

Personality Analysis of Specs and Non-Specs Wearers

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ABSTRACT

This work aims to investigate the difference in personality traits between people who wear spectacles and those who do not. The survey was conducted using a questionnaire consisting of three sections. The first section collected personal details such as name, age, and gender. The second section was filled only by the participants who wear spectacles and asked about their reasons for wearing them and how long they have been wearing them. The third section included questions related to the BFI 44 questions of the OCEAN model, where a scale of 1-5 was provided.

The data collected from the survey was organized in Google Sheets, and the mean for each personality trait was calculated. This organized data table was then imported into the SPSS software for further analysis. The data was checked for various assumptions such as the significance of outliers, normal distribution, and equality of variance. Independent t-test was conducted to compare the personality traits of spectacles wearers and non-spectacles wearers. The results showed that there was a significant difference in only one personality trait - openness between the two groups.

Keywords : Personality Traits, BFI44, OCEAN Model, SPSS software

INTRODUCTION

Eyeglasses have become a ubiquitous accessory for many individuals, both for medical reasons and as a fashion statement. However, little is known about how wearing eyeglasses impacts an individual's personality. Personality analysis of individuals who wear glasses and those who don't can be an interesting area of study. Although wearing glasses does not necessarily determine a person's personality, it can have an impact on how a person is perceived and how they view themselves. Therefore, the purpose of this project is to explore the differences in personality traits between individuals who wear eyeglasses and those who do not.

The project will use the Big Five Inventory (BFI), a standardized personality assessment tool, to compare

the personalities of individuals who wear eyeglasses to those who do not. The BFI consists of 44 questions that assess five broad personality traits: openness, conscientiousness, extraversion, agreeableness, and neuroticism.

By using a standardized tool, this project aims to provide a more comprehensive understanding of the potential impact of eyeglasses on an individual's personality. The findings from this study could have significant implications for various industries, such as the eyewear and fashion industries, as well as medical professionals.

By understanding how wearing eyeglasses may impact an individual's personality, this project aims to provide insights into the emotional effects of wearing glasses and the potential role of eyeglasses in self-perception and external perception. Furthermore, the

project could provide valuable information for eyewear and fashion companies to design eyeglasses that not only meet functional needs but also cater to the wearer's personality.

Personality traits refer to the characteristic patterns of thoughts, feelings, and behaviors that make each person unique. There are many different theories of personality, but most agree that there are a set of basic traits or dimensions that underlie a person's personality. The most widely accepted theory of personality is the Five Factor Model, also known as the Big Five. The Big Five traits include:

1.Openness (O)

Openness trait is characterized with imagination, creativity, originality, prefer variety and are curious. People who score less in this trait are uncreative, conventional, uncurious, prefer routine and are conservative.

2.Conscientiousness (C)

Conscientiousness trait is characterized with hard work, ambitious, well organised, perseverance and punctuality. Individuals who score less in this trait are negligent, lazy, disorganised and are aimless.

3.Extraversion (E)

Extraversion trait is characterized by individuals being talkative, physically active, affectionate and fun-loving and individuals with opposite nature are called introverts and exhibit characters like loneliness, being quite, sober and physically passive.

4.Agreeableness(A)

Agreeableness is characterized by softheartedness, trust, generosity and good nature. People who score less in this trait are self-centered, suspicious, ruthless, stingy and irritable.

5.Neuroticism(N)

Neuroticism is characterized by worrying, self-pity, self-conscious, emotional and vulnerable and individuals with opposite nature are calm, self-satisfied and unemotional.

These traits are thought to be relatively stable over time and across situations, but they can also be

influenced by a person's environment, experiences, and relationships. Personality traits can also interact with each other in complex ways, shaping a person's behavior, emotions, and thoughts in different situations.

Understanding personality traits can be useful in many areas of life, such as in selecting a career, building relationships, and managing stress. By identifying our own personality traits and those of others, we can learn to better understand and appreciate the unique perspectives, strengths, and challenges that each person brings to the world.

Overall, this project seeks to contribute to the existing literature on the impact of eyeglasses on personality and provide a more comprehensive understanding of this topic. The results could inform future research and have practical implications for various industries.

