EFFECTS OF ANXIETY AND DEPRESSION ON ACADEMIC PERFORMANCE OF UNDERGRADUATES: A STUDY OF EBONYI UNIVERSITY, ABAKALIKI

By

Ude Chukwu Dominic C.
Helfrank.2000@Yahoo.Co.Uk.
Department of Psychology
Ebonyi State University, Abakaliki

&

Ofoke Sunday M.
Sunnycool4real@yahoo.co.uk
Department of Psychology
Ebonyi State University Abakaliki

Abstract

This study investigated the effects of anxiety and depression on academic performance among Ebonyi State University undergraduates. Eighty (80) undergraduates were drawn from the Department of Psychology. The participants in the study were measured using State Trait Anxiety Inventory (STAI) and Beck's Depression Inventory (BDI) standardised for Nigerian use. The rating scale, tagged Student Academic Performance Rating Scale (SAPRS) was designed to enable the researcher evaluate the academic performance of students taught by the lecturer's from 2007/2008 to 2011/2012 school years. The two-way analysis of variance (ANOVA) with unequal sample size was used to test the two hypotheses. The results indicate that high anxiety and depressed undergraduates performed poorly than low anxiety and depressed undergraduate. $F(1,76)=792.8$, $P<0.001$ there was significant interaction effect of anxiety and depression on academic performance.

Key Words: Anxiety, Depression, Academic performance, undergraduates.

Introduction

The need for improved awareness of anxiety and depression in our universities for undergraduates, staff and researchers has dominated research in psychology for quite sometime now. Depression and anxiety are among the psychological problems that are common among students. According to Porter (1990), up to 60% of university students left university without finishing their degree; the majority of these students leave within the first two years due to inability to manage these psychological conditions, especially to cope with stress, depression and anxiety. Over the years, several theories have been proposed to explain the nature of anxiety and depression. Existential theory by Roger (1951) pointed out

that anxiety may arise through a threat to individuals self-concept, part of which may include his sexuality, inability to perform certain task, fear of not coping with the environment, especial in school, work environment and home. Serious anxiety reduces our ability to guide our lives and we end up feeling that life is meaningless. According to biological theory by Tallman (1980), Response unavailability is when a person or individuals does not know how to handle a difficult situation around his/her environment (school, place of work and his/her home). According to Schwartz and Schwartz, (1993) on Adoption studies done on affecting disorders, showed that depression affects performance and illness of a person(s) except the person(s) don't experience the same life event. Freud (1856-1939) in his psychodynamic theory, state that depression, result from principle of loss. Loss can be real or imagined (Lowry 1984) as this result to the individual depression in performing any task. Freud believed that depressives can develop feeling of self-hatred developed from the depressive thoughts about unresolved conflicts (Comer, 1992). As a result of feeling of self-hatred the depressive feels worthless and loses his or her self esteem. It is the loss of self-esteem, many psychodynamic theorist claim, that starts a person down the path of depression result to inability to performing academic task, organisational task and home task (Comer, 1992).

Cognitive factors, especially the way people interpret or think about stressful event, play a vital role in the etiology of anxiety (Barlow, et al, 1996; Fischner, 1999). Many modern psychological models of anxiety in-corporate the role of individual vulnerability, which includes both genetic (Holroyed, E.R et al, 1978) and acquired (Corplan, et al, 1978) predispositions. There is evidence that women may ruminate more about depressing life events compared with men, suggesting that a cognitive risk factor may predispose them to a higher rates of anxiety and depression (Nolen Hoeksema et al in press).

Social learning theory (Bandura 1977), believe that several steps are involved in learning: first, we perceive the situation including our guilt responses (Our perception may be realistic or distorted); secondly, we evaluate the situation (as important or minor, awful or good); thirdly, we assess our ability to handle the situation; and finally, we decide what to do and respond with feelings. Psychological theories provide evidence based explanation for why people think, behave and feel the way they do. Personality factor, history and early experiences, are seen as important factors in causing anxiety and depression.

Consequently, different schools of thought within psychology have developed their own theories as to why someone becomes depressed. Behavioural theorist: Charles Ferster, one of the researchers suggests a link between depression and behaviour, hypothesised that depression develops as a lack of positive reinforcement for the depressive actions (Wetzel, 1984). Behaviourists use the learned helplessness model to explain depression. In a theory much in line with Freud's theory of nurturing, many behaviourists believe that some individuals develop depression because they were over-protected when they were younger (Wetzel, 1984) learning is commonly defined as a process that bring together cognitive, emotional, environmental influences and experiences for acquiring, enhancing or making changes in ones knowledge, skills, values, and world views (Uleris, 2000, Morod, 1995). The various schools of thought in psychology such as Behaviourism, cognitivism, structuralism and functionalism explained learning as it relates to anxiety and depression.

