals start using illegal drugs after age 25. Sexual risk behaviors also typically emerge in the teenage years, and aggression and delinquency often persist into adulthood.

Allport (1961) defined personality as the dynamic structure of a psychosocial system within an individual that produces that individual's distinctive pattern of thought, conduct, and emotion. It is clear from earlier personality studies that personality factors have a big influence on a person's physical health and health-related behaviors. Numerous studies have confirmed the link between health behavior and personality traits (Hagger-Johanson et al., 2011). Compared to introverts, extroverts engage in more sexual interactions at a very young age (Eysenck, 1975). Costa et al. (1992) also discovered that extraversion was associated with a higher level of promiscuous sexual desire. People with hostile and anxious personalities are less able to handle life's challenges, which makes them more susceptible to illness and health issues (Smith & Mackenzie, 2006). The big five model of personality developed by Costa and McCrae (1985) explains the most frequently studied personality traits linked to health behavior. According to the Big Five Model, personality has five dimensions: Understanding the health behavior of adolescents is necessary because conscientiousness, neuroticism, extraversion, openness to experience, and agreeableness have all been connected to a variety of behaviors that negatively impact health. Emotional instability, anxiety, susceptibility to stress, and negative emotional states, including depression and irritability, are characteristics of neuroticism. Negative emotional states and emotional dysregulation are more common in adolescents with high neuroticism. These conditions can result in maladaptive coping mechanisms, such as substance abuse (e.g., alcohol, cigarettes, or drugs), unhealthy eating habits (e.g., emotional eating), or avoidance behaviors (e.g., physical inactivity). Characteristics like self-control, goal-orientation, accountability, and the capacity to postpone gratification are all considered aspects of conscientiousness. Highly conscientious adolescents are typically more concerned with long-term objectives, such as choosing choices that put their health and wellbeing ahead of immediate gratification or rewards. Conscientiousness was found to be positively associated with health-promoting behaviors (e.g., better diet and exercise habits, reduced risky sexual behavior, and lower alcohol and drug use) and negatively associated with all risky health behaviors examined (e.g., tobacco use, diet and physical activity patterns, excessive alcohol and substance use, violence, risky sexual behavior, and dangerous driving) (Bogg & Roberts, 2004).

Parwinder Singh (2022) conducted a study to explore the moderating effect of conscientiousness in the relationship between neuroticism and HRBs among 648 adolescents through a multi-stage stratified random sampling. The finding indicates that a higher level of conscientiousness may reduce neuroticism's negative impact on HRBs. Another study conducted by Parwinder Singh on Emotion regulation difficulties, perceived parenting and personality as predictors of health-risk behaviours among adolescents. 723 (Males = 440) adolescents ( $M_{age} = 16.05$ ,  $SD = 1.1$ ) provided relevant information on the standardized questionnaires. Analysis revealed that the adolescents who reported more difficulty regulating one's emotions, perceived parenting practice as maladaptive, scored high on neuroticism and low on conscientiousness, showed more engagement in HRBs than their counterparts.

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Adam A. Terres (2009) examined personality characteristics as predictors of risky behaviour among 272 undergraduate students. The result was that agreeableness is correlated with most delinquent behaviour. Researchers also found gender differences in agreeableness, extraversion, emotional stability, and health-risk behaviours.

A 21-year prospective cohort study conducted in Britain on 5424 adult individuals suggested that health risk behaviours may mediate the relationship between neuroticism and health outcomes. They found that neuroticism was related to higher mortality. However, when controlled for social status, education, smoking, alcohol consumption, physical activity and general health, neuroticism was not related to mortality except for cardiovascular disease (Shipley et al., 2007). Perhaps mortality was attributable to other risk factors such as smoking, alcohol, inferior health, etc., rather than neuroticism. However, rather than neuroticism being the cause of these dangerous behaviors, it is also plausible that socio-economic characteristics (such class or education) may cause health risk behaviors that ultimately contribute to ill health (Shipley et al., 2007).

In a previous study, Weston and Jackson (2015) examined how neuroticism and conscientiousness affected health behaviors, including smoking, following the beginning of chronic illness. High neuroticism and high conscientiousness were found to predict lower smoking after the onset of serious chronic disease (N = 7015). Healthy neuroticism is the term used to describe this combination of high neuroticism and high conscientiousness. However, smoking was only affected by healthy neuroticism after the disease had already started, not before. According to the authors, there are differences between the association between personality and the onset of health issues and the relationship between personality and how one responds to those issues (Weston & Jackson, 2015).

### *Statement of the problem*

Role of neuroticism and conscientiousness in adolescents' health risk behaviour.

### *Objectives:*

- To examine the relationship between neuroticism and adolescent health risk behaviour.
- To examine the relationship between conscientiousness and health risk behaviour among adolescents.
- To determine the positive predictive relationship between neuroticism and conscientiousness on health risk behaviour among adolescents.

### *Hypotheses:*

- **H1:** There will be a positive relationship between neuroticism and health risk behaviour among adolescents
- **H2:** There will be a negative relationship between conscientiousness and health risk behaviour among adolescents.
- **H3:** Neuroticism and conscientiousness would predict health risk behaviour among adolescents

## **METHOD**

### *Sample*

Using purposive sampling, the samples included 100 adolescents (50 male, 50 female) aged 10-19 from the Varanasi district (urban and rural areas).

