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Exploring the Psychological Effects of Stress and Self-Esteem on Academic Achievement among Secondary School Students in Batagarawa, Katsina State

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Abstract

This study explores psychological effects of stress and self-esteem on academic achievement among secondary school students in Batagarawa, Katsina state. The study tested two hypotheses. The study adopted descriptive survey research to collect data from a population of 895 SS II students in public senior secondary schools of Batagarawa Local Government. For the purpose of this study, 180 students were randomly selected from three senior secondary schools. Three instruments were used, namely: Stress Identification Questionnaire consisting of 12 items in likert form (adapted from Cohen, Kamarck & Mermelstein), Rosenberg Self-Esteem Scale with ten items and four-scale likert type (adapted from Rosenberg) to measure the stress and self esteem perception, and the third instrument which deals with academic achievement of students. Reliability of the first two instruments was determined by their original authors at 0.85 and 0.92 while the last was found to be 0.7. Pearson Product Moment Correlation was employed in data analysis at 0.05 level of significance. Results of finding show that negative relationship exist between stress and academic performance of secondary school students. Similarly, there is significant relationship between self-esteem and academic performance of secondary school students in Batagarawa. On the basis of these findings, the study recommended that there should be enlightenment campaigns by government agencies, and non-governmental organizations for parents and children on the dangers inherent in stress. It was also recommended that the current practice of appointing career masters to perform the role of professional counsellors should stop, and be replaced by professional counselling master so that functional guidance services could be provided for students to improve their self esteem and reduce stress and consequently improve in academic performance.

Keywords: Stress, Self-Esteem, Academic Achievement, Counselling, professional Counsellor

Introduction

Stress and self-esteem continues to be one of the most commonly research concepts in social psychology. Teachers and students in today's society suffer from stress in a wide range of situations. Stress is present in people's lives and is believed to be the cause of psychopathologies, diseases and inability to adapt to any given environment or work (Feldman et al., 2008; Galanakis, Palaiologou, Patsi, Velegraki & Darviri, 2016). Stress is considered a complex defensive-balancing mechanism of the body that develops in two stages. During the first stage, individuals assess the stressor and the demands stemming from it; and during the second stage, they evaluate whether or not they have enough resources to meet the stressor demands. According to Galanakis et al. (2016), the latter stage draws attention to the individual's subjective assessment of the stressor, which conditions their reaction to it.

Stress is defined by Chrousos (2009) as perceived threat condition of homeostasis, which is established through a complex web of behavioral and physiological responses of the body to adapt. Similarly, stress is defined by Lazarus and Folkman as the result of interaction between the individual and the environment. When persons feel that they cannot cope with the number of abilities and skills in environmental requirements, stress is experienced. In the term of stress we can attribute a negative (distress) and a positive dimension (eustress).

Stress system is located in the hypothalamus and brain stem. The procedure is the following. The paraventricular nucleus of the hypothalamus (PVN) containing neurons which secrete corticotropin-releasing hormone (CRH) and arginine-vasopressin peptide (AVP) and the locus ceruleus in the brain bridge produces the neurotransmitter norepinephrine (Chrousos, 2009).

The person considers a stressful event as a threat, when his ability to deal with it, is assessed as less than the requirements of the event. Perceived stress is defined especially after having studied the interaction between the individual and the environment; psychological stress include the interpretation of the adequacy of management methods and based on the notion that stress results from the subjective assessment of the individual in his relation with the environment (Lazarus & Folkman, 1984).

This relationship between the individual and the environment created through two major phases: (1) cognitive assessment, primary and secondary (cognitive appraisal) (2) coping. During the primary assessment process the person recognizes the stimulus of the environment as stressful or not. If assessed as stressful for the individual, then it is estimated as a threat, as a loss or as a challenge. In the

secondary appraisal, the individual makes an assessment of the physical, social, psychological and material resources which are available in order to be capable of facing the stressful stimulus (Galanakis et al.). This also refers to the cognitive and behavioural efforts of the individual to reduce the requirements of the stressful stimulus. Thus, stress on the one hand, is a defensive-balancing mechanism of the body to cope and survive in stressful stimuli; but on the other hand, it is differently perceived by individuals (Lazarus & Folkman, 1984).

