Potential Relationship between Personality Traits with the Openness and Neuroticism Scores

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Abstract. The present research investigated the possible correlation between personality qualities, namely the scores on the Openness and Neuroticism dimensions, and the inclination to participate in creative pursuits. The existing body of research has shown a positive correlation between an individual's level of openness and their tendency towards creative pursuits. However, the potential moderating effect of the variable neuroticism on this link remains largely unexplored. In order to ascertain the similarity of openness scores, a correlation study was performed to examine the relationship between neuroticism scores and artistic inclination ratings. The research included a comprehensive 42-item questionnaire to assess the personality characteristics and creative tendencies of participants. Subsequently, the collected data were utilised to establish groups and conduct further association analyses. In the present study, we observed a slight positive connection between scores on the neuroticism scale and scores on the art-loving inclination scale among two distinct sample groups. These groups were categorised based on their openness scores, namely falling within the ranges of 25-36 and 37-48. This discovery offers novel perspectives on comprehending people' creative predispositions and their correlation with personality features, potentially furnishing educators and mental health practitioners with significant insights.

Keywords: Openness; Neuroticism; Personality.

1. Introduction

Personality psychology posits that an individual's behavioural patterns, emotional expression, and social interaction styles are mostly shaped by their innate personality characteristics. The Big Five personality characteristics, namely Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism, are widely acknowledged and used as a framework for characterising and measuring these attributes [1-4]. Among these traits, openness is often linked to creative and aesthetic inclinations, but neuroticism is typically connected with emotional instability and mental health issues. The genesis of this investigation resides in the examination of a widely held societal belief that persons with neurotic tendencies may have a greater propensity for artistic and creative pursuits. It has been observed that both in reality and within literary works, artists are often depicted as individuals who possess profound emotional sensitivity, exhibit strong reactivity, or have certain neurotic tendencies [5]. The prevalence of this widely held preconception has motivated our investigation into the potential objective association between neuroticism and creative inclinations within the realm of scientific inquiry.

The investigation into the association between personality characteristics and creative inclinations has mostly concentrated on the construct of openness [6]. This particular dimension has consistently shown a favourable correlation with creativity and the inclination to seek out new and unconventional experiences [7]. Nonetheless, a significant study void persists about the impact of the neuroticism dimension on the creative choices and practises of people. The association between the terms "artist" and "neurotic" has been often seen in popular culture and cultural ideas. However, scientific study on this issue has been limited thus far, with a dearth of empirical examination.

The primary objective of this research was to examine the correlation between neuroticism and creative tendency, while also considering the potential influence of the mediating variable of openness on this connection. The present study aims to investigate the potential correlation between neuroticism and artistic tastes as well as art-making practises, while accounting for the influence of openness.

2. Research Objective

The objective of this study is to undertake a scientific analysis of specific social impressions and stereotypes, while also offering supplementary viewpoints to enhance our comprehension of the potential interplay between artistic hobbies, creativity, and psychological characteristics. This research aims to contribute to the existing body of knowledge in the field of personality psychology and art psychology.

The primary objective of this research was to examine the potential association between scores on the neuroticism scale and an individual's inclination to engage in creative pursuits, while considering the amount of openness to experience. Additionally, the study sought to determine the magnitude and direction of this link. Through the empirical analysis of 222 samples, our aim is to elucidate the inherent relationship between neuroticism and engagement in artistic hobbies. This research endeavour seeks to provide novel insights and empirical substantiation to the realms of personality psychology and the study of artistic pursuits.

Furthermore, this research has significance in terms of its applicability to art education practises and its potential impact on individual mental well-being. Through a comprehensive comprehension of the impacts exerted by diverse personality types on artistic pursuits, educators and mental health practitioners may enhance their ability to develop and advocate for art education initiatives that cater to the unique requirements and inclinations of persons possessing varying personality features [8].

3. Results and Discussions

A total of 222 persons were chosen as the sample for this investigation. The study included a diverse group of individuals aged between 18 and 45 years, consisting of 104 men and 118 females. The sample was chosen using a convenience sampling technique, with recruiting mostly taking place on college campuses and among the local community. In order to achieve a representative sample and to attract participants from diverse backgrounds and vocations, a digital survey was further disseminated through various social media platforms. Prior to their participation, all participants were provided with comprehensive information on the objective and substance of the research. Additionally, they were required to sign an informed consent form prior to their completion of the questionnaire.

