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A study on association between personality traits and social anxiety among youth

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Abstract

The study examined the relationship between personality traits and social anxiety among young adults aged 18 to 30 years. A sample of 148 participants (75 males and 73 females) was selected through simple random sampling, and data were collected using the Kundu Introversion–Extroversion Inventory (1976) by Ram Nath Kundu and the Social Anxiety Disorder Scale (2020) by Nagpal and Singh. Results revealed a statistically significant positive correlation between personality traits and social anxiety, indicating that higher levels of extraversion were found to be linked with greater social anxiety—contrary to much previous research. ANOVA results showed significant differences among introverts, ambiverts, and extroverts, with extroverts reporting the highest social anxiety levels. Gender differences were also significant, with females scoring higher on both extroversion–introversion traits and social anxiety. Overall, the findings emphasise the crucial role of personality traits and gender on the development of social anxiety among youth.

Keywords: Social Anxiety, Extroversion, Introversion

Introduction

Social anxiety is a widespread mental health concern among the younger generation. It is marked by intense fear and anxiety in social situations, which disrupt interpersonal relationships and everyday functioning. Social anxiety is described as a debilitating fear of one or more social situations in which an individual worries about being observed, judged, or negatively evaluated by others, or about behaving in an embarrassing or humiliating way. As a result of these fears, individuals with social anxiety disorder tend to avoid such social situations (Butcher, Hooley and Mineka, 2014) [8]. When exposed to social situations, individuals with social anxiety often anticipate being closely observed or judged by others. (Alonso *et al.*, 2004) [4]. Such individuals may fear behaving in ways that are socially embarrassing or offensive (American Psychiatric Association, 2013) [5]. Numerous studies indicate that social anxiety is not only maladaptive but also a widespread mental health concern among university students (Abdollahi & Talib, 2014, 2016) [3]. Shazhadi (2024) [22] in his study reported that 90% of the youngsters experience social anxiety disorders. Leigh and Clark proposed that the shift from dependence on the family to increased peer interactions, along with the development of neurocognitive abilities such as public self-consciousness, can create a phase of heightened vulnerability to social anxiety. Although most individuals experience only a temporary rise in social fears during this sensitive developmental period, Leigh and Clark noted that those with a more behaviorally inhibited temperament are at a greater risk of developing and sustaining social anxiety.

Personality traits play a crucial role in shaping the social competencies required to meet the social challenges encountered during youth. Personality refers to the relatively stable patterns of thoughts, emotions, and behaviors that distinguish individuals and influence how they respond to and interact with their environment ((Shazhadi, 2024) [22]. Personality has been found to play a significant role in determining whether an individual experiences social anxiety (Abdollahi *et al.*, 2016, 2019; Luciano *et al.*, 2010) [3, 1, 19]. Carl Jung has explained about two important personality traits such as extraversion and introversion. Individuals who prefer introversion tend to focus inward, gaining energy through reflection and solitude, whereas those inclined toward extraversion derive energy from external stimulation and social interactions (Jung, 1959) [12].

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Previous research has consistently shown a negative association between extraversion and social anxiety (Costache *et al.*, 2020; Kaplan *et al.*, 2015; Kuntze *et al.*, 2016; Levinson *et al.*, 2011; Vreeke & Muris, 2012; Watson & Naragon-Gainey, 2014) [10, 13, 14, 17, 25, 26]. Individuals high in extraversion are more likely to engage in high-stimulation environments and social activities, which in turn lowers the likelihood of experiencing social anxiety (Kaplan *et al.*, 2015; Naragon-Gainey *et al.*, 2009) [13, 21].

The present study aims to examine the relationship between personality traits and social anxiety among youth

Objectives

- To examine the relationship between personality traits and social anxiety disorder among youth.
- To determine whether a significant difference exists in social anxiety disorder between individuals with introverted and extroverted personality traits.
- To assess whether there is a significant gender difference with respect to personality traits.
- To investigate whether a significant difference exists between males and females in social anxiety disorder.