Self-esteem on the other hand is a psychological trait related to a person's image of self-value and self confidence in total aspects of human activity (Rosenberg, 1965; Galanakis, Palaiologou, Patsi, Velegraki & Darviri, 2016). Studies all over the world have associated self-esteem with human health and psychological well-being. This effect may be interpreted through the scope of resources increase and active coping against life's problems as perceived by Galanakis et al. (2016). Moreover there seems to be a strong antistress impact on self-esteem regardless of the circumstances (Pruessner, Hellhammer, & Kirschbaum, 1999). High self-esteem is considered a fundamental aspect of personal well-being, happiness and adjustment (Brown, 1993). According to Rosenberg, high self-esteem expresses the feeling that one is good enough and self-esteem is defined as a favourable or unfavourable attitude toward the self (Rosenberg & Pearlin, 1978). What is more, self-esteem is generally used to describe a person's overall sense of self-worth and can involve a variety of beliefs about the self. High self-esteem is considered a fundamental aspect of personal well-being, happiness and adjustment. Individuals with higher self-esteem are more satisfied with their lives, have fewer interpersonal problems, achieve at a higher and more consistent level, and are less susceptible to psychological problems (e.g anxiety and depression) and physical illness (Brown, 1993) than those with lower self-esteem. Also, self-esteem refers to the positive or negative way people feel about themselves as a whole, which is also often called global self-esteem or global self-worth (Brown, Dutton, & Cook, 2001; Galanakis et al., 2016).

The concept of self-esteem has elicited a large body of theoretical accounts and empirical research (Baumeister, 1998). Historically, the first influential definition of self-esteem dates back to James (1890) who considered self-esteem to be the ratio of success and pretensions in important life domains. Whereas James focused to a stronger degree on the individual processes that form self-esteem, later symbolic interactionism approaches stressed the social influences on self-esteem (Goffman, 1959; Mead, 1934). For instance, in his conception of the looking-glass self (Cooley, 1902) hypothesized that self-views are based upon information gathered from explicit or implicit feedback from others. More recent definitions of self-esteem emphasize the fact that self-esteem should be distinguished from other components

of the self-concept (such as self-knowledge and self-efficacy), insofar as self-esteem represents the affective or evaluative component of the self-concept; it signifies how people feel about themselves (Leary & Baumeister, 2000). This affective self-evaluation is subjective at its core and is not based on specific behaviours (Robins, Hendin & Trzesniewski, 2001).

Global self-esteem is defined as the overall positive or negative attitude towards the self (Rosenberg, 1965). High global self-esteem has been found to be related to positive self-evaluations, characterized by having an accepting attitude towards one's self, and has been identified as a crucial factor in preventing stress and mental health problems such as depression (Avison & McAlpine, 1992). In contrast, low global self-esteem has been found to be associated with negative self-evaluations, characterized by self-doubts and self-rejection (Baumeister, Campbell, Krueger & Vohs, 2003) and has been shown to predict stress symptoms and ill-health (Birndorf, Ryan, Auinger & Aten, 2005).

According to Suzuki and Tomoda, early life stress in children, because of lack of care and maltreatment, reduces child's self-esteem and safety bond that it has with his parents and is likely for the child to have depression in the future (Suzuki & Tomoda, 2015). In this study, stressful events are considered as maltreatment, parental illness and death and sociopathic behaviours. All these facts reinforce avoidant and ambivalent behaviour as well as insecure. As a result, children which have experienced these stressful events have low self-esteem and are possible to have depressive symptoms (Suzuki & Tomoda, 2015). Also, people with low self-esteem and depression react with more stress in several stressful situations, secretion of cortisol in their blood is higher and their hippocampal volume is reduced (Orth, Robins, Widaman & Conger, 2014).

Rhee, Pan, Norman, Crow and Boutelle (2013) find in their study that parents may play an important role in preventing emotional eating in children by promoting self-efficacy (belief or confidence in one's ability) to eat healthily during stressful situations. Parenting styles, parental response to child's emotion, and family emotional responsiveness are related to child emotional eating. The results suggest that firm/controlling parenting behaviours can have negative consequences for child eating self-efficacy, while more accepting parenting behaviours may help children utilize healthier eating practices when feeling stressed. This study suggests that controlling parenting behaviours decrease child self-efficacy and self-esteem to engage in healthy eating behaviours during difficult emotional situations (Rhee et al., 2013).