This research used a singular questionnaire that was generated from a composite of three measures to assess individuals' levels of openness, neuroticism, and artistic hobbyist inclinations. The openness dimension of the revised NEO-FFI personality scale was used in this study. This dimension has 12 items, including statements such as "I have a preference for exploring novel experiences" and "I enjoy engaging in abstract thinking". The participants were asked to express their degree of agreement with each item on a 5-point Likert scale, which ranged from 12 to 60. Higher scores on the scale were indicative of higher levels of openness. The neuroticism dimension was used in this study, drawing from the revised NEO-FFI personality scale. This dimension has 12 items, including statements such as "I experience feelings of anxiety easily" and "I am prone to feelings of depression easily." The participants were also asked to express their degree of agreement with each item on a 5-point scale that ranged from 12 to 60. Higher scores on this measure were indicative of higher levels of neuroticism. The present study introduces a new measure, namely the Artistic Hobbies Scale, which aims to evaluate individuals' inclination and engagement in artistic pursuits. Comprising a total of 18 questions, such as "I have actively participated in an art club" and "I frequently engage in painting or creating art during my leisure hours", this scale seeks to gauge individuals' interest and participation in the arts. The questionnaire has been specifically developed as an instrument for assessing the degree of engagement in artistic activities. The participants were asked to express their degree of agreement with each item using a 5-point scale that ranged from 12 to 60. Higher scores on the scale were indicative of a stronger inclination towards deriving enjoyment from art.

4. Data Analysis

The primary method used for data collecting was online-based. To assure a varied sample, the researchers used online data gathering methods by disseminating questionnaires via publicly accessible social media sites. Following the completion of data collection, the data was subjected to cleaning and analysis using SPSS 26.0 software.

In the first step, a total of 222 individual samples were categorised into three distinct numerical scores, namely openness score, neuroticism score, and creative inclination score.

Each question will be scored on a 5-point scale basis. The scale for expressing disagreement or agreement is as follows: strongly disagree (1 point), rather disagree (2 points), average (3 points), rather agree (4 points), and strongly agree (5 points).

According to the aforementioned statistical procedure, each person in the sample will be assigned three numerical values.

Step 2: The 222 samples should be divided into five groups depending on the initial score.

Group 1 consists of individuals who have scored between 0 and 12 points.

Group 2 consists of individuals who have obtained a score ranging from 13 to 24 points.

Group III consists of individuals who have obtained a score ranging from 25 to 36 points.

The data set falls inside Group IV, with scores ranging from 37 to 48 points.

Category V: Scoring Range of 49-60 Points

Step 3: In the same group, determine the correlation between the second and third numbers obtained from the sample in Step 1. In theory, a total of five sets of correlations will be acquired. This study aims to examine the potential connection between the second and third numbers of samples within the same group, given that the first numbers of the samples are closely scored and grouped together. The analysis will determine if a correlation exists and, if so, the nature (positive or negative) and magnitude of this correlation.

The findings of the study are as follows. The analysis was conducted only on the third and fourth groups due to the absence of samples from the first, second, and fifth groups. The purpose of this analysis is to examine the concept of normality in a scholarly manner. It will be focusing on Group Three. In the second scenario, a sample size of less than 5000 ($N < 5000$) was taken. The Shapiro-Wilk test was used to assess the normality of the data. The resulting p-value of 0.176 indicates that there is no significant evidence to reject the initial hypothesis, suggesting that the data conforms to a normal distribution.

In the third scenario, a sample size of less than 5000 was used and the Shapiro-Wilk test was employed. The resulting p-value of 0.112 indicates that the initial hypothesis cannot be rejected, suggesting that the data adheres to a normal distribution.

The fourth group: In the second scenario, a sample size of less than 5000, the Shapiro-Wilk test was used with a significance level of 0.755. The results of the test indicate that the initial hypothesis cannot be rejected, suggesting that the data conforms to a normal distribution.

Based on the analysis conducted with a sample size (N) of less than 5000, using the Shapiro-Wilk test with a significance level (p-value) of 0.021**, the first hypothesis is invalidated, indicating that the data does not conform to a normal distribution. Despite the data of number 3 not conforming to a normal distribution, its kurtosis (0.54) and skewness (-0.816) values fall below the thresholds of 10 and 3, respectively. Consequently, under some scenarios, these values may still be regarded as generally indicative of normality.

