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The Influence of Neuroticism in Group Social Interaction

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Abstract. Due to the rapid progress and development of the times, the improvement of people's material living standards has led to a gradual increase in their demand for the spiritual world, which has driven the gradual increase in human social needs. Due to the potential negative emotions such as anxiety, depression, inferiority complex, and insecurity that individuals may experience in social life. In order to promote the better integration of highly sensitive individuals into social groups, reduce social friction, and meet social needs, this paper starts from the physiological perspective of neuroticism and proceeds from the perspective of social psychology. Through literature analysis, data analysis, and comparative analysis, it investigates the impact of neuroticism on group social interaction and explores ways to improve group social skills. This aims to meet people's social needs in group life and promote social harmony and development. Through research, this paper found that the level of neuroticism is negatively correlated with the level of social skills.

Keywords: Nervousness, Group socialization, Social psychology

1. Introduction

The term "neuroticism" has appeared in numerous articles across various fields of psychology. Such as Sigmund Freud, Hans J. Eysenck, Raymond B. Cattellhave have all proposed or studied the concept of "neuroticism" to some extent. The "Big Five Personality Theory" proposed by psychological researchers such as McCrae and Costa further refined the personality model of "neuroticism". The term "neuroticism" explored in this paper refers to the innate tendency of individuals to experience negative emotions such as anxiety and depression more easily, and to exhibit emotional instability. The level of neuroticism corresponds to different individual emotional responses. In recent years, numerous studies have revealed an association between neuroticism and emotions, affect, as well as physical and mental health. This paper also aims to elucidate the scientific relationship between neuroticism and social interaction. In social life, individuals with high neuroticism often exhibit emotionality, emotional instability, anxiety, depression, etc., which leads them to experience more negative emotions. When faced with negative events such as threats, setbacks, or losses, they tend to have excessive negative emotional reactions, resulting in aggressive behaviors [1]. These extreme reactions can also affect group social skills. This paper aims to alleviate this phenomenon through reasonable psychological adjustment methods, promoting the development of social strata towards a more harmonious and amicable direction. This paper specifically discusses how neuroticism arises, the different behaviors exhibited by individuals with

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high and low neuroticism when facing social situations, and how individuals with high neuroticism can alleviate social anxiety and improve their social status. To investigate the aforementioned issues, this paper scientifically and rigorously summarizes relevant conclusions by combining methods such as literature analysis, case analysis, and comparative analysis. The significance of this study lies in assisting individuals in alleviating social anxiety, thereby facilitating their better integration into group social interactions. Additionally, it provides a scientifically grounded basis for individuals with social anxiety, enabling them to perceive and address social anxiety more accurately. Consequently, this promotes more harmonious social interactions and facilitates the smooth functioning of society.

2. Proposal and research of neuroticism

2.1. Big Five personality theory

The Big Five personality theory can be traced back to lexical hypotheses in the mid-18th century. Gordon Allport and Henry Odbert pioneered this hypothesis by screening the part of speech describing personality traits, laying the foundation for subsequent research. Subsequently, Ernest Tupes and Raymond Christal first explicitly identified the five major personality categories. Ultimately, Lewis R. Goldberg, Paul Costa, and Robert McCrae popularized and defined the modern terminology and structure, transforming it into an operational academic theory. The Big Five personality theory can be summarized as the five dimensions of OCEAN, namely, Openness to Experience, Conscientiousness, Extroversion, Agreeableness, and Neuroticism. The core characteristic of neuroticism is the tendency for individuals to experience negative emotions and emotional instability. Highly neurotic individuals experience significant emotional fluctuations and are more prone to negative emotions when faced with external pressure and criticism. Such individuals find it difficult to cope with stress and are more likely to become emotional, even developing tendencies towards anxiety and depression. Conversely, low neurotic individuals exhibit more stable emotions, are able to cope with stress effectively, and are less likely to feel uneasy, anxious, or depressed. According to relevant research, there is an extremely close relationship between people's Big Five personality traits and their mental health levels. Studies have shown that high agreeableness, high openness, and high extroversion are all beneficial to mental health, while high neuroticism is detrimental to it [2].