SPSS IBM Software

IBM created SPSS (Statistical Package for the Social Sciences), a software program used in social science research for statistical analysis. With its many features for managing, analyzing, and visualizing data, SPSS is a strong and adaptable tool for analysts and researchers across a wide range of disciplines

SPSS has a flexible data management system that enables users to input, edit, and manipulate data quickly and efficiently. The software provides a wide range of descriptive and inferential statistical tests, including regression, correlation, t-tests, ANOVA, and non-parametric tests. SPSS also provides a range of graphical visualization tools that enable users to explore and communicate data effectively.

One of the strengths of SPSS is its ease of use. The software has a user-friendly interface and provides extensive documentation and support, including online resources and tutorials, as well as a large user community. This makes it accessible to users with varying levels of statistical expertise. It is a valuable tool for researchers and analysts in the social sciences and other fields where quantitative analysis is

necessary. It provides a powerful and versatile set of features for data management, analysis, and visualization, and is supported by a large and active user community.

METHODOLOGY

The methodology of the project involved collecting data through a survey consisting of three sections. The first section collected personal details like name, age, gender, etc., while the second section was to be filled only by participants who wear specs. This section contained questions related to the reason for wearing specs, the duration of wearing specs, etc. The third section comprised questions related to the BFI 44 questions of the OCEAN model, where participants were asked to rate themselves on a scale of 1-5 based on their personality traits. After collecting the responses, the data was organized in Google Sheets, including finding the mean for each personality trait. The organized data table was then imported into the SPSS software for further analysis.

A statistical method for summarizing and describing a dataset's features is called descriptive analysis. Recognizing patterns, trends, and relationships within the data is facilitated by this crucial initial step in the data analysis process. Using a box plot, which is a graphical representation of a dataset that shows the distribution of the data and highlights important statistical measures, the data was examined in SPSS software for a number of assumptions, including the significance of outliers. It offers a quick and simple way to summarize and interpret a dataset's distribution and is frequently used in exploratory data analysis and descriptive statistics.

In typical distribution we must compute the rank of each data point in relation to the other data points in the sample using a Q-Q plot in order to get the empirical quantiles. The k -th smallest value in a sample of size n , for instance, will have an empirical quantile of k/n . The theoretical quantiles of the

normal distribution that correlate to these empirical quantiles can then be determined using a normal distribution table or statistical software. The empirical and theoretical quantiles can be plotted on a Q-Q plot after they have been computed. The points on the Q-Q plot will fall on a straight line if the data has a normal distribution. In the event that the points are not straight.

Rather than the more widely used squared deviations, the test is based on the absolute deviations of each individual data point from the group mean. Describe the alternative and null hypotheses. The group variances are equal, which is the null hypothesis. The variances are not equal, according to the alternative hypothesis. Determine each data point's absolute departure from the group mean.

Determine the absolute deviations' group medians. The test statistic can be computed by dividing the total sum of squares of the absolute deviations by the between-group sum of squares of the absolute deviations.

The test statistic's degrees of freedom are determined by the number of groups and observations in each group, and it follows an F-distribution. Determine the test statistic's p-value by utilizing a statistical table or software program. To decide whether to reject or fail to reject the null hypothesis, compare the p-value to the selected significance threshold.

We reject the null hypothesis and come to the conclusion that the group variances are not equal if the p-value is smaller than the selected significance level. We fail to reject the null hypothesis and come to the conclusion that there is insufficient evidence to support the idea that the group variances differ if the p-value is greater than or equal to the selected significance threshold.)

Following this, an independent t-test was performed to check for the equality of means and determine whether there was any difference in personality traits between specs and non-specs wearers.

Finally, correlation analysis was done to check if other factors could have a significant correlation with the personality traits. The project's methodology ensured that the data was collected, organized, and analyzed using appropriate statistical techniques, resulting in reliable and valid findings.

RESULTS

Table 1: Descriptive Analysis

	N	Min	Max	Mean	Std. Deviation
Openness	521	1.8	4.8	3.559	0.5079
Conscientiousness	521	1.22	5	3.353	0.608
Extraversion	521	1.62	4.87	3.232	0.619
Agreeableness	521	2.22	5	3.59	0.6019
Neuroticism	521	1	4.75	2.972	0.6675

The table shows the descriptive statistics for the personality traits of the participants in the study. The sample size (N) for each trait is 521, and the minimum, maximum, mean, and standard deviation are provided for each trait.

Looking at the means for each trait, it appears that the participants in the study, on average, scored highest in openness (M=3.559) and agreeableness (M=3.590), and lowest in neuroticism (M=2.971). The mean scores for conscientiousness (M=3.353) and extraversion (M=3.232) were slightly lower than the mean scores for openness and agreeableness, but still relatively high.