According to Fernández-González, González-Hernández and Trianes-Torres (2015) self-esteem seems to be associated with stressors that have to do with emotion (Fernández-González et al., 2015). Lots of researches have shown that low self-esteem and stress are associated with mood disorders and depression. In particular, in a study of Carter and Garber (2011), low self-esteem and low self-worth are associated with stress and depression. Both of them constitute risk factors for appearance of depression, as people cannot manage and cope with the stressful life events (Carter & Garber, 2011). Furthermore, in another study of Nima, Rosenberg, Archer and Garcia (2013), successfully coping with anxiety, depressiveness and stressful situations may contribute to high levels of self-esteem and self-confidence. The present study was also interested in whether anxiety partially mediates the effects of both stress and self-esteem on depression.

Many studies show the relationship of stress and self-esteem at multiple levels. Self-esteem is included in psychological resources that help people manage stressful events and their responses to them (Taylor et al., 2010). Self-esteem affects people's reaction to stressful events and in addition, the way individuals cope with stress. At the same time, stressful events negatively affect self-esteem, which is a psychological resource against psychological disorders (Nima, Rosenberg, Archer, & Garcia, 2013).

The difference between academic achievement and self-esteem scores of students was examined as the second question of the present study. Studies that search global self-evaluation to academic achievements reveal the positive relationship between the two variables (Marsh, 1990; Shunk, 1990; Hattie, 1992; Eccles, 1993; Bryne, 1996). There are also many studies that provided same results between academic achievement and self-esteem (Alves-Martins, Peixoto, Gouveia-Pereira, Amaral, & Pedro, 2002; Bloom, 1977; Wiggins, 1994; Kimball, 1972).

Thombs (2000) found that first-year college students with relatively low self-esteem were more likely to exhibit many problem behaviours, than those with higher self-esteem. Some examples included alcohol problems, poor time management, poor study habits, and self-defeating behaviour. Based on the cognitive adaptation theory, Taylor and Brown (1999) found level of self-esteem to be directly related to seeking social support and indirectly to actual support, physical health and adjustment to college. Self-esteem was also found to be the best of five predictors (including SAT scores) of academic motivation, which was then linked to grade point average two years later. On the other hand, college students with a low self-esteem tend to be unhappy, less sociable, more likely to use drugs and alcohol, and are more

vulnerable to depression, which are all correlated with lower academic achievement (Wiggins & Schatz, 1994).

The research, made by Wiggins & Schatz (1994), has shown that self-esteem and academic achievement correlate directly to a moderate degree. Honors students tend to demonstrate higher academic self-esteem and competency. For them, this academic self-esteem seems to become a motivational factor (Moeller, 1994). For many college students, their self-esteem is based or reinforced by their academic success or achievements. According to study of Demo and Parker (2001), four theoretical principles; 'social comparisons', 'reflected appraisals', 'self-perception', and 'psychological centrality' have been suggested to explain the relationship between academic achievement and self-esteem among children and adolescents. First of all, because of studying in competitive and grade-conscious educational institutions, one can constantly be reminded about the importance of his/her grades (psychological centrality). Second, one can have daily opportunities leading him/her to compare his/her performance with others (social comparisons). Third, the reaction of others/friends that are monitored or internalized (reflected appraisals). Lastly, personal determinations of success or failure shape one's self-concept (self-perceptions).

The relationship between Stress and GPA of Students is also important here. As revealed by Byrne (1996), this non-significant correlation between the level of perceived stress and academic success during the middle and till the end of the semester can probably be explained by the fact that the students are already used to the system. Apart from that, it would not be erroneous to establish here on the basis of implications of the findings extracted out so far that despite the fact that no-significant impacts of academic stress on academic performance has been found, other socio-economic stress factors are likely to increase from beginning of the semester to the middle of the semester. In addition, the findings suggested by Robison, Shaver and Wrightsman that on the whole there is no correlation between the level of perceived stress and the students' academic performance. These results are correlated with the results proposed by Lackovic-Girgin (2003) in his study. According to Lackovic-Girgin (2003) the levels of academic stress experienced by students are not significantly correlated with their GPAs. For many researchers, these findings can be surprising; but, in actual fact, these results are proposed on the basis of observed facts that students, by the end of the semester, are normally familiar with the schooling system they are enrolled in. By the end of the semester, students are only concerned about their final exams as they have been through all the class assignments and thus, the pressure is now over. As supported by Youngs (1999), as soon as the students enter the tertiary level of their educational institution,

they are unaware of how the quizzes, tests, assignments will be held throughout the semester which contributes to their overall stress levels but not the final grades because they still think that final exams are the most important stage where they can make up their grades.

