

Personality Predictors of Clinical Symptoms of Depression among Students in a Nigerian University

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Factors associated with clinical symptoms of depression remains vastly inconclusive despite the high rate of prevalence reported among University students worldwide. However, little is known about the pattern among Nigerian students. This study investigated predictors of depression with a model involving socio-demographic, parental and personality variables such as self esteem, locus of control, academic and general self efficacy among 612 undergraduate participants. They include 263 males and 376 females; mean age 21.3, standard deviation [SD] 4.5) at various levels of studies in 4 faculties. The students were assessed using the Centre for Epidemiological Study Depression Scale (CES-D), the Rosenberg Self Esteem Scale (RSE), Generalized Self-Efficacy Scale (GSES), College Academic Self Efficacy Scale (CASES) and Nicholson McBride Resilience Questionnaire (NMRQ). In addition, living arrangement, satisfaction with course of study, current alcohol and tobacco use were assessed. Overall, the prevalence of clinical depressive symptoms [CES-D score \geq 20] was 45%. This consists of 136 (22%) who indicated that they were mild/moderately depressed and 140 (23%) who indicated they were severely depressed. Bivariate analysis for categorical variables showed increasing academic years of study ($p=0.01$) and non satisfaction with the course of study ($P=0.01$) to significantly related to depression. Multinomial regression analysis revealed three variables; low self esteem OR= 1.99 (95% CI = 1.31 – 3.04), low general self efficacy OR= 1.57 (95% CI = 1.02 – 2.41) and external LOC OR= 1.83 (95% CI = 1.07 – 3.13) to significantly predict severity in depression. It is well known from among western populations of university students that depression is highly prevalent and that personality factors may play significant role in its occurrence. These data also emphasize the importance of these links among Nigerian students.

Introduction

Health indicators worldwide rank depression as a common mental health problem with enormous debilitating impact and predicts it to become the second most significant cause of global disease burden by 2020 (WHO, 2000). Depression is a common but serious affective illness typically marked by excessive sadness or anxious feelings. Sufferers vary in symptoms such as low energy, feelings of apathy, hopelessness, self blame and guilt feelings, loss of appetite, insomnia, and loss of attention, concentrating and loss of interest in activities previously enjoyed.

Evaluating depression among students has been a contemporary empirical venture world over. Studentship, especially of those at tertiary level is a period of significant transition to a new found world, which include lifestyles, friends, new

culture and alternative thinking (Andrews & Wilding, 2004). Adjusting to a new reading habit and conforming to certain stress induced academic routine could be overwhelming to some of these students. Failure to adapt to these imperative new challenges could result into a number of psychological short comings, including depression. One of the challenges of depression in this population is the tendency to impact on academic performances vis-a-vis motivation and concentration, perception of self-worth including vulnerability to antisocial behaviours (Andrews & Wilding, 2004).

Evidence from systematic review of studies with University students suggests depression as a common phenomenon with prevalence ranging from 10% to 85% (Ibrahim, Kelly, Adams & Glazerbook, 2012; Bertha & Balaz; 2013). For

example in a descriptive cross sectional study among university students in Cyprus, a prevalence of clinical depressive symptoms was 27.9% (Sokratous, Merkouris, Middleton & Karanikola, 2014). Almost similar prevalence of 27.7% was documented among university students in Oman (Al-Busaidi, Bhargava, Al-Ismaily, Al-Lawati, Al-Kindi *et al.*, 2011). In Ghana, a country in the same African region as Nigeria, overall prevalence of depression among university students was 39.2% with 31.1% of mild to moderate depression and 8.1% severe depressive symptoms (Oppong & Andoh-Arthur, 2015).

Risk factors for depression among University students include lower socioeconomic status, loss of control, lowly educated mothers and socially disadvantaged homes (Ibrahim, Kelly & Glazerbook, 2012). Other factors include, year of study, academic performance, alcohol and tobacco usage, lack of social support, older age, sexual abuse, dissatisfaction with education, and religion (Christensson, Vaez, Dickman & Runeson, 2011; Othieno, Okoth, Peltzer, Pengpid & Malla, 2014; Oppong & Andoh-Arthur, 2015).

Studies among University students have associated personality traits to depression. Neuroticism, self esteem, locus of control and extroversion are among the strongly related traits to depression in terms of lifetime prevalence and severity (Scott, Eccleston & Boys, 1992). For example, persistence and self-directedness; a construct that include self-esteem, internal locus of control and problem-solving ability (Matsudaira & Kitamura, 2006) have been found to predict depression among Japanese students. Christensson, Vaez, Dickman & Runeson (2011) in a national cohort of first-year students in Sweden found among other factors like dissatisfaction with education, being female and the association between low self-efficacy and high prevalence of depression. Also, Xiaobo & Guanhua (2014) found among Chinese students that external locus of control was related to depression. In Nigeria, no known study has considered the personality dimension to depression and it is the aim of this study to investigate and extend the linkage of the previous hypotheses of the association between depression and two personality construct of low self esteem and external locus of control.