In terms of interpreting the results, it is important to note that these are only descriptive statistics, and further analysis is needed to determine whether there are any significant differences between the personality traits of spectacle wearers and non-spectacle wearers. Additionally, it may be helpful to compare these results to existing research on personality traits in order to contextualize the findings.

These results provide a basic understanding of the personality traits of the participants in the study, but further analysis is needed to draw meaningful

conclusions about the differences between spectacle wearers and non-spectacle wearers.

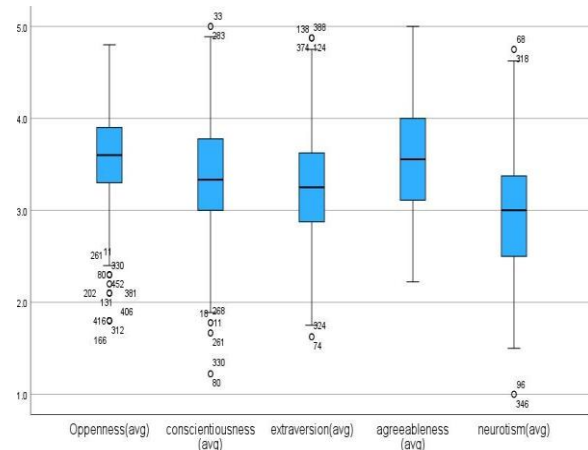


Figure 1 Box plot

Box plots were used to check for the presence of outliers in each of the personality traits. Outliers were observed in the personality traits of openness, conscientiousness, extraversion, and neuroticism. However, the number of outliers was relatively small compared to the total size of the data. As such, the decision was made not to remove the outliers from the data. This is because removing the outliers can lead to loss of information and can also affect the accuracy of the results. Additionally, the presence of outliers can provide useful insights into the data and help identify patterns or trends that may not have been evident otherwise. Therefore, the analysis proceeded with the outliers included in the data.

Q-Q Plots

Q-Q plots are a useful tool to visually inspect the distribution of data and assess whether they follow a normal distribution. In this study, Q-Q plots were used to check for normality of the data for all the personality traits. The Q-Q plots indicated that the data points were closely aligned with a straight line, which suggests that the data is normally distributed.

Since, the Q-Q plots showed that the data for all personality traits appeared to be normally distributed,

which allowed us to proceed with the use of parametric tests for further analysis.

