Exploring the Dynamic Relation Between Extroversion, Neuroticism and Resilience in Young Adults

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Abstract
The purpose of this study was to examine the relationship between extroversion and neuroticism traits along with gender and how it influences resilience among young adults. Data was collected from a sample of 150 participants, where there were 75 males and 75 females within the age group of 18-26. For this purpose, the NEO Five factor inventory (NEO-FFI) and the abbreviated version of the Nicholson McBride Resilience Questionnaire were administered. The results indicate that there is a mild to moderate positive correlation between extroversion and resilience (correlation coefficient = 0.39, p-value = 0.00) and also between gender and resilience (correlation coefficient = 0.25, p = 0.00), while there is a mild negative correlation between neuroticism and resilience (correlation coefficient = -0.33, p-value = 0.00). Multiple linear regression highlights a statistically significant relationship between extroversion and resilience (B = 0.035, p = 0.00), a significant negative relationship between neuroticism and resilience (B = -0.22, p = 0.006), and a significant difference in resilience scores between genders, which can be calculated as resilience = 35.982 + 0.357 (Extroversion) − 0.228 (Neuroticism) + 2.282 (Gender), where males showed higher gender in relation to female participants.

Keywords: Personality, Extroversion, Neuroticism, Gender and Resilience

Introduction
Resilience is our “ability to deal with problems, overcome obstacles, or resist the pressure caused by adverse situations” (Fernandes et al., pl. 816). It has been identified as an important area for research and clinical intervention (Charney, 2000). An asset that is needed to overcome our challenges in life, resilience involves different aspects such as our traits, outcomes and how we can recover from our problems. Psychologists have been captivated by the different factors that influence resilience and recent research have highlighted the role of personality in the development of resilience. Personality traits are qualities and characteristics that define us as unique individuals. It is developed throughout our life and remains consistent in different situations and circumstances. It indicates how a person is likely to respond to a situation and pressures in life. It is a complex topic to study. Everyone has their own way of dealing with problems and our resilience levels differ from individual to individual.

Based on research in psychology, our personality traits may determine how well we deal with adversity and this leads to different levels of resilience. That is the essence of this study that is based on previous studies.
The Big Five Personality traits

These are the personality traits that have been recognized and people have been characterized based on these traits:

Openness to experience: This emphasis on thoughts and perception. People who score higher in this have a curiosity about the world and others. They are always open to learning new things and seem to enjoy new experiences. They look for more adventures and are creative in their thinking. Whereas, people who score low in this have a rigid mind, lack imagination and struggle with abstract thinking.

Conscientiousness: It includes a higher level of thoughtfulness, goal oriented behavior. People who score high in this plan ahead and are aware of their behavior towards others. People who score low on this may be less organized, procrastinate and unable to complete their tasks on time.

Extroversion: It is characterized by friendliness, confidence and are more expressive in their behavior. People who score low in this are likely to be more reserved, may not like social settings and feel drained in social events, they may prefer solitude and do not get the attention of others.

Agreeableness: A personality trait that is attributed to trust, kindness, affection and prosocial behavior. They are cooperative and competitive. People who score low in this do not have much interest in others, they don't care about the well-being of others and can also be manipulative

Neuroticism: It is a personality trait that is characterized by misery, irritability and emotional instability. Those who have a higher score in this are more prone to agitation and can be unpredictable whereas people who score low in this trait are likely to be more stable and emotionally resilient.

Current literature suggests that these traits might be related to resilience. For instance, "Stress and Coping Processes" framework fits well with people who are usually conscientious because of their trait of being organized and oriented towards achieving a goal. This theory examines how character shapes our perceptions about stress and coping mechanisms used in stress management. During hardships, effective planning along with problem solving can probably be done by diligent personalities which may lead to increasing fortitude. Within personality traits, extroversion and neuroticism are particularly intriguing factors to explore in relation to resilience. Extroverts have better social connections and are more likely to overcome and sustain in the face of difficulty. Neuroticism has a contracting influence and can be more vulnerable to negative emotions like anxiety. This can make them less resilient and cope with stressful situations. Other factors also play a crucial role in shaping resilience; these contrasting factors of extroversion and neuroticism helps us to have a central focus in understanding the connection between personality traits and resilience, which helps us understand how people thrive in inevitable challenges.