The prevalence of depression in the Nigerian general population ranges from 0.8% to 22% (Gureje *et al.*, 2008). There is however little knowledge about depression among students in tertiary institutions (Omokhodion, 2003; Adewuya, Ola, Aloba, Mapayi & Oginni, 2006; Aniebue & Onyema, 2008). Few studies done found a significant relationship between lower age (Aniebue & Onyema, 2008); female gender, alcohol and cigarettes usage, housing problems and large family size (Adewuya *et al.*, 2006); worries about examination failure, lack of finance and fear of cultism (Omokhodion, 2003) with diverse defined psychological classifications. More importantly there is almost a decade gap research regarding prevalence and incidence of these psychological health problems. Suffice to say that the few literature have been skewed towards the medical students. It is therefore imperative that this study fill the gap.

The value of this empirical effort lies in its potential of developing appropriate interventions aimed at attenuating the impact of depression among the students and in preventing a Major Depressive Episode (MDE) that may have a long time effect on the students. This study therefore examined the prevalence and pattern of depression among University of Ibadan students in Nigeria.

Methods

Design

This study was a descriptive cross-sectional survey, utilizing a correlation design method, to investigate the relative contributions of certain socio-demographic (age, sex levels of study, parental educational status, living arrangement, satisfaction with course of study, current tobacco and alcohol use) and personality factors (self esteem, locus of control, general and academic self efficacy) to the variance of depression among a sample of undergraduate students in four faculties at the University of Ibadan, Nigeria.

Setting

The University of Ibadan was founded in 1948 as the premier tertiary institution in Nigeria. With a campus covering over 1032 hectares of land and a student population of approximately 29,000, the University of Ibadan is one of the largest universities in the country. There are 12 faculties

and 57 departments in the University. Each faculty runs a variety of undergraduate and postgraduate courses leading to the award of diplomas and degrees.

Participants

Six hundred and twelve, full time academic students with an authentic matriculation, who attended lectures at the time of the administration of questionnaire for the study, were participants. They comprised of 236 (39%) males and 376 (62%) females, who registered for the 2014/15 academic session of the University of Ibadan Nigeria, were asked to participate in this study. Substantial majority (94%) were single; almost half (47%) were in their second year of study. Thirteen per cent of the students did not like their course of study, while 42% stay off-campus. Forty one per cent of mothers and 30% of fathers of students were not university graduates. Eight hundred and nineteen (97%) of them were single and twenty two (3%) of them were married. Their mean age was 20.4 years (SD 1.33) while the mean years of education were 12.3 (SD 2.56).

Instruments

Socio-demographic variables

The following variables were recorded: family type, religiosity (i.e. level of religious activities), sex, age, years of education, course of study, and drug use. Most of these variables have been implicated as determining factors for sexual risk behaviour among adolescents and young adults.

The Rosenberg Self-Esteem (RSE)

The Rosenberg Self-Esteem scale¹⁸ was used to assess the freshmen's attitude towards their self worth. The Rosenberg Self-Esteem scale is a 10-item measure of global self-regard, and includes items such as "On the whole, I am satisfied with myself". Respondents express their degree of agreement on a 4-point Likert-type scale of Strongly Agree=3, Agree=2, Disagree=1, and Strongly Disagree=0. The scale generally has high reliability: test-retest correlations are typically in the range of .77 to .88 (Rosenberg; 1979). Preliminary cross validation of the scale among high school pupils in Nigeria, using a principal factor analysis with varimax rotation yielded two factors; self confidence and self depreciation. The extracted factors are in the line with that reported

by Rosenberg (1979). All items had a factor loading of .4 Eigen value. Coefficient alpha was 0.94. A test-retest reliability of $r = 0.74$, among high school students has also been reported by Olley (2008). In the present sample, coefficient alpha was 0.87.

The Generalized Self-Efficacy Scale (GSES)

This is a 10-item scale (Schwarzer & Jerusalem, 1995) uni dimensional scale assessing a general sense of perceived self-efficacy. Responses are made on a 4-point scale ranging from "not at all true" to "exactly true" with a derivable composite score of 40 of entire items. Cronbach's alphas ranged from .76 to .90. Cronbach alpha in the current study was .85.