2.2. The emergence of neuroticism

The emergence of neuroticism is influenced by both genetic and environmental factors, each playing a distinct role. Through the twin study model, it can be inferred that the heritability determined by genes is estimated to be between 40% and 60%, indicating that genes contribute significantly to the emergence of neuroticism. This provides a congenital predisposition for the development of neuroticism, explaining why two individuals living in the same environment can exhibit different personalities. Acquired factors, such as environment, determine whether neuroticism is activated, but here, the environment can be further categorized into two types: shared environment and non-shared environment. Shared environment refers to individuals living in the same environment, where their parents provide them with equal economic conditions, educational patterns, living environments, etc. Research has shown that the shared environment has minimal influence on the formation of neuroticism. Non-shared environment, on the other hand, refers to the unique personal experiences that individuals undergo, such as different learning environments, social circles,

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personal illnesses or traumatic experiences, or different interaction patterns between parents and children. Research findings indicate that the neuroticism dimension is positively correlated with the strictness factor, excessive interference factor, rejection and denial factor, and excessive interference and protection factor in both parental educational styles. Combined with research, it can be known that poor parental educational methods may lead to certain personality trait biases and higher neuroticism in the educatees [3]. Thus, it can be seen that the non-shared environment is a key environmental factor that significantly influences the formation of neuroticism. However, the interaction between genes and environment is not a simple addition (50% genes plus 50% environment). In the "gene-environment interaction" model, the level of genetic predisposition also affects the level of neuroticism. In summary, genes determine the initial pattern of people's nervous system, while the environment plays a shaping and regulating role.

3. The impact of neuroticism on social interaction

3.1. Concept of group social interaction

Group social interaction refers to the phenomenon where multiple individuals, based on shared relationships, goals, interests, or benefits, form a cohesive social collective of a certain size with defined rules through continuous interaction, communication, and understanding. It reflects not only the gathering of a group of people at a specific location, but more importantly, the interactions between individuals and between individuals and the group. In group social interactions, each individual plays different roles within the group, possessing varying statuses and hierarchies. When individuals have needs within the group environment (such as specific interest goals, emotional support and understanding, sharing of personal hobbies, etc.), emotions such as group identity and belonging arise, which are the source and foundation of group cohesion.

Group social interaction is beneficial for individuals in meeting their belongingness needs, establishing social identity, achieving group goals, and gaining a sense of security and support. For organizations and society, it can enhance work efficiency through division of labor and collaboration, promote ideological innovation, and regulate the order of social members. According to group dynamics theory (Kurt Lewin), group behavior is not simply the sum of individual behaviors, but is determined by the interaction of various forces within the group, such as cohesion, leadership, and pressure.

3.2. The negative impact of high neuroticism on social interaction

The negative effects of high neuroticism on social interaction primarily manifest at three levels. At the cognitive level, individuals with high neuroticism exhibit more active cortical activity. Studies have found that the gamma wave energy in the amygdala rapidly increases when observing negative facial expressions, indicating that individuals with high neuroticism possess a highly active amygdala [4]. This unconsciously scans potential threats in social environments, leading to excessive interpretation and suspicion in social interactions. For instance, they may interpret neutral behaviors of others as malicious or hostile. Simultaneously, they develop negative expectations towards future social activities, becoming anxious before social interactions even begin. This anticipatory anxiety may cause them to directly avoid socializing. Furthermore, these individuals tend to engage in self-focused and rumination thinking, which leads to passive and repetitive contemplation of negative emotions. This prompts individuals to amplify the details of interactions

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with others during social activities, resulting in negative self-evaluation and subsequently increasing social anxiety [5].

On the emotional level, individuals with high neuroticism experience intense emotional fluctuations and have weak abilities to regulate their emotions, making them prone to negative emotions such as anxiety and unease over trivial matters. Under the influence of such emotions, others may also be infected with anxiety and depression, and they may subconsciously feel tired of interacting with such individuals, which makes it difficult for high neurotic individuals to establish stable and long-lasting social relationships.