Understanding how personality relates to resilience is very promising. And counselors can design interventions aimed at such varied traits as openness or closeness. How about utilizing positive psychology techniques on someone usually negative; focusing on his/her strengths like optimism? Teachers and parents alike can also develop ways through which they can instill resilience into children. Dynamic-interactive model underscores the nexus between environmental support and trait differences within individuals' personalities, so that fostering nurturing environments for self-expression.

The aim of this study was to examine the relationship between our personality traits in particular, two key personality traits – extroversion and neuroticism and if gender difference has any influence on the resilience of young adults. Which will contribute to new insights into the study of personality and resilience.
Literature review

Resilience is a complex process that involves the ability to overcome adversity and grow despite adversities. Multiple factors play a role in the way a person navigates life and its challenges. One of the important factors include our personality traits and can be better understood by the Big Five personality traits—Conscientiousness, Extroversion, Openness to experience, Agreeableness, and Neuroticism—have attracted a lot of attention as potential indicators of individual variances in resilience. Numerous studies have shown that our personality plays an important role in the evolution of resilience and each trait has a different impact on it. Extroversion is a personality trait that has been associated with sociability, outgoingness, and optimism. People with strong social support networks are better able to establish and sustain in difficult times (Soni, 2021). These social networks serve as an important barrier against stress and misfortune, offering psychological support, helping hand and giving a sense of community which are all vital components for overcoming obstacles and building resilience (McDonnell, 2020). Moreover, because extroversion is linked to happy feelings, those who possess it are more likely to partake in healthier activities that enhance well-being such as like volunteering, social gatherings, and group sports (Sahni, 2020) it has been found that people high on extroversion have higher level of resilience (Soni, 2021). On the contradictory, neuroticism exhibits a negative correlation with resilience and those who score higher have a tendency to have anxiety, negative emotions, and perceiving the world as threatening (Campbell-Sills, 2006; Fayombo, 2010; Das et al., 2020; GholamHossein et al., 2015; Marta N et al., 2022; Limura & Taku, 2018; Schmitt et al., 2022). Individuals with high neuroticism are more likely to feel stressed out and think that everything is too much and unable to overcome it (McDonnell, 2020). This increased susceptibility can drain their mental and emotional capacity, making it difficult to adjust and sustain in the face of difficulty. Negative rumination, which is the tendency for people to ruminate on unpleasant feelings and experiences, has been associated with neuroticism (Gromisch et al., 2022). This can increase stress, reduce problem-solving abilities and restrict the capacity to create healthy coping mechanisms. Graham, E. K.(2020) in his study has shown that lower neuroticism and higher conscientiousness are related with better functioning regardless of neuropathological stress. McDonnell,(2020) study on “Resilience as Mediator between Extroversion, Neuroticism, and Depressive Symptoms in University Students” found that people who score high on neuroticism have lower resilience, which predicted that they may have greater depressive symptoms then those who score higher in extroversion. A person’s sensitivity to stress as a result of neuroticism can lower their resilience while the opposite is true for extroversion that may enhance it through social support (McDonnell, 2020). We must have an in-depth understanding of the various personality traits and the complexity of resilience within one another to have a better view of resilience.

One of the study that contradicts these studies is given by Wang, .H., et al. (2021) in his Study on “Understanding the Relationship Between Personality Traits and Resilience Among Chinese Students” showed here was no statistical relationship between resilience and the component of neuroticism,conscientiousness, agreeableness and openness to experience. However, it can be said that resilience appears to be linked to various facets of personality, with correlations ranging from mildly to strongly positive across different personality sub-dimensions.(Singh, S.,2020).
Methodology

Aim
Exploring the relationship between extroversion and neuroticism on resilience and gender difference among young adults.

Hypothesis
H1 There is a significant relationship between neuroticism and resilience.
H2 There is a significant relationship between extroversion and resilience.
H3 There is a significant relationship between gender and resilience.
H0 There will be no significant relationship between neuroticism, extroversion, gender with resilience.

Research design
This study used a quantitative research design using google forms.

Variables
Dependent variable: Resilience
Independent variable: Extroversion, Neuroticism and gender
Extraneous variable: Socioeconomic status, age and physical health

Sampling
Sample Distribution
The sample consisted of 150 young adults between the ages of 18-26 years. A target population of female (n=75) and male (n=75). The participants were young adults residing in different states of India.

Sampling method
Non probability convenience, snowball sampling method

Inclusion Criteria
Males and Females between the age group of 18-26 years old.
Young adults who are currently residing in India.
Young adults who have access to electronic devices and social media.