In Group III, there exists a modest positive connection between Digit 2 and Digit 3, as shown by the Spearman's rank correlation coefficient ($r_s = 0.286$, $p = 0.000$***).

In Group IV, there is evidence of a slight positive connection between Digit 2 and Digit 3, as shown by a Spearman's rank correlation coefficient (r_s) of 0.379 ($p = 0.004$***).

Individuals who fall into Group III, as determined by their Openness score ranging from 25 to 36, exhibit certain characteristics. Both dataset 2 and dataset 3 have a normal distribution. According to Spearman's correlation analysis, a statistically significant weak positive association was observed between the neuroticism score (number 2) and the inclination towards creative interests (number 3),

with a correlation value of 0.286 ($p < 0.001$). Group 4, characterised by an openness score ranging from 37 to 48, is the focus of this analysis. The data for variable 2 exhibits a normal distribution, however the data for variable 3 does not adhere to a normal distribution. However, it is worth noting that the kurtosis and skewness values for variable 3 fall within acceptable ranges.

A statistically significant weak positive association was observed between the neuroticism score (number 2) and the inclination towards artistic tastes (number 3), with a correlation value of 0.379 and a significance level of $p < 0.01$.

A slight positive connection was identified between the neuroticism score and the inclination to engage in creative hobbies in both groups. This implies that persons with higher neuroticism scores in both groups may have had a considerably greater inclination towards engaging in creative pursuits. It is important to acknowledge that there was a slight variation in the strength of the associations observed between the two groups. Specifically, the association was slightly stronger in Group 4 (0.379) compared to Group 3 (0.286). This suggests that the relationship between the variables may be more robust in the group characterised by higher Openness scores. Nevertheless, it is important to acknowledge that the strength of both connections exhibits modest correlations, hence necessitating additional investigation.

5. Results Revisited

In this study, research design aims to investigate the effects of a particular drug on the human body the analysis and understanding of the obtained outcomes

The findings of this research indicate a modest positive correlation between the Neuroticism Score (number 2) and the Propensity to Artistic Hobbies Score (number 3) in both the Group III and Group IV participants. The connection between the variables was notably more pronounced in the Group IV sample characterised by high openness scores ($p = 0.379$), whereas it had a significantly diminished strength in the Group III sample with intermediate openness levels ($p = 0.286$). Although there is a positive correlation between the variables, the correlation is quite weak, suggesting that the link between these two variables may lack practical significance. However, it is important to note that these first results retain their ability to provide explanations and have relevance for further investigation.

In light of prior research, a comparative analysis is warranted. When examining previous studies, it is evident that there has been inconsistency in the association between neuroticism and the inclination to engage in creative activities. Certain research has shown a correlation between elevated levels of neuroticism and decreased engagement in creative endeavours [9, 10]. This association may be attributed to the inclination of persons with high neuroticism to avoid situations that may induce uncertainty or worry. In the current investigation, our findings indicate a modest positive connection, indicating that individuals with elevated neuroticism scores may exhibit a greater inclination to participate in creative pursuits within certain contexts or social circles. The observed variations might perhaps be attributed to disparities in the features of the samples, cultural backgrounds, assessment tools, or implementation approaches.

While the current investigation may provide intriguing perspectives, it is important to acknowledge the constraints that exist within this research. One drawback of our study is that the analysis was limited to just two subgroups that had a suitable sample size. Consequently, the effectiveness of analysing other groups was hindered owing to an inadequate sample size.

In summary, this study offers first insights into the correlation between neuroticism and the inclination to get pleasure from art. However, more investigation is required to enhance our comprehension of the interplay between these two factors. The current research is anticipated to serve as an initial foundation and point of reference for future studies in the same field.

6. Conclusion

For the arts and culture industry, understanding the psychological characteristics of the target audience (e.g., neuroticism and artistic preferences) can inform product development and marketing strategies. For example, designing art products and activities that meet the aesthetic and psychological needs of highly neurotic individuals. In conclusion, it can be inferred that the aforementioned points collectively support the notion that the primary objective of this research was to examine the correlation between neuroticism scores and art appreciation tendencies (as measured by number 3) among persons with greater levels of openness. It is also suggested that in the future, public policy and social welfare would also take some considerations in this research and similar results. It is also critical to recognize the interests and needs of different psychological trait groups when developing public policy and social welfare programs. Introducing arts activities and programs to highly neurotic groups may provide a platform for emotional release and social interaction.

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