**Measures**

- The Risk Taking Scale (R.T.S, 2017) by Subhas Sarkar (2017) consists of 15 items across 6 situations. Reliability was determined using the Test-Retest method with a randomly selected sample of 100 males and females aged 14 to 30. Validity was established through expert opinion, achieving 100% agreement on the selected situations. Item analysis informed further evaluations, leading to the final draft of the scale, which exhibits internal consistency and can be accepted as a valid tool.
- Big Five Inventory-2 (BFI-2) by Christopher J. Soto, Oliver P. John (2017) Hindi version, this scale was developed to measure the prototypical features of each Big Five domain and 15 facets and consists of 60-item questionnaire based on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Alpha reliabilities .86 for Extraversion, .82 for Agreeableness, .83 for Conscientiousness, .85 for Negative Emotionality, and .84 for Openness. The scale reports good reliability (0.83) and validity (.75).

**Data procedures**

The participants were provided with an Informed Consent Form, detailing the study’s purpose, data privacy measures, and voluntary participation. Participants were asked to complete the questionnaires anonymously, ensuring their responses reflect their personal experiences without external influence.

**Statistical analysis**

Descriptive statistics (mean, standard deviation) were used to summarize the data. Pearson's correlation analysis was conducted to examine the relationship between neuroticism, conscientiousness, and health risk behavior among adolescents. To test H3, a linear regression analysis was performed to explore the predictive nature of neuroticism and conscientiousness on health risk behavior. SPSS version 20 was used for conducting the statistical analysis.

**RESULT**

**Table1: Pearson Moment Correlation Co-efficient Analysis on Relationship between Neuroticism, Conscientiousness, and Health Risk Behaviours.**

S/N	Variables	Mean	SD	1	2	3
1	Neuroticism	36.66	11.53	-		
2	Conscientiousness	40.39	12.08	-.778**	-	
3	Health-risk behaviour	44.13	14.45	.591**	-.479	-

Table 1 reveals the relationship between neuroticism, conscientiousness, and health risk behaviours among adolescents. It reveals that neuroticism has a positive relationship (r = .591) and conscientiousness has a negative relationship (r = -.479) with health risk behaviours among adolescents.

**Table 2: Regression Table Showing the Relative Contribution of Neuroticism and Conscientiousness on Health Risk Behaviors among Adolescents.**

Predictor				R2	F	Sig.
	Beta	t	Sig.			
Neuroticism	.555	4.25	.000	.337	26.19	.000
Conscientiousness	-.047	-.36	.717			

*Dependent variables: health risk behaviour*

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Linear regression was used to assess the relationship between neuroticism and conscientiousness in predicting adolescent health risk behaviour. Result Table 2 revealed that the  $R^2$  was 0.337,  $F= 16.19$ ;  $p< 0.000$ , indicating that neuroticism and conscientiousness, together, explained a 33.7% contribution to health risk behaviour in adolescents. In which  $\beta$  value of neuroticism was .555 and  $\beta$  value for conscientiousness was -.047 and t test of significance of regression coefficients show that these two variables are significant predictors of health risk behaviour.

### DISCUSSION

The study finds a positive correlation between neuroticism and negative health risk behaviors, linked to individual characteristics. Personality traits affect behaviors, thoughts, feelings, and relationships. In contrast, no positive relationship was found between conscientiousness and health risk behaviors, likely because highly conscientious individuals are organized and aware of their actions' outcomes. They're more likely to think about their actions before engaging in harmful behaviors- "they look before they leap." Kendra (2021) notes that conscientiousness involves thoughtfulness, impulse control, and goal-directedness. Higher neuroticism is linked to anxiety and depression, resulting in risky behaviors (Smith et al., 2016). Neuroticism plays a trans-diagnostic role in activating symptoms of both depression and anxiety, particularly affecting negative emotions and thoughts (Wang et al., 2025). Conversely, high conscientiousness is linked to lower anxiety and depression, serving as a protective factor against such behaviors (Brown et al., 2019; Smith et al., 2016). Both conscientiousness and neuroticism are key predictors of eating disorder behaviors in females, highlighting the complex relationship between personality traits and health risk behaviors (Brown et al., 2019). Elevated neuroticism is associated with increased emotional issues and risky behaviors, whereas high conscientiousness often provides a protective effect. The relationship between these traits and health risk behaviors is complex and context-dependent, highlighting the need for targeted interventions for adolescent health (Fayombo, 2010; McCabe et al., 2016).

### CONCLUSION

From the findings of this study, the researchers conclude that Personality characteristics, especially neuroticism and conscientiousness, significantly influence adolescents' involvement in health risk behaviors. Neuroticism is linked to a higher likelihood of engaging in maladaptive coping methods like substance abuse, emotional eating, and risk-taking. In contrast, conscientiousness acts as a protective factor, fostering better decision-making and self-regulation. Understanding the roles of these personality traits can help inform targeted interventions and prevention strategies for adolescent health risk behaviors.

#### *Implications for Intervention*

Understanding how neuroticism and conscientiousness influence adolescents' health risk behaviors can guide intervention programs that promote healthier habits.

1. Strategies for High Neuroticism Adolescents with high neuroticism can benefit from interventions focused on emotional regulation. Programs teaching stress management, mindfulness, and healthy coping methods can help reduce reliance on unhealthy behaviors.
2. Building Conscientiousness Programs that encourage goal-setting, self-regulation, and long-term planning can help adolescents develop greater conscientiousness. These interventions should emphasize the importance of health in achieving personal goals and demonstrate how making healthy choices today can enhance their future well-being.

3. The results may be beneficial for parents, educators, and mentors in assisting young people. Recognizing how personality characteristics influence health choices could enable adults in these positions to offer improved support, develop personalized guidance, and foster settings that promote healthier decision-making.

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### ***Conflict of Interest***

The author(s) declared no conflict of interest.

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