

Research Article

Depression, Suicidal Ideation and the Big Five Personality Traits

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***Corresponding author:** David Lester, Stockton University, School of Social and Behavioral Sciences, Galloway, New Jersey, USA**Received:** January 22, 2021; **Accepted:** February 24, 2021; **Published:** March 03, 2021**Abstract**

Aim: This study explored the association of the Big Five personality traits (OCEAN: openness, conscientiousness, extraversion, agreeableness and neuroticism) with current depression and a history of suicidal ideation and suicide attempts.

Methods: A sample of 115 undergraduate students in the United States was administered measures of the Beck Depression Inventory, and the 15-item Big Five personality Inventory. The students were also asked whether they had ever thought about suicide in the past and whether they had ever-attempted suicide in the past.

Results: Four of the Big Five personality trait scores (conscientiousness, extraversion, agreeableness and neuroticism) were associated with depression scores, accounting for 36% of the variance in depression scores. Among the Big Five personality traits, neuroticism was positively associated with depression, while conscientiousness, extraversion, and agreeableness were negatively associated with depression.

Conclusions: The Big Five personality traits scores did not predict a history of suicide attempts in the sample of American students, but neuroticism scores were associated with a history of suicidal ideation.

Keywords: Depression; Suicidal ideation; Big five; Personality; Students; USA

Introduction

The Big Five personality trait model (OCEAN: openness, conscientiousness, extraversion, agreeableness and neuroticism) is one of the most well-known personality models [1]. It is still considered a gold standard in personality assessment [2-5]. The Big Five personality traits can predict positive mental health, psychological well-being, happiness, emotional health, public health, and psychopathology [6-22].

Abdel-Khalek, Lester, and Dadfar (in submission) found that all Big-Five personality traits were significantly and positively correlated with mental health with the exception of neuroticism which was negatively correlated with mental health. One of the factors affecting depression is personality, and neuroticism is a vulnerability factor to depression. Previous studies have shown that neuroticism is the most important predictor of depression [23-28].

Personality factors increase the risk of suicide in two ways: (1) some personality traits, such as neuroticism, may make people susceptible to other disorders, such as depression, which is a risk factor for suicide, and (2) some personality traits, such as impulsivity, affect the ways in which people react to life events [29]. Kerby [30] has also suggested that the Big Five personality traits have a very important role in prediction of suicidal ideation, and Velting [31] reported that neuroticism was a vulnerability factor for suicidal ideation. This association has been supported by many other studies [6,29,32-41].

In a sample of American undergraduates, Kerby [30] found that suicidal ideation was associated with high neuroticism scores and low extraversion and agreeableness scores. In a sample of Indian undergraduates, Singh and Pathak [42] found that current suicidal ideation was associated with high neuroticism scores and with low scores for extraversion, agreeableness, openness and conscientiousness. Lester [43,44] reviewed prior research and found that low extraversion scores were consistently associated with suicidal behavior, as were high neuroticism scores. Miri and Shirazi [45] indicated that neuroticism, extraversion and agreeableness personality traits are a risk factor for suicide among Iranian people who have attempted suicide. The present study explored the association of the Big Five personality traits with current depression and a history of suicidal ideation and suicide attempts.

Methods

Participants

The participants were 115 undergraduate students enrolled in psychology courses; 85 women, 28 men and 2 who did not indicate their sex; their mean age was 21.7 years (SD=4.6). Participants were administered a questionnaire anonymously containing three parts.

Measures

The Beck Depression Inventory (BDI), developed by Beck et al., [46], contains 21 items (e.g., 'I feel sad much of the time') and can be used to assess the severity of depression symptoms. Each item is scored on a scale of 0 to 3, giving a total score ranging from 0 to

63: minimal depression (0-13), mild depression (14-19), moderate depression (20-28), and severe depression (29-63) [47]. The BDI has been used widely and found to have good reliability and validity [48-51].

The 15-item Big Five personality Inventory (BFI-15). The Big Five personality traits (OCEAN: openness, conscientiousness, extraversion, agreeableness and neuroticism) were measured with a 15-item scale with three items for each subscale. A typical item for openness was "I am intrigued by the patterns I find in art and nature", for conscientiousness "I never seem to be able to get organized", for extraversion "I like to be where the action is", for agreeableness "I try to be courteous to everyone I meet", and for neuroticism "I often feel tense and jittery". The answer format was a 5-point scale with anchors 1 (strongly disagree), 2 (disagree), 3 (neither agree nor disagree), 4 (agree), and 5 (strongly agree), giving a total score ranging from 3-15 for each subscale. The BFI-15 has been used widely and found to have good reliability and validity [52]. The students were also asked whether they had ever thought about suicide in the past and whether they had ever attempted suicide in the past.

Compliance with ethical standards

The study was approved by the Institutional Review Board at Stockton University. The questionnaire contained a cover letter, explaining all the ethical considerations (confidentiality, anonymity, informed consent and the right to withdraw) as well as an explanation of the research procedure. The authors have no potential conflicts of interest with respect to the research, writing, and publication of this article. The authors received no financial support for the research, writing, and publication of this article.

Data analyzes

Data were analyzed with descriptive statistics, Pearson correlation coefficients, multiple regression, and a Principal Components Analysis (PCA) using SPSS Statistics software.