Allision and Ach (1957) states that students who have high level of anxiety have difficulty in making progress in learning or performing task that are important or necessary if they are to make their basic needs adequately, and are to grow toward emotional, social and intellectual maturity. Students in such anxiety state may develop different behaviour that is not in their best interests. Students who take an examination in a state of high anxiety are likely to misinterpret or misread the test questions, and produce a paper that does not reflect their true levels of competence or ability. Wine (1971), in her distraction hypothesis discovered that self-attention deliberates performance. She also discovered that high anxious subjects (self-focused) performed poorer than the positive motive individuals, i.e., those that are not anxious or whose anxiety level is low. The researchers, professor Michael Eyesenck and Arnazanin Dershan designed several experiment to explore the effect of anxiety on one's ability to perform a task; such as avoiding distraction on a computer screen, when reading a story or solving a simple mathematical problems, (Science Daily June 26, 2009). According to Professor Eyesenck, these findings have clear practical implications in the classroom. A lot of the negative effect of anxiety appears to be caused by difficulties with controlling attention. This suggest that training techniques distraction and to switch attention from one task to another could help anxious student to achieve their academic potential, he explains.

In addition, the study showed that anxious individuals often perform at a comparable level to no anxious ones but only do so at greater cost in terms of effort or perhaps long term stress. Many studies mentioned that test anxiety have high prevalence among students in a local context Rahimi (1999) found that 36.9% of high school students in Samandaji Iran had severe anxiety. In addition, Derkzan (2004) recorded that 37% of male and 53% female high school students in Saghez city in Kurdistant province had test anxiety. He found that there was a significant relationship between test anxiety and academic achievement/performance on the other hand; Mozafari (2001) found that 60% of Shayeds high school students and 50% of non-Shayeds high school students in Sanandy had test anxiety.

In a study done by Brown *et al* (1995), they centered their focus on college students receiving poor examination scores. Brown reported, "The result suggested that a specific construct measured by the Depression Anxiety Scale (DAS) interacted with a congruent stressor (poorer than expected performance on a college examination) to predict increase depressive symptoms (Brown et-al, 1995). In this study, we would say that the students are having negative thoughts about their future, because they may not pass the class. Negative thoughts about the world, meaning they may come to believe they do not enjoy the class. And finally negative thoughts about themselves, as in they do not deserve to be in college. A study done by Boury et al (2001) studied Beck's theory by monitoring Becks Depression Inventory (BDI). They gave an overview of beck's ideas, "individuals who are depressed misinterpret facts and experiences in a negative fashion, limiting their attention to the negative aspect of situations, thus feeling hopeless about the future. A direct relationship is postulated about negative thoughts,"

(Boury et al 2001, P. 235-321). They later found this idea to be true, despite their predication that as time passes, negative feeling would averagely improve. "The result that BDI II scores significantly correlated with the number of automatic thoughts, to core beliefs in both time period support Beck's assumption that negative thought content characterises

depression" (Boury et al, 2001). The effects of the negative cognitive thinking again proved to prolong depression and its symptoms in a group. Molianen (1993) showed even stronger results when evaluating college students' academic performance. This study showed much clearer results, "in support of Beck's cognitive theory of depression, the student current depressive states were consistently found to be related to their negative processing of their personal information" (Molianen, 1993). The student's cognitive thoughts were shown to be affecting them and, as a result, they developed symptoms of depression. Molianen, impressed by the findings, seem to suggest that Beck's theory should be used in further research in the college student population and how depressed students are treated, as counselors and therapists would do well to closely look at students' cognitive thoughts as a way of assisting the students in recovering. These results are positive, because there is enough evidence for Molianen to suggest a cognitive treatment for depression via Beck theory. Supported by Zaid, Chan, and Ho (2007), the study on emotional disorder among medical students in one of Malaysian private college found that students who experienced depression had a lower academic performance. Another study by Sherina, Lehraj, and Nadaraja (2003) yielded that 41.9% students in one of the Malaysian public institutions were found to have depression. Some reported that their academic performance was affected by depression. This shows that depression affect the performance the student. One consistent finding shows that individuals who have high level of anxiety perform less well that those who have low anxiety on evaluative or ego threatening tasks. The present study contributes to the literature on effects of anxiety and depression on academic performance of undergraduates by using a Nigeria sample drawn from Ebonyi State University, Abakaliki. It was hypothesised that:

- There will be no significant difference between low and high anxiety students in their academic performance.
- There will be no significant difference in the academic performance of students with low and high depression.