Hypotheses

- There will be a significant relationship between personality traits and social anxiety disorder.
- There will be a significant difference in social anxiety disorder between individuals with introverted and extroverted personality traits.
- There will be significant gender difference in personality traits.
- There will be a significant difference between males and females in social anxiety disorder

Method

Participants

The investigator randomly selected a sample of 148 participants for the study. Of these, 75 were males and 73 were females, whose ages ranged from 18 to 30 years.

Measures

The Kundu Introversion–Extroversion Inventory (1976), developed by Ram Nath Kundu, was administered to assess introversion and extroversion personality traits. This scale has a reliability index of 0.73 and a validity index of 0.49. High score in this inventory measures introversion and lower score measures extroversion. To measure social anxiety, the Social Anxiety Disorder Scale (2020) developed by Dr. Ekta Nagpal and Dr. Gurmit Singh was used, which

has a reliability index of 0.76 and a validity index of 0.59. High score in this scale indicates high anxiety level.

Procedure

The present study involved young adults aged 18 to 30 years, with a total of 148 participants taking part in the research. Among them, 75 were males. The remaining 73 participants were females. The selection of participants was carried out using a simple random sampling method. This method ensured that every individual had an equal chance of being chosen. Prior to commencing the study, informed consent was obtained from all participants, who were thoroughly briefed on the purpose and nature of the research. The researchers ensured that all responses remained strictly confidential. The scale was administered in a manner that protected the privacy and comfort of each participant.

Result and Discussion

The present study aimed to investigate the relationship between personality traits and social anxiety disorder. Sample constituted 148 participants, among which 75 are males and 73 are females. Social anxiety disorder scale developed by Dr Ekta Nagpal and Dr Gurmit Singh (2020) was administered to assess the social anxiety of participants, where as Kundu Introversion-Extroversion Inventory (1976) by Ram Nath Kundu was used for assessing the personality traits of the participants.

Table 1: Correlation between extroversion-introversion personality trait and social anxiety disorder

Dimension	Social anxiety disorder
Extroversion-introversion personality trait	.248**

** significant at.01 level

Table 1 shows the correlation between extroversion-introversion personality traits and social anxiety disorder. Correlation coefficient value obtained is .248, significant at.01 level. While interpreting the correlation value, it can be seen that there is positive relation between personality traits and social anxiety disorder. This means that as individuals become extroverted, they tend to have more social anxiety. Similarly, individuals who are introverted tend to have lower social anxiety. This finding contrasts with numerous studies (Kaplan, Levinson, Rodebaugh, Menatti, & Weeks, 2015) [13], which reported that extraversion is negatively associated with social anxiety disorder, while introversion is positively associated with it.

Table 2: One way ANOVA of social anxiety on the basis of personality traits

Dimension	Between groups		Within groups		F value
	Sum of squares	Mean squares	Sum of squares	Mean squares	
IE	8034.082	4017.041	64972.891	448.089	8.965**

** significant at.01 level

Table 3: Mean and Standard deviation of social anxiety based on personality traits

Dimension	Group 1 (Intotrovert) N=46		Group 2(Ambivert) N=56		Group 3(Extrovert) N=46	
	Mean	SD	Mean	SD	Mean	SD
Social Anxiety	99.457	23.7737	110.750	21.9539	117.978	17.0170

A one-way ANOVA was conducted to investigate whether social anxiety significantly differs across various personality

types. Table 2 presents the ANOVA results, and the obtained F-value of 8.965 indicates a significant difference

in social anxiety across personality groups. Furthermore, Table 3 shows that the mean scores vary among the three groups. The mean social anxiety score for introverted individuals is 99.457, whereas for extroverted individuals it is 117.978. These values suggest that extroverted individuals appear to exhibit higher levels of social anxiety compared to their introverted counterparts.

These results indicate a progressive increase in social anxiety from introverts to ambiverts and then to extroverts. In other words, extroverts experience the highest levels of social anxiety, followed by ambiverts, while introverts report the lowest levels. This finding is consistent with the results of Spinhoven, van der Does, Ormel, Zitman, and Penninx (2013) [24], who reported that self-reported levels of extraversion may be influenced by the presence of social anxiety disorder. Similarly, Aurora and Coifman (2020) found that extraversion could serve as a key predictor of substance use among individuals with social anxiety disorder.

