Original Research Paper

Role of Personality Traits on Depression among Undergraduate University Students

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ABSTRACT

Depression is a common mental disorder that presents with depressed mood, loss of interest or pleasure, feelings of guilt or low self worth, disturbed sleep or appetite, low energy, and poor concentration. These problems can become acute or recurrent and lead to substantial impairments in an individual's ability to take care of his or her everyday responsibilities. It is a complex disorder which can manifest under a variety of circumstances and due to a multiplicity of factors. The rate of depression increases during the adolescence period where there is a greater risk for substance abuse and other psychiatric co-morbidities. Therefore, the purpose of the study was to look into the effect of personality dimension on the level of depression amongst the undergraduate university students. For the said purpose, both independent variables (gender, personality) as well as dependent variable (depression) were undertaken. A non clinical sample of 100 undergraduate students from SRM University, Gangtok falling in the age group of 19-25 years participated. They were assessed by the following tools: the socio-demographic data sheet, the Beck Depression Inventory II and the revised NEO five factor inventory. The data collected were analyzed on the basis of Statistical Package for Social Science Version 22. The study found a significant and positive correlation of extraversion with openness and conscientiousness and significant difference between male and female undergraduate university students on extraversion, openness and conscientiousness dimension of personality.

The World Health Organization has identified depressive disorders of adolescence as "priority mental health disorder." Globally, its prevalence rate is 15 to 20% and recurrence rate is 60-70% whereas in India it is reported as 11.2%. However, studies have reported that 50% of cases remain undiagnosed. The consequences of this depression are serious, causing suicide, school dropout, and drug abuse etc. Often adolescent depression leads to adult depression (Basker et al., 2007). Depression is estimated to affect 3%–16.9% of individuals worldwide (Andrade et al., 2003).

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University students have a higher risk of developing depression than the general population (Bayram & Bilgel, 2008; Ljubicic et al., 2010). It also worsens the course and increases the cost of numerous medical illnesses. It contributes to premature death by suicide. The impact of depression reverberates well beyond its victims, affecting family and friends. Recognizing and treating major depression and its variants in the early stages is important in reducing future negative impact (Anderson, 2002).

Depression in adolescence significantly impairs functioning and may derail normal psychosocial development. Moreover, it often recurs or persists into adulthood. Rates of depression rise considerably during adolescence with as many as one in five teenagers developing major depression at some point. In adolescence, depression can be mistaken for adolescent angst or for hormone-related mood in although it is a disorder associated with serious consequences. Youth with depression are likely to suffer broad functional impairment across social, academic, family, and occupational domains. Adolescents with depression are at higher risk for substance abuse and other psychiatric co-morbidities (Birmaher et al., 1996).

Vredenburg, O'Brien, and Krames (1988) examined the nature of college-student depression and its relation to personality variables and to experiences unique to college life. Thirty-five depressed and 39 non-depressed students completed a depression inventory, a series of personality scales, and a survey developed to investigate the impact of potentially distressing components of college life. Results revealed that college-student depression, though mild in intensity, represents a serious problem: Three quarters of depressed students had been depressed for more than 3 months, and half had contemplated suicide. Both personality characteristics and experiential variables were found to be significantly related to depression, together accounting for approximately half the variance. They examined individual personality traits and experiential variables that were found to differ between depressed and non-depressed subjects.

Depression may be becoming noticeable more than in years past, but that is not the only pattern researchers are noticing. Depressive symptoms are more common in female students than in their male counterparts (Barrett & Boggiano, 1991). Females are reported to have a ten percent higher chance of experiencing depressive symptoms, with an average of 50 percent of women reporting difficulty functioning in day-to-day activities ("Depression; survey shows," 2004).