Exclusion Criteria
Adults above the age of 27 years old

Procedure
The study involved the administration of two key instruments: The NEO-FFI and The Nicholson McBride Resilience Questionnaire (NMRQ). Participants were provided with the consent requirement and confidentiality form before accessing the questionnaire. The data was collected using google form. The scores obtained on both the questionnaires may predict the personality traits and the resilience level of the participants of the study.

Tools used for the study
NEO Five factor inventory (NEO-FFI)
This is a psychological personality inventory that examines individuals on five dimensions of personality. These dimensions are found in the Big Five personality traits. These traits include openness to experience, Neuroticism, Conscientiousness, Extraversion and Agreeableness. It is a short version of the NEO Inventory revised and consists of 60 items that measure the five domains. It is a five point scale ranging from “Strongly agree” to “Strongly disagree” on the different statements.
The Nicholson McBride Resilience Questionnaire (NMRQ)

It is a tool used to measure an individual level of resilience, which is the ability to cope with stress and overcome their challenges. The NMRQ is an abbreviated version of the longer resilience questionnaire developed by Nicholson McBride. It consists of 12 items which range from “Strongly disagree” to “Strongly Agree”.

Data analysis

Scores from both the tools were calculated according to the norms of the tools and were analyzed using IBM SPSS Version 21 and XLSTAT. Linear Pearson’s products moment correlation and linear regression were used to analyze the data.

Results

Table 1: Gender Statistics of the Participants

<table>
<thead>
<tr>
<th>Gender</th>
<th>Percentage</th>
<th>Total (N=150)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>50%</td>
<td>75</td>
</tr>
<tr>
<td>Female</td>
<td>50%</td>
<td>75</td>
</tr>
</tbody>
</table>

Table 2: Age Statistics of the Participants

<table>
<thead>
<tr>
<th>Central Tendency</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>22.0</td>
</tr>
<tr>
<td>Median</td>
<td>22</td>
</tr>
<tr>
<td>Mode</td>
<td>18</td>
</tr>
</tbody>
</table>

The research in corporate gives some essential information, as shown in table 1 and 2. This cooperates the gender and age statistics of the participants, which provides a better understanding of the participants. This will provide a deeper overall understanding and valuable insights in the study background.

Table 1 shows that there was an equal number of male and females in the study. This balance ensures that there is a diverse perspective in the findings.

Table 2 shows the age demographics of the study, emphasizing a mean age of 22.0, where the participants' ages fall between the ages of 18-26. This age criterion ensures that the data is focused and relevant to the study, and provides the required information in context of young adults.

Regression

Regression analysis was carried out to determine whether extraversion, neuroticism and gender can predict resilience among young adults. The assumptions of normality, linearity, correlation, and homoscedasticity were tested. The assumptions being met, regression analysis was carried out. The relevant results and interpretations are presented in the following tables and figures.

Table 3: Descriptive Statistics of Neuroticism, Extraversion and Resilience Among Young Adults.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SEM</th>
<th>Std. Deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td>150</td>
<td>25.46</td>
<td>0.43</td>
<td>5.29</td>
<td>0.250</td>
<td>0.115</td>
</tr>
<tr>
<td>Extraversion</td>
<td>150</td>
<td>26.12</td>
<td>0.40</td>
<td>4.97</td>
<td>-0.148</td>
<td>0.304</td>
</tr>
<tr>
<td>Resilience</td>
<td>150</td>
<td>40.79</td>
<td>0.46</td>
<td>5.75</td>
<td>0.138</td>
<td>0.360</td>
</tr>
</tbody>
</table>
The scores of the sample (N = 150) on the variables Neuroticism, Extraversion, and Resilience were subjected to descriptive statistical analyses. The mean scores on Neuroticism, Extraversion, and Resilience were found to be 25.46, 26.12, and 40.79, respectively. The mean for Resilience was found to be the highest among the three variables. The standard error of the mean (SEM) was reported to be 0.43 for Neuroticism, 0.40 for Extraversion, and 0.46 for Resilience, indicating that the sample mean for Extraversion is slightly more representative of the population mean than those for Neuroticism and Resilience, though the differences are minimal. The standard deviations (SD) were 5.29 for Neuroticism, 4.97 for Extraversion, and 5.75 for Resilience, which shows that the scores are slightly more spread out in Resilience than in Neuroticism and Extraversion. The skewness and kurtosis for Neuroticism were 0.250 and 0.115, respectively, indicating that the data is slightly positively skewed and approximately normal in kurtosis. The skewness and kurtosis for Extraversion were -0.148 and 0.304, respectively, suggesting a slightly negatively skewed distribution and approximately normal kurtosis. The skewness and kurtosis for Resilience were 0.138 and 0.360, respectively, indicating that the data is slightly positively skewed and also approximately normal in kurtosis.
Table 4: Recording the Extreme Values Recorded in Neuroticism, Extraversion and Resilience.