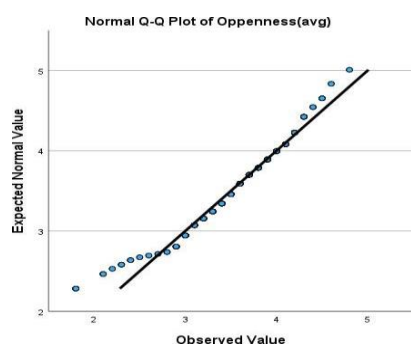


Figure 2 Q-Q plot of Openness

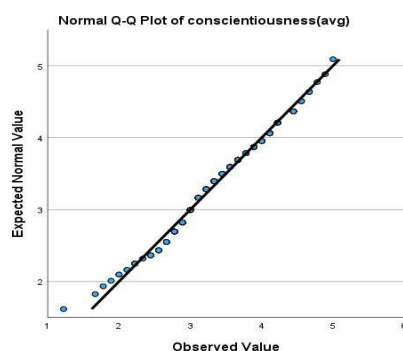


Figure 3 Q-Q plot of Conscientiousness

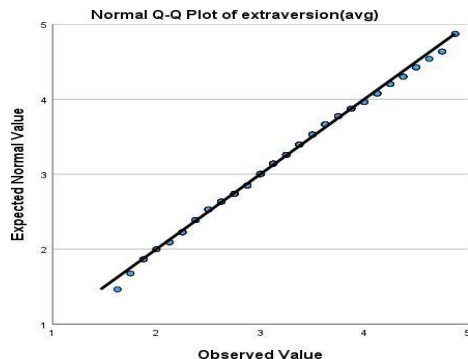


Figure 4 Q-Q plot of Extraversion

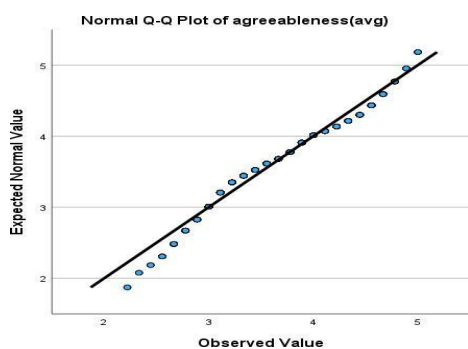


Figure 5 Q-Q plot of Agreeableness

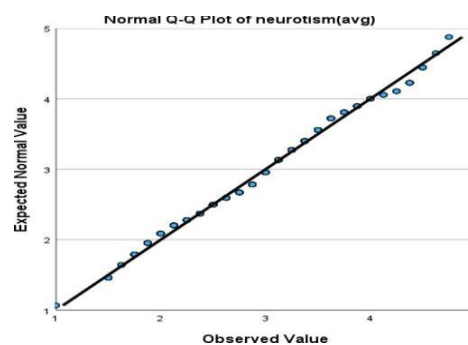


Figure 4.10 Q-Q plot of Neuroticism

Levene's test and Independent t – test

To ascertain whether the assumption of equal variances held true for the two groups, the Levene's test for equality of variances was employed. The Levene's test yielded non-significant results for agreeableness, extraversion, and openness, supporting the validity of the premise of equal variances. The Levene's test did, however, show a substantial difference in neuroticism and conscientiousness, suggesting that the assumption of equal variances was broken.

Both the assumption of equal variances and the assumption of unequal variances for each personality trait were disregarded when doing the t-test for equality of means. The findings for openness, with a mean difference of 0.504, a two-sided p-value of 0.252, and a 95% confidence interval of -0.0577 to 0.1174, indicated that there was no significant difference between the two groups. The findings show that there is no proof that the two groups' mean openness scores are substantially different from one another.

Table 2 Levene's test

	F	Sig.
Openness	0.315	0.575
Conscientiousness	2.233	0.136
Extraversion	0.41	0.522
Agreeableness	1.049	0.306
Neuroticism	3.678	0.156

For conscientiousness, the t-test with the assumption of equal variances showed a mean difference of 0.106, which was not significant at the 5% level. However, when the assumption of equal variances was violated, the mean difference was similar, but the significance level was marginally significant at the 5% level ($p=0.052$). The results suggest that there may be a slight difference in the mean scores on conscientiousness between the two groups, but further investigation is necessary.

Despite the assumption of equal variances, the t-test for extraversion revealed no significant difference between the two groups, with a mean difference of 0.786, a two-sided p-value of 0.393, and a 95% confidence range of -0.1217 to 0.0921. The findings imply that there is no proof that the two groups' mean extraversion ratings differ appreciably from one another.

For agreeableness, the t-test with the assumption of equal variances showed a mean difference of 0.204, which was not significant at the 5% level. When the assumption of equal variances was violated, the mean difference was similar, but the significance level was marginally significant at the 5% level ($p=0.102$). The findings imply that there might be a little variation in the two groups' mean agreeableness scores, but more research is required.

Ultimately, the t-test revealed a 0.002 mean difference, a 0.002 two-sided p-value, and a 95% confidence range of -0.2938 to -0.0656 for neuroticism, indicating a significant difference between the two groups. The findings indicate that there is a substantial difference in the means of neuroticism scores between the two groups, with the non-users of specs displaying a higher level of neuroticism than the wearers of specs. The findings show that there are no appreciable variations in the two groups' mean scores on neuroticism, extraversion, and openness. The mean conscientiousness and agreeableness ratings across the two groups may, however, differ slightly; however, additional research is required to corroborate these results.

CONCLUSION

The purpose of this study was to investigate the difference in personality traits between people who wear glasses (specs) and those who do not (non-specs). A survey was conducted with three sections: personal details, questions for specs wearers, and BFI 44 questions. The data was organized in Google Sheets and imported into SPSS software for further analysis.

There was a substantial difference in neuroticism between the two groups, according to the independent t-test results. When compared to the non-specs wearer group, the group using specs scored higher on neuroticism. On the other hand, no appreciable variations were observed in the other personality qualities of agreeableness, extraversion, conscientiousness, and openness.

In conclusion, wearing glasses may be associated with higher neuroticism scores, but there is no significant difference in other personality traits between specs and non-specs wearers. These findings suggest that eye care professionals and psychologists may want to consider the potential impact of glasses on neuroticism when treating patients who wear glasses. Future research could explore the reasons for this association and investigate the impact of glasses on personality traits over time.

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