Depression can affect all ages, communities or race. Young people in their transition to adulthood particularly suffer from depression, since late adolescence and early adulthood are the stages of life devoted to making major choices in multiple fields of their life. The challenges include exploring or developing their identity e.g. making career choices, navigating the transition from a state of full dependence to a state of semi dependence on their parents, creating social relationships in a different environment. At the college level, academic pressures are increasing day by day and at each successive level. Students are

adjusting emotionally to complex life changes. The challenges of colleges, leaving home for the first time, learning to live independently, forming new relationships, and irregular sleep could be the risk factors for students and depression itself is proven risk factor for absenteeism, educational under achievement and substance abuse. In context of the foresaid research work which is entitled "role of personality traits on depression among undergraduate university students" has been undertaken to address effect of the personality dimensions on their level of depression.

Objectives
The broad objectives of the study may be as follows:
1. To determine that some personality traits leads as risk factors of depression among undergraduate university students.
2. To find out the gender differences among undergraduate university students on different personality traits and depression.

Hypotheses
On the basis of the literature review, following hypotheses were formulated:
1. There will be significant relationship between different dimensions of personality (i. e. extraversion, agreeableness, conscientiousness, neuroticism and openness to experience) and depression of undergraduate university students.
2. There will be significant differences between undergraduate university male and female students on Neuroticism dimension of personality.
3. There will be significant differences between undergraduate university male and female students on Extraversion dimension of personality.
4. There will be significant differences between undergraduate university male and female students on Openness to experience dimension of personality.
5. There will be significant differences between undergraduate university male and female students on Agreeableness dimension of personality.
6. There will be significant differences between undergraduate university male and female students on Conscientiousness dimension of personality.
7. There will be significant differences between undergraduate university male and female students on Depression.

METHODOLOGY
It is necessary to adopt a systematic procedure to collect the necessary data which helps to test the hypotheses of the study. Various steps of research methodology to be followed in the present study are as follows:

Participants
A non -clinical sample of 100 undergraduate first year management students (50 male 50 female) from various disciplines in the age group of 19 to 25 years from SRM University, Gangtok participated in this study. The mean age of the group was 22.04 with a SD of 2.22. The students were primarily from different communities of Sikkim, that is, 54% were Nepali,

15% were identified as Bhutia, 6% Lepcha and others were 25 % (Bhutanese and Muslims). Student participation was voluntary and none received compensation for taking part in the study. The selected subjects were required to be (a) showing no evidence of acute confused state, brain damage, alcoholism, or substance abuse, and (b) not currently in treatment for a diagnosed psychiatric disorder. The participants were contacted individually and were assured of anonymity and confidentiality.

Inclusion Criteria of Participants
1. Undergraduate management first year students
2. Both males and females
3. Urban and rural students
4. All religion
5. Age group between 19 years to 25 years
6. Regular students
7. Students who were not diagnosed with any psychiatric disorder

Measures
The following psychological tools were used for the purpose of collection of data:
1. **Socio-Demographic Data Sheet:** A socio-demographic data sheet was prepared to collect information about the age of respondents, educational qualification, community, caste, religion, etc.
2. **The Beck Depression Inventory II (Beck, Steer & Brown, 1996):** The Beck Depression Inventory (BDI) is a commonly used instrument for quantifying levels of depression. The BDI-II test includes a 21 item self-report using a four-point scale ranging which ranges from 0 (symptom not present) to 3 (symptom very intense. The Beck Depression Inventory II is a depression rating scale that can be used in individuals that are ages 13 years and older. The BDI test is widely known and has been tested for content, concurrent, and constructs validity. High concurrent validity ratings are given between the BDI and other depression instruments as the Minnesota Multiphasic Personality Inventory and the Hamilton Depression Scale; 0.77 correlation rating was calculated when compared with inventory and psychiatric ratings. The BDI has also showed high construct validity with the medical symptoms it measures. Beck's study reported a coefficient alpha rating of .92 for outpatients and .93 for college student samples. The BDI-II positively correlated with the Hamilton Depression Rating Scale, r = 0.71, had a one-week test–retest reliability of r = 0.93 and an internal consistency α=.91. According to the scoring key a score 30 indicates severe depression.
3. **NEO Five-Factor Inventory-3 (Costa & McCrae, 1992):** The NEO-FFI-3 was designed by Costa and McCrae (1992) which contains 60 items to provide self and other reported measures of the five factor model of personality. Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A), and Conscientiousness (C) are the personality dimensions measured by the test. The NEO-FFI was developed from factor-analytic work on data from a 1986 administration of NEO-PI to 986 men and women. The NEO-FFI scales showed correlation ranging from .75 for conscientiousness to .89

