

Relationship between personality and depression among High School Students in Tehran-Iran

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Abstract

The present study examined the relationship between personality trait and depression among high schools students in Tehran. Respondents of the current study included of 200 students who were identified by stratified sampling technique. Instruments for data collection comprised Eysenck Personality Questionnaire (EPQ) and Beck Depression Inventory (BDI). The results of the Pearson correlation analysis indicated a significant relationship between extroversion and introversion with depression. Also, results of the regression indicated that extroversion is a better predictor of depression compared to introversion.

Keywords: Personality, Depression, Students.

Introduction

The connection between personality and depression can be considered from several perspectives due to the difficulty of the development of both depression and personality. On one hand, personality characteristics can be an ancestor effect on depression. There is sign that personality affects the risk of depression as a tendency or as an early attenuated expression of later disorder (Robert & Hirschfeld, 1999). On the other hand, personality characteristics present mood state that can influence how people describe their personality (Spittlehouse, 2006).

In the present study, there is conceptual model to explain the link between personality and depression. Personality can be valuable in classifying more subgroups of depressive disorders that vary in developmental courses and etiological effects (Beck, 1983). Tracing the pathways between personality and depressive disorders can help clarify more proximal processes involved in the development of mood disorders (Klein et al. 2008, Lahey, 2009). Also, personality may be useful in modifying treatment (Zinbarg et al. 2008) and predicting treatment reaction (Quilty et al. 2008). Some personality characters, such as neuroticism, are related with multiple psychiatric situations. Personality has two components: temperament that refers to biologically based, early-emerging, stable individual differences in emotion and its regulation, and character, which refers to individual differences due to socialization.

There is extensive evidence that personality indicates softness in childhood (Roberts & Del Vecchio 2000). Several studies have assessed the relationship between dimensions of temperament/character and depression (Spittlehouse et al., 2010 & Farmer et al., 2003) and among students (Naito et al., 2000 & Peirson & Heuchert, 2001).

Objectives

The objectives of the current study are:

1. To describe the levels of personality and depression.
2. To determine relationships between personality and depression in Tehran high school students.
3. To determine unique predictor of depression in high school students.

Hypotheses

H_a1: There is a significant relationship between personality and depression in Tehran high school students.

H_a2: The unique predictors (extroversion and introversion) of respondents predict the depression.

Method

Research design

Research design of the present study is descriptive and correlational.

Participants

The study's population consisted of high schools students in Tehran city. Based on Krejcie and Morgan Table (1970), the number of respondents who participated were 200, but as it was possible, through the process of data gathering, some respondents who did not like to participate or did not respond completely were omitted from the data collection (250 students).

Measures

Eysenck Personality Test

The Personality Test was designed by Eysenck in 1975. This Scale consists of 57-items. It is rated on a two-point ranging based on 1=yes, 2= never. Personality test consists of two dimensions extroversion and introversion. Eysenck (1975) reported reliability results from the internet addiction with Cronbach coefficient alpha values of .70.

Beck depression inventory

In the present study, BDI has been used to measure depression. BDI includes 21 questions with four choices scored 0, 1, 2 and 3, respectively. The total score is determined when the score for each of the 21 questions is added up. The highest score for each of the twenty-one questions is three, thus, the highest possible total for the whole test is sixty-three. The lowest possible score for the whole test is zero. This means that only one score per question is added (the highest rated if more than one is circled). In the present study, the respondents of the study have been asked to answer each of the questions expressing their current feelings. In addition, the reliability of BDI was 0.86 and 0.81 alpha co-efficient (Beck et al., 1988). BDI was adapted in Iranian culture. Category of BDI scores was developed according to Modabber-Nia et al. (2007), as follows:0. symptom-free or normal (0 – 15).1. Mild depression (16 – 30). 2. Moderate depression (31 – 46)

3- Severe depression (47 – 63)

Analysis of Data

Data from the present study were analyzed using Statistical Package for Social Science (SPSS). Inferential statistics that was conducted in the data analysis was Pearson Correlation Analysis to conduct the relationship between personality and depression among students. Also, regression analysis was used to determine the effect of personality traits (extroversion and introversion) on depression among students.

Results

Descriptive findings

There was same number of male (50%) and female (50%) students who were involved as respondents of the study.

Levels of personality characteristics and depression

The key variables studied in the present study were personality characteristics and depression. As shown in Table 1, more than half of the respondents reported extroversion personality (55.3%), less than half of respondents reported introversion personality (44.7%). Also, results of the present study indicate the levels of depression among respondents. It indicates that 81.5 % of the respondents were symptom-free or normal, while 19.5 % of them were depressed.