Objective of the Study
- The primary purpose of this study is to examine effects of anxiety and depression on academic performance of undergraduates.
- To know whether poor academic performance of students is as a result of anxiety and depression.
- To investigate the levels of anxiety and depression that effect student's academic performance.

Statement of Problem
    In the foregoing discussions on effects of Anxiety and Depression on academic performance of undergraduates, some basic questions are raised:
- Does Anxiety have negative effects on student's academic performance?
- Does Depression have negative effects on student's academic performance?
- Does Anxiety and Depression have a positive effects on student academic performance?

Methodology

Participants

The participants of this study were eighty (80) undergraduates of Psychology Department, who were randomly selected from each level, i.e., 20-first year students, 20-second year students, 20-third year students, and 20-final year students, respectively. The experimenter announced that participation was voluntary and he used simple random sampling to draw 80 out 160 volunteer'. The age of participants ranged from 22 to 28 years, with a mean age of 25.89 years.

Instruments

The instruments that were used for the study were, the State Trait Anxiety Inventory (STAI) developed by Charles, (1970). It consists of twenty (20) items, where the respondent has four (4) options including not at all, somewhat, moderately so and very much so, to choose the right one that applies to him or her. Beck's Depression inventory (BDI). Developed by (Beck, 1967), was used by the research to measure the depressive moods of the subjects. The BDI consist of twenty-one (21) items with four (4) options to each item with their numbers ranging from 0-3 were the respondent picks the right answer from them. The rating scale, tagged students Academic Performance Rating Scale (SAPRS) was designed to enable the researcher evaluate the academic performance of students taught by the lecturer's from 2007/2008 to 2011/2012 school years.

Procedures

The researcher informed the class representative of each level that he should bring (20) representative (volunteers') in the ongoing scholarship exercise. Out of the 160 volunteers the experimenter used simple random sampling which was "Yes and No", in selecting (80) participants who participated in the exercise, (80) volunteers who picked "Yes" were selected while the remaining 80 volunteers who picked "No" were exempted. The exercise took harsh voice to announce to the participants that they were about writing the scholarship test and who so ever, that is caught in any act of malpractice will be dismissed from the exercise, this instruction include tension and anxiety in the participants and immediately after the instruction the experimenter administered the STAI to measure their individual level of anxiety. Each test instrument carried a serial number to note each individual's identification number during the exercise. The STAI lasted for ten (10) minutes. Immediately after STAI was collected, the raw scores of eighty randomly selected students taught be each participant lecturer's were used to measure the academic performance of each participating lecturer's students. The researcher and research assistants obtained the students' raw scores from the academic records in the respective levels students in psychology department Ebonyi State University, Abakaliki. .

Design/ Statistics

The research was a 2x2 factorial design, (two levels of anxiety and two levels of depression). Two-way analysis of variance (ANOVA) for unequal sample size was used as a statistical technique for data analysis.

Results

Table 1: Mean scores (X) and standard Deviations (SD) of the Groups compared are presented in effects of anxiety and Depression on academic performance of undergraduates.

Source of variables	mean (X)	Standard Deviation (SD)
Levels of Anxiety		
Low Anxiety	28.1	5.30
High Anxiety	13.0	3.60
Levels of Depression		
Low Depression	28.1	5.30
High Depression	11.5	3.31

The table above showed the mean matrix scores of lower anxiety level 28.1 and higher anxiety level 13.0 and standard deviation of 5.30 and 3.60 also the mean scores of lower depression level 28.2 and higher depression level 11.5 and standard deviation of 5.30 and 3.31 this indicates that anxiety and depression has influence on academic performance.

Table 2:

Summary of ANOVA on levels of Anxiety and levels of Depression on academic performance of undergraduate.

Sources of variables	SS	DF	MS	F
Anxiety level (A)	389.12	1	3893.12	122.8
Depression levels (B)	25149.9	1	25149.7	793.3
Interaction b/w A&B	25132.2	1	25132.2	792.8
Error	2412.2	77	31.7	

A two-way analysis of variance (ANOVA) performed on the data revealed that there were statistically significant difference between the Low and High Anxiety groups and low and high depression groups on student academic performance $(1,77)= 122.8$, and $F(1,77)=793-3$, $P<0.001$, respectively. It also showed statistically significant interaction effect of anxiety and depression on academic performance of undergraduates: $F(1,77)=792.8$, $P<0.001$. (see Table 2).