for N when correlated with the NEO-PI, internal consistency for the NEO-FFI was calculated using alpha coefficient values were .89, .79, .74, and, .84 for N, E, O, A and C respectively. The validity of the NEO-FFI scales was tested by correlating the scales of the NEO-FFI to other measures of the five-factor model based on self-report, rating by spouses, and by peer rating of the NEO-PI factors. On self-reports, the convergent correlations ranged from .56 to .62, divergent correlation ranged from p.

Procedure

The concerned authorities in SRM University, Gangtok were contacted for formation to collect data from the respondents. Thereafter, the purpose of the study was explained and explicitly sought the consent of the students regarding participation, as well as to ensure that students' responses were kept either anonymous or confidential. The purpose of the study was clearly explained to the students and consent to participate in the study was obtained from all students involved. Participation was strictly voluntary. Students were also informed that they could refuse or discontinue participation at any time. The psychological tests were administered individually following the instruction specified in the respective test manual. The general testing condition was satisfactory and the procedure was uniform all through. All the tests were scored as per the procedure described in respected test manual.

RESULTS AND DISCUSSION

Mean, SD and Pearson's correlation for depression, neuroticism, extraversion, openness, agreeableness and conscientiousness of post-graduate university students have been calculated by using Statistical Package for the Social Sciences (SPSS) version 22.0. In order to examine the gender differences of undergraduate university students on depression, neuroticism, extraversion, openness, agreeableness and conscientiousness, t- values have also been calculated.

Table 1: Pearson Correlation analysis of Undergraduate University Students on different dimensions of Personality and Depression (N=100)

Variables	Mean	SD	N	E	O	A	C	D
Neuroticism (N)	23.75	6.77	1	-.42**	-.37**	-.14	-.33**	.54**
Extraversion (E)	26.21	6.92		1	.47**	.07	.49**	-.37**
Openness (O)	28.09	5.40			1	.20*	.39**	-.26**
Agreeableness (A)	25.40	5.32				1	.27**	-.12
Conscientiousness (C)	27.15	6.70					1	-.31**
Depression (D)	12.57	10.11						1

**Correlation is significant at the 0.01 level

*Correlation is significant at the 0.05 level

Hypothesis 1: There will be significant relationship between different dimensions of personality (i. e. extraversion, agreeableness, conscientiousness, neuroticism and openness to experience) and depression of undergraduate university students.

It can be observed from Table 1 that there exists a significant and positive correlation of extraversion with openness and conscientiousness (P<0.01). It can also be observed that depression is correlated significantly and positively with neuroticism (r= .54) which is in the expected direction. However, as it can be observed from Table 1 that depression is significantly and negatively correlated with extraversion (r= -.37), openness (r= -.26) and conscientiousness (r= -.31) which is also in the expected direction. Neuroticism is correlated negatively and significantly with extraversion (r= -.42), openness (r= -.37) and conscientiousness (r= -.33). Significant and positive correlation of openness with agreeableness (r= .20) and conscientiousness (r= .39) can also be seen. Similarly, agreeableness is significantly and positively related to conscientiousness (r= .27).

Jylha and Isometsa (2006) also found similar result as neuroticism correlated strongly with symptoms of depression (r=.71, P<.001) and extraversion correlated negatively with symptoms of depression (r= -.47, P<.001).

Therefore, hypothesis 1 which states "there will be significant relationship between different dimensions of personality (i. e. extraversion, agreeableness, conscientiousness, neuroticism and openness to experience) and depression of undergraduate university students" is accepted.

Table 2: Mean, SD and 't' value of Male and Female Undergraduate University Students on Neuroticism Dimension of Personality (N=100)

SN	Dimension	Gender	N	Mean	SD	df	t- value	Sig./ Not Sig.
1.	Neuroticism	Male	50	24.96	6.63	98	1.81	N.S.
		Female	50	22.54	6.76			

Hypothesis 2: There will be significant differences between undergraduate university male and female students on Neuroticism dimension of personality.