College Academic Self Efficacy Scale (CASES)

College Academic Self-Efficacy Scale (CASES) is a 33-item five point Likert format scale developed by Owen & Froman (1988) to assess students' belief about their mastery of material and skills thought in university. Responses range from *quite a lot* (5 points) to *very little* (1 point). Higher scores indicate higher college academic self-efficacy. Items include "Participating in a class discussion" and "Challenging the professor's opinion in class". The authors have reported internal consistency coefficients between .90 and .92. For the purpose of this study Cronbach alpha .89.

Locus of Control

The locus of control was measured in this study with 10 item abridged version of Nicholson McBride Resilience Questionnaire (NMRQ). The responses are on a Yes or No format with a derivable maximum total score of 20. The higher the score the greater the extent to which an individual take control of his/her life. Any score of 14 or above would suggest an internal person with control of his life. Scoring below 14 suggests externality of control. Items include "Is there some bad habit, such as smoking, that you would like to break but can't?" "Do you make your own decisions, regardless of what other people say?" "Do you find it a waste of time to plan ahead because something always causes you to change direction?" For the purpose of this study Cronbach alpha .76.

Depressive Symptom

Clinical symptoms of depression were assessed by using the Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977). This 20 items screening instrument for frequency of depressive symptoms has each of its item rated 0 (rarely or none of the time) to 3 (most or all of the time) for frequency of occurrence in the past 7 days. Scores can range from 0 to 60 with a possible three levels classification of normal, mild/moderate and severe. A cutoff scores of 16 or more on the CES-D has been used to classify persons as probable cases of depression. Items include "I was bothered by things that usually don't bother me" "I did not feel like eating; my appetite was poor". I felt I was just as good as other people". Among the participants for this study total CES-D mean scores ranged from 10-32. For the purpose of this study Cronbach alpha .79. Item total correlation coefficient was high for all the items with ranges between 0.65-0.87.

Procedure

The data collection started after a clear instruction about the research and its purposes. Students' voluntariness for participation and confidentiality as regard filled responses were guaranteed. Students who agreed to participate filled out questionnaire anonymously in the premises of the respective classrooms under strict supervision of the researcher before the start of a lecture. They were encouraged to fill the questionnaire independently and without any interference from the person sitting next to them. Clear instructions for filling in the questionnaire were conspicuously inscribed on the questionnaire. Two graduate students of psychology were in attendance assisting in retrieving completed questionnaire. No student refused completion of the questionnaire. The exercise lasted approximately 45 minutes. On completion of responses, data were first coded based on scoring format, entered, and analysed using Statistical Package for the Social Sciences version 18 software (SPSS Inc., Chicago, IL, USA). Inferential statistics were used for analysis of frequency, mean and standard deviation of continuous variables. Differences in proportions were compared for significance using Chi Square test, with significance level set at $p < 0.05$. Multinomial regression analysis was used to assess

the magnitude of associations between categories of depression and socio-demographic and personality correlates.

Results

Table 1 shows the relatedness of socio-demographic factors of gender, age, marital status, level of study, religion, ethnicity, and satisfaction with course of study and present living arrangement with the levels of depression (normal, moderate and severe). There were no significant relationships of the socio-demographic variables and severity of depression in all except the level of study ($X^2=9.38$, $p<0.01$) and satisfaction with course of study ($X^2=10.62$, $p<0.01$).

Table 2 shows the relatedness of psychological variables of self esteem, locus of control, general self-efficacy, and academic self-efficacy with the levels of depression (normal, moderate and severe). There was a significant relationship between all the personality factors; self esteem ($X^2= 53.184$, $p <.01$), locus of control ($X^2= 13.916$, $p <.05$), self efficacy ($X^2= 17.009$, $p <.01$) and academic self efficacy ($X^2= 13.048$, $p <.05$). Students with low self esteem significantly reported.

Result in Table 3 reveals that low self esteem OR= 1.99 (95% CI = 1.31 – 3.04) and low general self efficacy OR= 1.57 (95% CI = 1.02 – 2.41) significantly predicted severe depression, inferring that students who were classified as severe in depression reported lower self-esteem and general self-efficacy respectively compared to the non-depressed students. Further it also revealed that, low self esteem OR= 3.78 (95% CI = 2.39 – 5.98) and external LOC OR= 1.83 (95% CI = 1.07 – 3.13) significantly predicted mild/moderate depression. Students classified with mild/moderate were lower in self-esteem and are of external locus of control compared to the non-depressed students.

Discussion

This study documents the prevalence of depression and the potential role of certain socio-demographic, parental and personality variables in its severity among students in the University of Ibadan, Nigeria. Overall, 45% (almost half of the students) reported clinical depressive symptoms. Similarly, a little less than a quarter of the students

reported moderate (23%) and severe (22%) case of depression respectively. We found that keeping with the trend of what has previously been documented in other parts of the world; university students in Ibadan reported high depression rate and therefore extend prior documentation about the magnitude of the problem in tertiary institutions world over (Ibrahim, Kelly, Adams & Glazerbook, 2012; Bertha & Balaz; 2013). This finding is consistent with what was reported in Ghana, a western African country just like Nigeria, of 39.2% prevalence rate; with 31.1% of mild to moderate depression and 8.1% severe depressive symptoms respectively. It therefore underscores the serious and harsh learning atmosphere where the students live and learn and calls for urgent need of intervention.