Discussion

This study was aimed at finding the effect of anxiety and depression on student's academic performance and students academic record was used.

The first hypotheses stated that there will be no statistically significant difference in the performances of student with low and high anxiety levels. This means that there would not any observable difference between students with low anxiety level and students with

high anxiety level on academic performance. The hypothesis was rejected because it was found that high anxious students performed poorly (x =24.5) while their counterpart which were those with low anxiety level performed high (x =56.3) in the student academic record. Thus, the first hypothesis was rejected. In using ANOVA, $F_{(1,77)} = 122.8$, $p<0.001$.

In support of the above, the findings of Allison and Asch (1957) showed that students who have high anxiety levels have difficulty in making progress in learning. They found out that students in such high anxiety state may develop various behaviour that are not in the best interest for them. Also, students who take examination in a high anxiety level state are likely to misinterpret test question, forge things they have read and finally produce answers that do not reflect their real competence.

Wine (1971), in her distraction hypothesis, discovered that high anxiety subjects (self-focused) performed poorer than the appositive motive individuals, i.e., those whose anxiety level were low.

Holroyed, West Brook, Wolf and Badhorn (1978) in their study, discovered that high test anxious subjects performed more poorly and higher levels of anxiety and worry in the analogue testing situation than low anxious subjects. Also, self-evaluation of test performance made by high anxious subject differed from those made by low-test anxious subjects, in that the high anxious subjects are being more negative and unrelated to actual test performance.

Harleston, Smith and Arey (1965), in their comprehensive research concerning test anxiety level, heart rate and anagram problem solving, found that high test anxious subjects were associated with a greater percentage of change in heart rate than their counterparts which were those with low anxiety. They also found or discovered that the performance of the subject with high percentage of change score were generally poorer than that of subject with low percentage change. Again, they found that the number of anagrams solved were consistently greater within both the low and mid anxiety group than with the high anxiety. Their findings indicated that high anxious subjects produced greatest increase in heart rate upon beginning the problem-solving task and sustained the greatest increase in heart rate throughout the task while low anxious subjects produced the smallest initial change for a shorter period of time.

The second hypothesis stated that there would be no statically significance difference in the performances of student with low and high depression level. The hypothesis was rejected because it was found that students with high depression level performed low (x=39.7) while those with low depression performed high (x =41.1).

In support of the above, an earlier study by Molianen (1993) showed even stronger result when evaluating college students. This study showed clearer results "in support of Beck's cognitive theory of depression, the student's current depressive states were consistently found to be related to their negative processing of personal information.

Hilgard, Atkinson and Atkinson (1979) found that when emotions became intense, they usually result in some decrease in performance. They also found that at very low level of arousal, the nervous system may not be functioning fully and sensory messages may not get through. Performance is optimal at moderate level of arousal according to them. At high level of arousal, performance begins to decline presumable, the central nervous system is so responsive that it is responding to too many things at once, thus preventing the appropriate set of response from dominating.

Boury et-al. (2001) studied Beck's theory by monitoring student's negative thoughts with the Beck's Depression Inventory (BDI). They gave an overview of Beck's idea; "individuals who are depressed misinterpret facts and experiences in a negative fashion, limiting their focus to the negative aspect of situations thus hopeless about the future. A direct relationship is postulated between negative thoughts and severity of depressive symptoms". Also calculation based on their interaction, i.e., between anxiety levels and depression levels showed a significant result, $F (1,77) = 792.8$, $p<0.001$. Therefore, the third hypothesis was also rejected. In support of the above, Ross, Neibling, and Heckert (1999) in their research, showed that college students with depression are twice as likely as their performance to drop out of school. Symptoms of loss of interest and/or pleasure in activities were shown to be related to lower grade point averages students with both depression and anxiety showed especially poor performance in school. Pearson product moment correlation coefficient was employed to test the degree of relationship between STAI scores and BDI scores, which served as a *post-hoc* test, and it was found that the correlation was a positive relation at 0.74, which indicates that anxiety and depression affects academic performance of undergraduates.