<table>
<thead>
<tr>
<th>Neuroticism</th>
<th>Extraversion</th>
<th>Resilience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest</td>
<td>Highest</td>
<td>Highest</td>
</tr>
<tr>
<td>Lowest</td>
<td>Lowest</td>
<td>Lowest</td>
</tr>
<tr>
<td>Case Number</td>
<td>Value</td>
<td>Case Number</td>
</tr>
<tr>
<td>94</td>
<td>41.00</td>
<td>45</td>
</tr>
<tr>
<td>44</td>
<td>38.00</td>
<td>98</td>
</tr>
<tr>
<td>121</td>
<td>38.00</td>
<td>67</td>
</tr>
<tr>
<td>146</td>
<td>38.00</td>
<td>73</td>
</tr>
<tr>
<td>46</td>
<td>36.00</td>
<td>120</td>
</tr>
<tr>
<td>35</td>
<td>60.00</td>
<td></td>
</tr>
<tr>
<td>86</td>
<td>56.00</td>
<td></td>
</tr>
<tr>
<td>88</td>
<td>56.00</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>52.00</td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>50.00</td>
<td></td>
</tr>
</tbody>
</table>
The presence of outliers was tested using extreme values and box plots for hope and happiness. The box plots are depicted in figures 1, 2 and 3. The extreme cases are given in table 2. Regression statistics are sensitive to outliers. Thus, it was decided to remove the 3 cases of outliers, although they were not extreme outliers. Thus, the original sample size of 150 was reduced to 147.

**Figure 4: Histogram for Neuroticism.**

![Histogram for Neuroticism](image)

**Figure 5: Quantile-Quantile Plot for Neuroticism.**

![Quantile-Quantile Plot for Neuroticism](image)
Figure 6: Histogram for Extraversion.

Figure 7: Quantile-Quantile Plot for Extraversion.
Figure 8: Histogram for Resilience.

![Histogram for Resilience](image)

Figure 9: Quantile-Quantile Plot for Resilience.

![Quantile-Quantile Plot for Resilience](image)

Table 5: Normality tests for Neuroticism, Extraversion and Resilience.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Shapiro-Wilk</th>
<th>df</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td>.991</td>
<td>147</td>
<td>.440</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.985</td>
<td>147</td>
<td>.110</td>
</tr>
<tr>
<td>Resilience</td>
<td>.986</td>
<td>147</td>
<td>.136</td>
</tr>
</tbody>
</table>
p>0.05

H₀=Variable is normally distributed in the population

Visual inspection of the histograms and Q-Q plots in figures 4, 5, 6, 7, 8 and 9 indicates that neuroticism, extraversion and resilience are normally distributed. This is verified by the Shapiro-wilk test for normality which is presented in table 3. The Shapiro-wilk statistic tests the null hypothesis (H₀) that the variables are normally distributed in the population.

From table 5, normality test for neuroticism, W (df=147) =0.991, p=0.440, it can be interpreted that neuroticism is normally distributed in the population. Since the p value is greater than 0.05, the null hypothesis is retained. The normality test for extraversion, W (df=147) =0.985, p=0.110, it can be interpreted that extraversion is normally distributed in the population. Since the p value is greater than 0.05, the null hypothesis is retained. The normality test for resilience, W (df=147) =0.986, p=0.136, it can be interpreted that resilience is normally distributed in the population. Since the p value is greater than 0.05, the null hypothesis is retained.

**Figure 10: Scatterplot of Resilience by Neuroticism.**
The assumption of linearity was visually verified using a scatter plot. The scatter plot in figure 10 and 11 shows a linear relationship between neuroticism and resilience and similarly for extraversion and resilience. Most of the values are close to the fit line which is sloping downwards in a straight line for neuroticism and upwards in a straight line for extraversion. From the visual inspection, we can determine that the relationship between neuroticism and resilience is negative and for extraversion and resilience is positive.