Results

Mean scores and standard deviations, the range of possible scores, and Cronbach alpha reliabilities for the present sample are shown in (Table 1). Forty-one (36%) participants indicated that they had thought about suicide in the past, and 9 (8%) said that they had attempted suicide in the past. Pearson correlations Big Five personality traits scores and depression scores are shown in (Table 1). Four of the Big Five personality traits (conscientiousness, extraversion, agreeableness and neuroticism) were associated with depression scores.

Table 1: Descriptive statistics for the scales and correlations between scale scores.

	Mean (SD)	Cronbach alpha	Pearson correlations		
			Depression	Suicidal ideation	Suicide attempts
Openness	10.6 (2.3)	0.71	-0.04	+0.12	+0.08
Conscientiousness	11.4 (2.1)	0.64	-0.24**	-0.17	+0.01
Extraversion	10.4 (2.1)	0.62	-0.29**	-0.13	+0.05
Agreeableness	13.0 (1.7)	0.6	-0.23*	-0.20*	-0.08
Neuroticism	9.2 (2.5)	0.61	+0.52***	+0.22*	+0.15
Depression	8.2 (7.0)	0.87	-	+0.37***	+0.25**

Table 2: Multiple regressions to predict depression and suicidality (beta coefficients shown).

	Depression	Suicide ideation	Suicide attempts
O	0.03	+0.15	+0.07
C	-0.17#	-0.14	+0.01
E	-0.20#	-0.06	+0.09
A	-0.03	-0.14	-0.08
N	+0.48**	+0.16	+0.14
R ²	0.36	0.12	0.04

#significant in a backward multiple regression.

Table 3: Principal components analysis for the Big Five personality Inventory (BFI-15) and Beck Depression Inventory (BDI).

	Factor 1	Factor 2
O	+0.28	+0.74#
C	-0.28	+0.40#
E	-0.30	+0.66#
A	-0.51	+0.42#
N	0.81	+0.03
Depression	+0.81#	-0.16
Eigenvalue	2.04	1.10
%variance	34.07%	18.34%

In multiple regressions to predict depression scores, the R² for the Big Five personality traits was 0.36. However, only neuroticism scores were associated with a history of suicidal ideation, and none of the Big Five personality trait scores were associated with a history of attempted suicide (Table 2). A Principal Components Analysis (PCA) showed that all the variables loaded on two factors (Factor 1 explained 34.07%, and Factor 2 18.34% of total variance) (Table 3).

Discussion

The results of the present study indicated that neuroticism was positively correlated and three of Big Five personality traits (conscientiousness, extraversion, and agreeableness) were negatively associated with current depression scores. These four traits accounted for 36% of the variance in depression scores. Emotional instability plays a very important role in the development and stability of a negative mood. Because neuroticism is associated with maladaptive behavior, it causes unhealthy patterns of in person's relationship with the physical and social environment, which can lead to depression. Consistent with the findings of the present study, Leow et al., [2] reported that conscientiousness and extraversion were negatively correlated with depressive symptoms, and neuroticism positively correlated with depressive symptoms among American college students. Hosseini et al., [25] found that neuroticism had a significant positive impact on depression and was the strongest predictor trait for depression. In addition, extraversion and agreeableness had a significant negative impact on depression. Self-esteem and self-efficacy had a mediating role in the relationship between the Big Five personality traits with depression among Iranian university students. Abbasi et al., [53] showed that neuroticism had a significant positive, and extraversion a significant negative correlated with depression. These two personality traits predict depression among Iranian elderly people. Both depression and neuroticism would make theoretical

sense. Perhaps positive emotions antagonize the negative feelings of depression, or sociality protects from depression because depression is a response to loneliness. Also perhaps conscientiousness is the pursuit of goals that suppresses depression, or maybe better relations with people resulting from greater self-discipline, or perhaps because high conscientiousness includes the suppression of emotions that could interfere with goal pursuit. Some of the suppressed emotions will be unpleasant ones, including depression. However, unlike previous research, which showed an association of Big Five personality traits with current suicidal ideation and behavior, Big Five personality traits scores were not associated with a lifetime history of suicidal ideation and attempts. In contrast, Bayrami, Eghbali, and Gholizadeh [54] reported that neuroticism was significantly and positively correlated with depression and suicidal ideation, while extraversion and conscientiousness were significantly and negatively correlated with depression and suicidal ideation. Neuroticism explained 73% of the variance of depression, and 59% of the variance of suicide. Chow et al., [55] found that personality trait of stability is a protective factor against depression and suicidal ideation in German medical students. Beautrais, Joyce, and Mulder [56] reported that low extraversion scores were associated with a history of suicide attempts, while low positive emotions were associated with a serious suicidal ideation among young people [56-62].

These present findings are limited by the cross-sectional design of the study, the use of college students with a limited age range, and the primarily female composition of the sample. The role of other variables such as self-esteem, self-efficacy, hopelessness, and coping strategies, which were not assessed in the study, may be important in the association of the Big Five personality traits and suicidal ideation and behaviour. Future research should also study current, past year and lifetime for their associations with personality traits. The associations with current suicidal ideation and behaviour may be useful for clinicians endeavouring to help suicidal clients.

Conclusion

Among the Big Five personality traits, neuroticism was positively associated with depression, while conscientiousness, extraversion, and agreeableness were negatively associated with depression. On the whole, the Big Five personality traits scores did not predict a history of suicidal ideation or suicide attempts in the sample of American students, although neuroticism scores were associated with a history of suicidal ideation.

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