From a behavioral perspective, individuals with high neuroticism may exhibit social avoidance and withdrawal due to their fear of future social interactions. Although such avoidance behaviors can temporarily alleviate anxiety, they can lead to a negative cycle of deteriorating social skills and increased loneliness in the long run. Furthermore, under the influence of high levels of anxiety and unease, individuals with high neuroticism seek excessive comfort, requiring constant confirmation of others' needs and affirmation to gain a sense of security. Prolonged engagement in this behavior can impose a significant emotional burden on others, ultimately leading to the breakdown of relationships. Low security may also lead to dependency on social partners and low self-esteem during social interactions. Studies have shown that individuals with high self-esteem possess strong social skills. Self-esteem enhances an individual's self-regulation ability, enabling them to be more proactive in social settings, trust others more, and maintain a more peaceful mindset during interactions, thus experiencing less social anxiety. Individuals with low self-esteem are more concerned about others' opinions and have low self-worth and identity. This negative self-perception leads them to more easily believe that others will give them negative evaluations, thus tending to perceive social situations as dangerous, which in turn increases social anxiety levels [6]. Highly neurotic individuals also exhibit aggressive or defensive behaviors. They perceive "threats" in social interactions as attacks, triggering a "fight" mode for self-defense.

In summary, individuals with high neuroticism tend to form a vicious cycle of self-reinforcement subconsciously when facing group social activities. For instance, they avoid group activities due to fear of rejection, thereby missing opportunities for social interaction. Consequently, they become more marginalized in group social settings, which deepens their sense of loneliness. This perception, in turn, reinforces the negative belief that "socializing is dangerous."

4. How can individuals with high neuroticism improve their social anxiety

Individuals with high neuroticism can improve their anxiety state and enhance their social skills from multiple levels. At the core cognitive level, they can try to reshape their thinking patterns. For example, when anxiety arises, they can identify this "automatic negative thinking" and record their current thoughts. Subsequently, they can engage in cognitive reconstruction by seeking evidence and counter-evidence, reducing "self-focus" and using rational thinking to focus on more reasonable possibilities, such as others may be more concerned about their own performance rather than noticing "my" performance.

From a behavioral perspective, individuals with high neuroticism can alter their subjective feelings through actions. For instance, they can adopt "gradual exposure therapy" to gradually challenge and confront the sources of their anxiety, such as transitioning from avoiding others' gazes to courageously expressing one's own opinions during group social activities. Simultaneously, individuals should abandon safety behaviors, such as those that reduce anxiety but reinforce the belief that "socializing is painful and dangerous." For example, using electronic devices like mobile phones during group activities can reduce the likelihood of interacting with others. When individuals

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consciously reduce these behaviors and step out of their habitual comfort zone, they can actually reduce social anxiety and gradually desensitize themselves to the sensitive state of group socializing.

From the physical and psychological levels, due to the strong physiological arousal associated with high neuroticism, individuals can start with their bodies for regulation. For example, using abdominal breathing to activate the parasympathetic nervous system directly counteracts excessive reactions; using mindfulness meditation exercises to enhance individuals' awareness and tolerance of anxiety. Research has shown that neuroticism is significantly negatively correlated with trait mindfulness. The mindfulness re-perception model suggests that using mindfulness training can help individuals change their thinking patterns, such as observing the content of consciousness without subjective emotions, enhancing individuals' ability to face things with rational thinking, and reducing excessive emotions. At the same time, through mindfulness training, a stable thinking pattern can be formed to deal with negative emotions, weakening the emotional bias towards stimulus perception, thereby reducing the negative emotions of high neurotic individuals. At the same time, regular exercise also helps to release endorphins and consume stress hormones, improving emotional stability.

The long-term strategy for individuals with high neuroticism to alleviate social anxiety should involve building a support system and practicing self-care. This can be achieved by selecting appropriate social environments, pursuing personal interests and hobbies, and forming small groups where they can feel secure. It is also important to stop criticizing oneself, learn to accept anxious emotions, and achieve self-reconciliation.

5. Conclusion

This paper primarily explores the origins and development of neuroticism, how neuroticism arises, and how individuals with high neuroticism can regulate and improve their negative emotions when facing social situations. Through discussion and research, this paper draws the following conclusions: neuroticism has an impact on social interactions, individuals with high neuroticism experience more negative effects during social activities, and there is a significant negative correlation between high neuroticism and high social skills in the study; moreover, high neuroticism can be changed through some acquired mindfulness treatments. The results of this study contribute to scientifically explaining the sources of negative emotions and provide a theoretical basis for understanding and improving the negative social emotions of individuals with high neuroticism. This paper has not conducted field research and lacks practical research, and has not employed research methods such as surveys, experiments, or modeling. In the future, research on neuroticism may shift towards clinical medicine, such as data comparison analysis of individuals with high neuroticism after receiving systematic treatment, in order to better assist individuals with high neuroticism in overcoming social and living challenges caused by unstable emotions.

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