Asides the high prevalence of depression found in the study, there was a significant association between increasing levels of study, non satisfaction with the course of study, low self esteem, external locus of control and lower general self efficacy with reported depression among the students. Specifically, we found that lower general self efficacy, lower self esteem and internal locus of control independently predict depression. Self efficacy as a task related ability construct according to Bandura (1977) has been a long term empirical subject matter particularly as it relates to mental health. The theory posit that individuals with low level of self-efficacy are often shy, avoid challenges, are quick to discontinue complex processes, and are prone to higher levels of depression and stress (Bandura, 1982). We confirm from this study that students who reported low self efficacy were more clinically depressed and thereby supporting a number of researches who have found a linear relationship between inability to master a control over situations and propensity for hopelessness, depressive symptoms and suicidal ideation (Tosevski, Milovancevic & Gajic, 2010).

Our findings associating lower self esteem and reported depression among the students is in tandem with Matsudaira & Kitamura (2006) who documented the association of lower self-directedness and immaturity of self-directedness as risk factors for negative affectivity among Japanese students.

There have been consistent documented evidences of the association between locus of

control and depression in University population (Xiaobo & Guanhua, 2014). Our study also confirms these as external loci of control students were found more to report depression. External locus of control is personality traits that posit the influence of luck and chance on ability and performance. Its relationship in this study to depression suggests control restrain over academic activities on the part of the students.

Two additional major findings emerge from this study; levels of study and satisfaction with course of study were significantly associated with depression. Depression was found to be positively correlated with increasing level of study year among the students. This is unprecedented and unexpected except that it can be inferred that increasing academic level of study bring about declining cumulative grade points in students performance and therefore be a source of worry to the students. This result however seems to support Supe (1998) who revealed that second and third year MBBS students rather than First MBBS levels reported more stress.

We examined whether students satisfaction with current course of study will be related to likelihood of depression. We found that students who were dissatisfied with their course of study reported more symptoms of clinical depression. Many students in Nigeria pass through a competitive matriculation examination with less than a quarter gaining admission every year. In the process, some prospective students received placement for courses not by preference but based on availability of space, which often contradicts the student's interest. The resultant dissatisfaction may reflect in the reported depression. Nevertheless a report among first year nursing students in Sweden found a relationship between dissatisfaction with education and reported depression (Christensson, Vaez, Dickman & Runeson, 2011).

Contrary to previously held evidence about the preponderance of females over males in reported depression among University students (Adewuya *et al.*, 2009; Christensson *et al.*, 2011), the present study showed no significant difference in the clinical symptoms of depression between the sexes of students. Though more females met the cut-off point for mild/moderate and severe depression respectively compared to the males, this was not significant.



Limitations

A limitation of this study lies in its data collection mode as this occurred in a classroom environment, not ensuring sufficient privacy for the participants. Again, we also relied entirely on self-reported data within the constraints of a brief and anonymous survey. Thirdly, the variables included in our study failed to explain a larger portion of the variance, indicating that definite conclusions of the prediction of depression cannot be drawn efficiently. Fourthly measure of depression was not a diagnostic instrument and therefore can only be interpreted as signs of negative affect or emotional distress not as depression per se.

Conclusion

In conclusion, our findings provide evidence that clinical depressive symptoms are highly prevalent among students of the University of Ibadan and this may be a function of their perceived personality traits. We also provide evidence that not satisfied with course of study and increasing academic year are related to clinical depressive symptoms. These findings are particularly notable especially in providing alternative psychosocial options for the management of mental health complications for students. As a result, our study has implication for service delivery whereby mental health specialist; GP, psychiatrist, and clinical psychologist coming together to increase the availability of care to students in need. Pending this an urgent screening and cost effective evaluation of students in the University of Ibadan, Nigeria is needed. In doing this, more complicated problems and antisocial consequences can be prevented. It will also assist in identifying more students who came into the university with existing mental health problems. At students' orientation programs for freshmen, issues pertaining to the risk factors of depression as some that were identified in this study could be discussed as a preventive initiative. It is however recommended that a major university wide screening be undertaken to ascertain the magnitude of the problem for a more policy focused intervention, in such a way that when depression are evaluated, students can be helped to reduce or eliminate the impact just as was done by other researchers (Christensson, Runeson, Dickman & Vaez, 2011).

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