Table 1: Percentage of Respondents Based On Personality and Depression

variable	Dimensions	Percent
Personality	Introversion	44.7
	Extroversion	55.3
Depression	Normal	81.5
	Mild depression	7.7
	Moderate depression	5.6
	Severe depression	5.7

Bivariate analysis

To Determine Relationship between personality characteristics and depression

The Pearson correlation analysis was conducted to examine the relationships between extroversion and depression. The result of the present study in Table 2 indicated a significant negative relationship between extroversion and depression ($r=-.301$, $p<.01$). Also, the results of the present study revealed a relationship positive relationship between introversion and depression ($r=.432$). This means that respondents with high levels of extroversion reported low levels of depression, while, respondents with high levels of introversion reported higher levels of depression.

Table 2: Relationship between Personality Characteristics and depression

Variables	p-value	Sig
Extroversion	-.301	.000
Introversion	.432	.000

To determine the unique predictor variables of academic achievement

This section aims to show the results related to the contribution of each of the significant predictor variables (extroversion and introversion) towards the variance of the criterion variable (depression). The Regression Analysis was used to examine depression by explanatory factors namely extroversion and introversion. In addition, the model consists of three predicting variables, X_1 , extroversion, and X_2 , introversion. The contribution of these variables separately as well as in total contribution is presented in the following regression equation:

$$\hat{Y} = b_0 + b_1 X_1 + b_2 X_2 +$$

$$(\text{Depression}) \hat{Y} = 11.8 + (-.021) + (-.014) + \text{Error}$$

b_i For $i = 0, 1, 2, 3$ are the regression coefficients.

\hat{Y} =depression

X_1 =extroversion

X_2 =introversion

e = Random error

The hypothesis test which examines the validity of the model can be expressed as follows:

$$\begin{cases} H_0: \beta_1 = \beta_2 = \beta_3 = 0 \\ H_1: \text{against the } H_0 \end{cases}$$

Based on Table 3, there is a significant relationship between predictor factors (extroversion and introversion) and outcome (depression) [$F(3,197) = 8.46, p=.000$].

Further to this, Table 4, with the observed $t=-1.02, p=.000$, the standard coefficient $Beta=-.021$ and the relatively small value of the standard error=.017, can be clearly stated that extroversion significantly has a relationship with depression. The second variable (introversion) where $t=-2.11, p=.002, Beta=-.016$, standard error=.004, also have significant relationship with depression. Also, R^2 showed that about 24 % of the variance in depression is explained by extroversion and introversion. In other words, 76 % of depression is related to the other factors. Results of the regression revealed that extroversion is the best predictor for depression.

Table 3: ANOVA Table of regression model

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	107.719	3	35.906	8.46	.000
Residual	1243.987	197	6.314		
Total	2093.120	200			

a. Predictors:(Constant), extroversion and introversion

b. Dependent Variable:
Depression

Table 4: Multiple regression analysis on academic achievement.

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
(Constant)	11.34	1.38			8.22	.000
Extroversion	-.035	.017	-.021		-1.02	.000

ion	Introvers	-0.026	.004	-.016	2.11	.002
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Discussion and Conclusion

Results of the present study were based on the data collected from 200 students between the ages of 15-18 years who were studying in Tehran's high school. The data was collected by stratified sampling technique. The data for the present study was also collected using self-administered questionnaire in a group setting. The data was analyzed using SPSS Windows Program (Version 20). Two statistical procedures descriptive statistic and inferential statistics were conducted. The Pearson product-moment correlation coefficient was used to examine the relationship between personality and depression. The multiple regression analyses were used to determine predictors of the student's depression. Results of the present study indicated more than half of the respondents reported extroversion personality and less than half of respondents reported introversion personality. Also, results of the present study indicate the levels of depression among respondents. Majority of the respondents reported symptom-free or normal, minority of the respondents were depressed in the present study.

The present study investigates the relationship between personality traits and depression of high school students of Tehran. For determining the amount of correlation between the personality variables and depression, Pearson correlation has been used.

The result of the present study indicated a significant negative relationship between extroversion and depression. Also, the results of the present study revealed a relationship positive relationship between introversion and depression. This means that respondents with high levels of extroversion reported low levels of depression, while, respondents with high levels of introversion reported higher levels of depression. Also the present study results in order to determine the prediction of criteria variable (extroversion and introversion) by predictive variables (depression) showed that extroversion is the better predictor for depression.

Findings of the present study are consistent with past studies (Grav et al., 2012). A recent study (Farouk Radwan, 2012) has shown that introverts people are more likely to become depressed than extroverts. Introverts usually get defensive when they read about such studies because they sometimes mistakenly believe that being introverted means that they are depressed. Depression can cause people to separate themselves from others. Those who previously involved in social events maybe become less outgoing or completely avoid their friends and family. Because it's difficult to determine whether the causes of someone's introversion are primarily genetic, the very fact that people have depression means the results will likely skew towards suggesting that introverts are more depressed. This may be false, in some ways, because

depressed people become introverted even if they may be extroverted by nature. It's not introversion itself that cause depression (Drake Tae, 2010).

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