Table 6: Results of Pearson’s Correlation Matrix for Resilience, Neuroticism, Extraversion, and Gender

<table>
<thead>
<tr>
<th></th>
<th>Resilience</th>
<th>Extraversion</th>
<th>Neuroticism</th>
<th>Gender</th>
<th>N</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resilience</td>
<td>1.000</td>
<td>.392</td>
<td>-.330</td>
<td>.254</td>
<td>147</td>
<td>0.00**</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.392</td>
<td>1.000</td>
<td>-.302</td>
<td>.067</td>
<td>147</td>
<td>0.00**</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>-.330</td>
<td>-.302</td>
<td>1.000</td>
<td>-.114</td>
<td>147</td>
<td>0.00**</td>
</tr>
<tr>
<td>Gender</td>
<td>.254</td>
<td>.067</td>
<td>-.114</td>
<td>1.000</td>
<td>147</td>
<td>0.00**</td>
</tr>
</tbody>
</table>

**p<0.01
H0=Variable is not significantly correlated
The assumption of correlation was tested using Pearson’s product moment correlation. This statistic tests the null hypothesis (H0) that there is no significant correlation between the variables. The correlation coefficient of Pearson’s product moment correlation r= -0.330, p=0.000, N=147 for neuroticism and resilience. Based on Cohen’s cut-off points, the correlation is interpreted as a mild, negative correlation.
between the two variables. The $p$ value is less than 0.01, indicating that the correlation is significant, thus meeting the assumption of correlation. The correlation coefficient of Pearson’s product moment correlation $r = 0.392$, $p=0.000$, $N=147$ for extraversion and resilience. Based on Cohen’s cut-off points, the correlation is interpreted as a mild to moderate, positive correlation between the two variables. The $p$ value is less than 0.01, indicating that the correlation is significant, thus meeting the assumption of correlation. The correlation coefficient of Pearson’s product moment correlation $r = 0.254$, $p=0.000$, $N=147$ for gender and resilience. Based on Cohen’s cut-off points, the correlation is interpreted as a mild, positive correlation between the two variables. The $p$ value is less than 0.01, indicating that the correlation is significant, thus meeting the assumption of correlation.

**Figure 12: Histogram of Regression Standardized Residuals.**

![Histogram of Regression Standardized Residuals](image1)

**Figure 13: Normal Probability-Probability Plot of Regression Standardized Residual.**

![Normal Probability-Probability Plot of Regression Standardized Residual](image2)
The histogram of the regression standard residuals is presented in figure 12. A visual inspection of the plot shows that the residuals seem normally distributed. The P-P plot depicted in figure 12 records the expected and observed probability. They appear close enough to the fit line although they do not follow the fit line closely all the time. Based on figures 12 and 13, the assumption of normality of the regression residuals is said to be met.

**Figure 14: Scatter Plot of Regression Standardized Residual by Regression Standardized Predicted Value.**

The scatter plot of the regression residuals is shown in figure 14. The assumption of homoscedasticity is tested by inspecting this plot. It is expected that the data points are in a rectangular formation. A visual inspection of figure 14 shows that the data meets this expectation. Thus, we can assume homoscedasticity.

**Table 6: Residual Statistics**

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Predicted Value</strong></td>
<td>32.8298</td>
<td>48.6262</td>
<td>40.7823</td>
<td>2.71464</td>
<td>147</td>
</tr>
<tr>
<td><strong>Std. Predicted Value</strong></td>
<td>-2.930</td>
<td>2.890</td>
<td>.000</td>
<td>1.000</td>
<td>147</td>
</tr>
<tr>
<td><strong>Residual</strong></td>
<td>-10.50992</td>
<td>14.13774</td>
<td>.00000</td>
<td>4.75369</td>
<td>147</td>
</tr>
<tr>
<td><strong>Std. Residual</strong></td>
<td>-2.188</td>
<td>2.943</td>
<td>.000</td>
<td>.990</td>
<td>147</td>
</tr>
<tr>
<td><strong>Cook’s Distance</strong></td>
<td>.000</td>
<td>.107</td>
<td>.007</td>
<td>.012</td>
<td>147</td>
</tr>
</tbody>
</table>

The final assumption of outliers of regression residuals is tested using Cook’s Distance which is presented in table 6. The maximum distance of 0.5 to 0.99 indicates the presence of outliers and the maximum distance of more than 1 indicates the presence of extreme outliers. The value of the data being less than 0.5, we can assume that there are no outliers in the regression residuals, thus meeting this assumption.
Table 7: Results of Linear Regression of Predictor Neuroticism, Extraversion and Gender on Dependent Resilience