As it can be observed from Table 2 that there does not exist significant difference between male and female undergraduate university students on neuroticism (t=1.81). However, it can be observed that male participants have higher mean score than female participants on neuroticism. Both male and female students have scored high on neuroticism.

Therefore, hypothesis 2 which states "there will be significant differences between undergraduate university male and female students on neuroticism dimension of personality" is not accepted.

Table 3: Mean, SD and 't' value of Male and Female Undergraduate University Students on Extraversion Dimension of Personality (N=100)

SN	Dimension	Gender	N	Mean	SD	df	t- value	Sig./ Not Sig.
1.	Extraversion	Male	50	27.92	5.07	98	2.54	P<0.05
		Female	50	24.50	8.07			

Hypothesis 3: There will be significant differences between undergraduate university male and female students on Extraversion dimension of personality.

Table 3 revealed that there exists a significant difference between male and female undergraduate university students on extraversion (t=2.54, P<0.05). It is quite interesting to note from Table 3 that male undergraduate students have high mean score on extraversion than female undergraduate students (Male= 27.92, Female=24.50).

Therefore, hypothesis 3 which states "there will be significant differences between undergraduate university male and female students on Extraversion dimension of personality" is accepted.

Table 4: Mean, SD and 't' value of Male and Female Undergraduate University Students on Openness Dimension of Personality (N=100)

SN	Dimension	Gender	N	Mean	SD	df	t- value	Sig./ Not Sig.
1.	Openness	Male	50	29.54	5.01	98	2.77	P<0.01
		Female	50	26.64	5.44			

Hypothesis 4: There will be significant differences between undergraduate university male and female students on Openness dimension of personality.

Table 4 revealed that there exists a significant difference between male and female undergraduate university students on openness (t=2.77, P<0.01). It is quite interesting to note from Table 4 that male undergraduate students have high mean score on extraversion than female undergraduate students (Male= 29.54, Female=26.64).

Therefore, hypothesis 4 which states "there will be significant differences between undergraduate university male and female students on Openness dimension of personality" is accepted.

Table 5: Mean, SD and 't' value of Male and Female Undergraduate University Students on Agreeableness Dimension of Personality (N=100)

SN	Dimension	Gender	N	Mean	SD	df	t- value	Sig./ Not Sig.
1.	Agreeableness	Male	50	26.30	5.42	98	1.71	N.S.
		Female	50	24.50	5.11			

Hypothesis 5: There will be significant differences between undergraduate university male and female students on Agreeableness dimension of personality.

Table 5 revealed that there does not exist any significant difference between male and female undergraduate university students on agreeableness (t=1.71). However, as it can be observed from Table 5 that male undergraduate students are found to be more agreeable than female students since their mean score on agreeableness is higher than female undergraduate students (Male = 26.30, Female = 24.50).

Therefore, hypothesis 5 which states "there will be significant differences between undergraduate university male and female students on agreeableness dimension of personality" is not accepted.

Table 6: Mean, SD and 't' value of Male and Female Undergraduate University Students on Conscientiousness Dimension of Personality (N=100)

SN	Dimension	Gender	N	Mean	SD	df	t- value	Sig./ Not Sig.
1.	Conscientiousness	Male	50	28.56	5.70	98	2.14	P<0.05
		Female	50	25.74	7.37			

Hypothesis 6: There will be significant differences between undergraduate university male and female students on Conscientiousness dimension of personality.

Table 6 revealed that there exists a significant difference between male and female undergraduate university students on conscientiousness (t=2.14, P<0.05). It is quite interesting to note from Table 6 that male undergraduate students have high mean score on conscientiousness than female undergraduate students (Male= 28.56, Female=25.74).

Therefore, hypothesis 6 which states "there will be significant differences between undergraduate university male and female students on Conscientiousness dimension of personality" is accepted.