Recommendation
This study recommends the following:
1.   Further studies are required to investigate the effects of environmental stressors like examination conditions and timing. Students should be made aware of the result of this study so as to teach them ways of avoiding anxiety or depression during examinations.
2.   Finally, it is recommended that schools should structure their programmes in a way that will not induce anxiety or depression on students.

References

Allison. S.G., & Ach (1951). Relationships of anxiety to learning**,** from   film. Pennsylvania state college. *Human Engineering Report*, 16, 269-724.

Andserson, D.J., Noyes, R., & Crow, R.R., (1984). A comparison of panic disorder   and   generalized   anxiety disorder. *American Journal of Psychology,* 141, 572-275.

Akistal, H.S., (1997). Overview of chronic depression and their clinical   management. In H.S. Akistal and G.B Cassaro (Eds.), *Dysthymia and the spectrum of Chronic Depression* (pp. 1-34). New York: Gruilfford Press.

Awaritefe, A.Y., & Kadoro, A.U., (1981). Validation of State trait Anxiety Inventory (STAI) in Nigeria Subjects. *IRCS Medication Science, Psychology and Psychiatry*. 41, pp 68-87.

Bandura, A. (1977). *Societal learning theory* Englewood Cliffs Prentic-Hall.

Barlow, D.J., & Ichman, S.D. (1996). Treatment of Anxiety Disorders *American Psychological Association.* 51,64-105.

Beck, A.T. (1967). *Depression: clinical experimental and theoretical aspects.* New York: Harper and Row.

Brown, G.P, Hammen, C.L. Craske, M.G. & Wikene, T.D. (1995), Dimensions of dysfunction Attitude as vulnerabilities to depressive symptoms. *Journal of Abnormal Psychology*, 104 (3) 431-435

Eyesenck, H.S. (1970) *Handbook of abnormal psychology*. New Delhi,   Tata: McGraw-Hill Publisher Coy. Ltd.

Freud, S. (1926). *Inhibition, symptoms and anxiety***:** London: Hogarth Press.

Freud, S. (1916). *Introductory lecture on psychoanalysis*: London: Allen and Unwin.

Fischner. W.F. (1970). *Theories of anxiety.* New York: Harper and Row publisher

Holroyed E.R, Westbrooks, T., Wolf, M.,& Bodhorn, E. (1978). Performance, Lognitive and psychological Responding in test anxiety. *Journal of Abnormal Psychology* 87, p 110-126.

Lowry, (1984). *Causes of depression*. The psychodynamic view: London: Allen and Unwin.

May, R. (1980). *The Meaning of anxiety***.** New York: Ronald.

Nolen-Hocksema, S. & Jackson, B. (2001). Mediators of the gender difference in rumination. *Psychology of Women Quarterly*, 25,37-47

Nolen-Hockesma, S. (2004). *Cognitive theories of depression*. Abnormal psychology (3rd Ed) New York: McGraw.Hill.

Omoluabi, P.F. (1987). *Psychological patterns of anxiety in the   d e v e l o p m e n t   o f   p s y c h o p a t h o l o g y*. Unpublished Ph.D Thesis, University of Lagos, Nigeria.

Porter, O.F. (1990). Undergraduate completion and persistence at four year college and universities. *National Institute of independent college and Universities*, 57.

Rashmi, N., Natalie, S. & Mark, D. (2007). Psychodynamic theories of major depression. *Journal of Abnormal Psychology*, 85, 1-16.

Ross, S.E., Neibling, B.C., & Heckert, T.M, (1999). Sources of depression among college students. *College Students Journal,* 33, 312-317.

Schwartz, L., Spielberger, C.D., & Seligman, M.E. (1996). Strategies for the treatment of generalised anxiety disorder in the primary care setting. *Journal of Clinical Psychiatry,* 58,27-33.

Spielberger, C.D., (1972). Anxiety as emotional state. In C.D. Spieberger (Ed.). *Anxiety: Current trends in theory and research*. New York: Academic Press.

Spielberger, C.D., Horsuch, R.L., & Lushene, R.E., (1970). *Manual for the state trait anxiety inventory*. Polo Alto and California: Consulting Psychologist Press.

Tallman, J.F., (1980). Receptors for the age of anxiety. Pharmacology of   the Benzodiazazapine.   Retrieved from *http://www.ask.com*

Wine, J. (1971): Test Anxiety and direction of attention. *Psychological Bulleting*, 76,92-104.

Zaid, Z.A., Chan, S.C., & Ho, J.S., (2007). Emotional disorders among medical students in a Malaysian private medical school. *Singapore Medical Journal. 48 (10): 895-899.*