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>.496a</td>
<td>.246</td>
<td>.230</td>
<td>4.80329</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Gender, Extraversion, Neuroticism
b. Dependent Variable: Resilience

Table 8: ANOVA Summary Table of the Linear Regression

<table>
<thead>
<tr>
<th>Sum of Square</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1075.791</td>
<td>3</td>
<td>358.597</td>
<td>15.543</td>
</tr>
<tr>
<td>Residual</td>
<td>3299.243</td>
<td>143</td>
<td>23.072</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4375.034</td>
<td>146</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p<0.01
H₀=The predictor Gender, Extraversion, Neuroticism does not predict variance in the dependent variable, resilience.

As the assumptions for regression were met, multiple linear regression was carried out on the data. Table 8 records the results of this analysis. The adjusted R square value can be used to determine how much of the variance in the dependent variable resilience can be explained by the predictor variables gender, neuroticism and extraversion. The value of adjusted $R^2=0.230$, $p<0.01$ indicates that 23% of the variance in resilience is predicted by gender, neuroticism and extraversion. The standard error of the estimate $SE=4.80$.

Table 8 records the results of the ANOVA are presented in table 8. The value is recorded as $F (3,143) = 15.543$, $p < .001$. This indicates that the Fisher Ratio is significant. Thus, the null hypothesis ($H₀$) can be rejected with 99% confidence. We can interpret that the dependent variable resilience is predicted by gender, neuroticism and extraversion, and we can conclude that 23% of variance in resilience that is seen in the population is predicted by gender, neuroticism and extraversion.

Table 9: Coefficients table from Multiple Regression Analysis

<table>
<thead>
<tr>
<th>Beta Coefficient</th>
<th>Std. Error</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>35.982</td>
<td>3.575</td>
<td>10.066</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.357</td>
<td>.087</td>
<td>4.114</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>-.228</td>
<td>.083</td>
<td>-2.767</td>
</tr>
<tr>
<td>Gender</td>
<td>2.282</td>
<td>.799</td>
<td>2.856</td>
</tr>
</tbody>
</table>

As shown in Table 9, the regression equation was significant, $F (3, 143) = 15.543$, $p < .001$. The constant (intercept) was 35.982 (SE = 3.575), indicating the expected value of the dependent variable when all predictors are at zero.

Extraversion was a significant positive predictor, $B = .357$, SE = .087, $t (143) = 4.114$, $p < .001$, suggesting...
that for each unit increase in Extraversion, the dependent variable increases by .357 units, holding other variables constant. Neuroticism was a significant negative predictor, \( B = -0.228, SE = 0.083, t(143) = -2.767, p = .006 \), indicating that for each unit increase in Neuroticism, the dependent variable decreases by .228 units, holding other variables constant. 

Gender was also a significant predictor, \( B = 2.282, SE = 0.799, t(143) = 2.856, p = .005 \), suggesting that the dependent variable is 2.282 units higher for one gender compared to the other, holding other variables constant. 

The complete regression model incorporating all predictors is: \( y = a + bx \),

Here, \( y = a+b1X1+b2X2+b3X3 \)
Where \( y \) is the dependent variable (resilience), \( a \) is the intercept, \( b1, b2, \) and \( b3 \) are the coefficients for the predictors, and \( X1, X2, \) and \( X3 \) are the predictors (Extraversion, Neuroticism, and Gender, respectively).

Resilience = 35.982 + 0.357 (Extraversion) − 0.228 (Neuroticism) + 2.282 (Gender)
Where Gender is coded as 0 for female and 1 for male.