Table 7: Mean, SD and 't' value of Male and Female Undergraduate University Students on Depression (N=100)

SN	Dimension	Gender	N	Mean	SD	df	t- value	Sig./ Not Sig.
1.	Depression	Male	50	12.48	10.95	98	0.09	N.S.
		Female	50	12.66	9.32			

Hypothesis 7: There will be significant differences between undergraduate university male and female students on Depression.

Table 7 revealed that there does not exist any significant difference between male and female undergraduate university students on depression (t=0.09). However, as it can be observed from Table 7 that female undergraduate students are found to be slightly more depressed than male students since their mean score on depression is higher than female undergraduate students (Male= 12.48, Female=12.66).

Therefore, hypothesis 7 which states "there will be significant differences between undergraduate university male and female students on Depression" is not accepted.

Main Findings
The major findings of the study are reported in the following:
1. There exists a significant and positive correlation of extraversion with openness and conscientiousness (P<0.01) among undergraduate university students.

2. It can also be observed that depression is correlated significantly and positively with neuroticism (r= .54) among undergraduate university students which is in the expected direction.
3. Scores of depression is significantly and negatively correlated with extraversion (r= -.37) among undergraduate university students.
4. Scores of depression is significantly and negatively correlated with openness (r= -.26) among undergraduate university students.
5. Scores of depression is significantly and negatively correlated with conscientiousness (r= -.31) which is also in the expected direction.
6. Scores of neuroticism is correlated negatively and significantly with extraversion (r= -.42) among undergraduate university students.
7. Scores of neuroticism is correlated negatively and significantly with openness (r= -.37) among undergraduate university students.
8. Scores of neuroticism is correlated negatively and significantly with conscientiousness (r= -.33) among undergraduate university students.
9. Significant and positive correlation of openness with agreeableness (r= .20) and conscientiousness (r= .39) can also found among undergraduate university students.
10. Scores of agreeableness is significantly and positively related to conscientiousness (r= .27) among undergraduate university students.
11. A significant difference between undergraduate university male and female students on neuroticism dimension of personality was not found. However, it can be observed that male participants have higher mean score than female participants on neuroticism.
12. There was significant difference between undergraduate university male and female students on extraversion dimension of personality. Male undergraduate students have high mean score on extraversion than female undergraduate students (Male= 27.92, Female=24.50).
13. There exists a significant difference between undergraduate university male and female students on Openness dimension of personality. Male undergraduate students have high mean score on extraversion than female undergraduate students (Male= 29.54, Female=26.64).
14. However, no significant difference between undergraduate university male and female students on Agreeableness dimension of personality was found. But male undergraduate students are found to be more agreeable than female students since their mean score on agreeableness is higher than female undergraduate students (Male= 26.30, Female=24.50).
15. There was significant difference between undergraduate university male and female students on conscientiousness dimension of personality. Male undergraduate students have high mean score on conscientiousness than female undergraduate students (Male= 28.56, Female= 25.74).
16. There was no significant difference between undergraduate university male and female students on depression. However, female undergraduate students are found to be slightly more depressed than male students since their mean score on depression is higher than female undergraduate students (Male= 12.48, Female=12.66).

CONCLUSION

The present study found a significant and positive correlation of extraversion with openness and conscientiousness. It can also be observed that depression is correlated significantly and positively with neuroticism which is in the expected direction. However, depression is significantly and negatively correlated with extraversion, openness and conscientiousness which is also in the expected direction. Neuroticism is correlated negatively and significantly with extraversion, openness and conscientiousness. Significant and positive correlation of openness with agreeableness and conscientiousness can also be seen. Similarly, agreeableness is significantly and positively related to conscientiousness. The study found that there was significant difference between male and female undergraduate university students on extraversion, openness and conscientiousness dimension of personality. However, male and female undergraduate university students did not differ significantly on depression.

Based on the findings of this study, university administrators should assess important factors influencing depression. Undergraduate university students with depression if identified early can be managed by behavioral therapy, emotional support, interpersonal psychotherapy, and social skill training etc. This may help the young university students to overcome their difficulties and lead a healthier life.

Conflict of Interests: The author declared no conflict of interests.

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