While many studies suggest that extraverted individuals typically exhibit lower levels of social anxiety, some researchers align with the findings of the present study. Even though extraverts enjoy social interaction, they can still fear being negatively judged by others. Introverts, on the other hand, feel comfortable in their own quiet space and prefer solitude, which means they may be less worried about social situations. Because extraverts constantly seek the company of others, they may experience social anxiety due to their concern about being judged or evaluated negatively. According to Liz Kelly (2022) [18], socially anxious extroverts often spend considerable time mistakenly believing they are being judged. Although their extroverted nature drives them to seek social interaction, their social anxiety can make them dread the very interactions they desire. Their anxiety tends to focus on ensuring that others in social settings are engaged and enjoying themselves, often leading them to become hyper-focused on meeting others' needs and maintaining a positive social atmosphere. Miryam Sigarlaki (2023) suggests that even students with extroverted tendencies can experience anxiety and concern about others' perceptions. As a result, they may be cautious in expressing their thoughts. The study also found that one in five extroverted students reported symptoms such as increased heart rate, sudden mental blankness, and fear during presentations.

Anastasiya Palopoli (2025) [6] view that "When extroverts experience social anxiety, it can create a push-and-pull effect. They crave connection but might cancel plans or skip gatherings to avoid discomfort, leading to disappointment and loneliness. Over time, this avoidance forms a difficult cycle: the more social situations are avoided, the greater the fear becomes. For extroverts, this is especially frustrating since their natural desire to connect is blocked by anxiety".

Table 4: t values, mean and Standard Deviation of social anxiety disorder based on gender

Dimension	Males N=75		Females N=73		't' value
	Mean	SD	Mean	SD	
Extroversion-introversion	156.013	17.380	169.329	11.7675	-5.443**

** significant at .01 level

While examining Table 4, which presents the mean, standard deviation, and t-values of personality traits based on gender, it is observed that the obtained t-value of -5.443

is significant at the 0.01 level. This indicates a statistically significant difference between males and females in their extroversion-introversion personality traits. The mean score for males is 156.013, while females have a mean score of 169.329, indicating that females display higher average scores on the extraversion-introversion dimension compared to males. This finding is consistent with Singh (2024) [23], who reported that women tend to exhibit more extraversion traits than men. Ingoldsby's (1995) [27] findings also agree with the finding that females are extroverted than males.

Table 5: t values, mean and Standard Deviation of social anxiety disorder based on gender

Dimension	Males N=75		Females N=73		't' value
	Mean	SD	Mean	SD	
Social anxiety	104.280	24.598	114.836	18.298	-2.956**

** significant at .01 level

Table 5 displays the mean, standard deviation, and t-value for social anxiety among males (N = 75) and females (N = 73). Males have a mean score of 104.280 with a standard deviation of 24.598, while females show a higher mean score of 114.836 with a standard deviation of 18.298, indicating that females experience greater social anxiety than males. The t-value of -2.956 is significant at the 0.01 level, confirming that the difference between genders is statistically significant. These results suggest that gender plays a notable role in social anxiety, with females exhibiting significantly higher levels than males in this sample. This finding aligns with previous research by De Wit *et al.* (2005) [11], Lee *et al.* (2005) [15], and Asher, Asnaani, & Aderka (2017), and is further supported by Caballo *et al.* (2014), who reported that social anxiety disorder is more prevalent among women.

Women often show higher levels of social anxiety because they are raised in environments where their behavior and appearance are closely observed and judged. As a result, they become more cautious and self-aware in social situations.

Conclusion

The present study found a significant positive relationship between personality traits and social anxiety, indicating that higher levels of extraversion were associated with greater social anxiety among youth. Extroverted individuals showed higher social anxiety scores than introverts and ambiverts, contradicting many previous research findings. The study also revealed significant gender differences, with females scoring higher on both extroversion-introversion traits and social anxiety compared to males. Overall, the results highlight that personality traits and gender play an important role in the experience of social anxiety among young adults.

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