Therefore, for female, equation is, female = 35.982 + 0.357X1 − 0.228X 2 + 2.282(0)
= 35.982 + 0.357X1 − 0.228 X 2

for male, equation is, \( y_{male} = 35.982 + 0.357X1 − 0.228 X 2 + 2.282(1) \)
= 35.982 + 0.357X1 − 0.228 X 2 + 2.282
= 38.264 + 0.357X1 − 0.228 X 2

**Figure 15: Contribution of Predictor Variables in the Determination of Resilience**

**Discussion**

The research goal was to find the relationship between extroversion and neuroticism and resilience and also find the gender difference, we can infer from the results that neuroticism, extroversion and gender significantly correlate with resilience. There is a positive correlation between resilience and extroversion as our extroversion: as extroversion grows, so does our resilience. However, it was found that there is a negative correlation between neuroticism and resilience, meaning that as neuroticism rises, our resilience is likely to decrease. Aligning with other research findings, resilience indicated a positive association with extraversion and negative association with neuroticism (Fayombo, G., 2010). (Campbell-Sills, L, et al.2006) The findings also indicate that gender has a great influence on an individual's resilience level,
where the male participants had higher resilience than female individuals. Based on the findings of multiple linear regression which shows that extroversion is a significant positive predictor of resilience, neuroticism is a significant negative predictor and gender also plays a significant role as a predictor of resilience. Our study corroborated the results of other research, where different personality traits were used to estimate resilience (Oshio et al., 2018). This study also concluded that resilience was positively related to extraversion and conscientiousness and negatively associated with neuroticism. Gong, Y. (2019) Study on “Personality traits and depressive symptoms: The moderating and mediating effects of resilience in Chinese adolescents” indicated that resilience plays a regulating and intervening role in the relationship of personality traits with depressive symptoms, and proposed that it was important to improve resilience and to prevent and treat depression in adolescents, focus on fostering adaptive personality characteristics. Different studies have been done on personality traits and resilience correlating with other factors such as anxiety. In the recent research done (Huda I, et al., 2024) found that resilience and personality traits can predict anxiety and has a significant relationship with personality traits and anxiety. Many studies have proven to show that extroversion is negatively associated with resilience and positively related to extroversion (Sonam, et al., 2021). These findings show that people who score higher on extroversion will exhibit higher resilience, extraverted individuals often experience more positive emotions, potentially contributing to their resilience (Burtavered, et al., 2018) This emotional positivity may help them maintain resilience by reducing impersonal orientations. Resilience is crucial for selecting adaptive coping strategies when facing stressors and trauma (Windle, 2011). There was an exception where there was no association found between them (Wang, H., et al., 2021) In his Study on “Understanding the Relationship Between Personality Traits and Resilience Among Chinese Students” found that there was no statistical relationship between resilience and the other factors of openness to experience, agreeableness, conscientiousness, neuroticism.

**Limitations**

1. This study focused on extraversion and neuroticism, while these are important traits, other factors might also play a role in resilience.
2. The data was collected using google forms which might affect the generalization of the study.
3. The sample size was relatively small which may not bring out accurate results.
4. One of the limitations of this study will be the questionnaire used for assessment which may bring our different results.

**Future Scopes**

The main focus of the research was to find the relationship between resilience and two important personality traits (extraversion and neuroticism). So in order to have a better understanding of the nature of resilience, future research can focus on a wide range of personality traits, such as conscientiousness, agreeableness, openness to experience which can help us to see how personality shapes an individual responses to adversity. Additionally investigating these relationships across different age groups and cultural backgrounds will provide valuable insights into resilience and its cultural variations. By employing different study designs and personality profiles, future studies can give light to the relationship between personality, age, cultural context and life experience in fostering resilience.
Conclusion
Examining the relationship between personality traits and resilience with gender difference offers a compelling area of study. This study has illuminated the significant influence of personality on resilience. Extroversion is linked with stronger resilience while neuroticism can have the opposite impact. We also analyzed gender where males had higher resilience than the female participants.
In conclusion, extroversion is likely to enhance resilience, while neuroticism has been associated with lower levels of resilience. Additionally, gender also seems to be a significant factor in determining an individual's level of resilience. These findings contribute to a deeper understanding of resilience with personality traits, and can empower individuals to help navigate life’s challenges and have a better understanding of themselves.

References
2. Campbell-Sills, L., Cohan, S., Stein, M. Relationship of Resilience to Personality, Coping, and Psychiatric Symptoms in Young Adults, Behavior Research and Therapy, 2006 April, 44 (4), 585-99. https://doi.org/10.1016/j.brat.2005.05.001


https://www.researchgate.net/publication/343018284_Resilience_as_mediator_between Extraversion_neuroticism_and_depressive_symptoms_in_university_students


21. Rudan, S, Alhashimia, S. The Relationship Between Resilience and Mental Health Among a Sample of University of Nizwa Students-Sultanate of Oman, European Scientific Journal, 14(8).


26. Sonam, Sharma, M., Sharma, L. A Comparative Study on Personality Traits Based on High and Low