It is found also (Kandemir, Iihan, Ozpolat & Palanci, 2014) that academic procrastination is related to self-esteem, academic self-efficacy, active planning coping with stress skills and bio-chemical avoidant coping with stress.

Objectives of the study

The study is set to achieve the following objectives:

1. To determine the relationship between stress and academic performance of secondary school students in Batagarawa.
2. To determine the relationship between self-esteem and academic performance of secondary school students in Batagarawa.

Research Hypotheses

This study tested the following hypotheses:

Ho1: There is no significant relationship between stress and academic performance of secondary school students in Batagarawa.

Ho2: There is no significant relationship between self-esteem and academic performance of secondary school students in Batagarawa.

Methodology

The study adopts descriptive survey research which is a type of correlational research that is concerned with determining or measuring the degree of relationship between two or more variables for the purpose of making predictions about relationships. A correlational study can be used to know if a relationship exists between variables but does not indicate causation. According to Borg and Gall (1980), correlational studies include all research projects in which an attempt is made to discover or clarify relationship between variables through the use of correlational statistical method. This survey enables a researcher to ascertain the extent to which variations in one variable are associated with variations in another. The population for this study covered 895 senior secondary school students in seven public senior secondary schools in Batagarawa Local Government Area, Katsina state. The schools are G.G. S.S. S Ajiwa ; G.D. S.S. S Ajiwa; G.S.S. S Batagarawa; G.D.S. S Batagarawa; G.D. S. S. Bakiyawa; G.DS.S.S. Dandagoro and G.D.S.S.S Tsanni. For the purpose of this study, 180 students were randomly selected from three senior secondary schools.

Three instruments namely Stress Identification Questionnaire, Rosenberg Self-Esteem Scale and test of academic performance were employed in data collection. The stress identification questionnaire is a 12-item questionnaire containing a list of possible sources of stress in school. Respondents were made to indicate how strongly they agree or disagree with the idea that they would be a major source of stress for them in school. Three lecturers from the Department of Education, Umaru Musa Yar'adua University, validated the instrument. The instrument was pilot tested among 30 secondary school students that formed part of population but not the sample of the study. Spearman rank order correlation was employed and reliability coefficient of 0.85 was obtained.

Rosenberg Self-Esteem Scale is a ten item instrument developed using likert type four-scale (adapted from Rosenberg, 1965) to measure the stress and self-esteem. Five of the items have positively worded statements and five have negatively worded ones. The scale measures state of Self-esteem by asking the respondents to reflect on their current feelings. The original sample for which the scale was developed consists of 5,024 high-school juniors and seniors from 10 randomly selected schools in New York State.

The Self-esteem Scale (SES) has been validated by the original author around a huge and varied number of sample groups, this means it has been tried on different groups other than the original sample group and found to be sensibly accurate measure of Self-esteem. The scale usually takes approximately 5 minutes and can be self-administered as it has both face and content validity. The original author, Moris Rosenberg, used self-report instrument for evaluating individual self-esteem, investigated it using item response theory.

Factor analysis identified a single common factor, contrary to some previous studies that extracted separate Self-Confidence and Self-Depreciation factors. A one-dimensional model for graded item responses was fit to the data. A model that constrained the 10 items to equal discrimination was contrasted with a model allowing the discriminations to be estimated freely. The test of significance indicated that the unconstrained model better fit the data-that is, the 10 items of the Rosenberg Self-Esteem Scale are not equally discriminating and are differentially related to self-esteem. The pattern of functioning of the items was examined with respect to their content, and observations are offered with implications for validating and developing future personality instruments (Gray-Little, Williams & Hancock, 1997). It is on the strength of this that the current researcher decided to adopt it for use in this study.

The Rosenberg Self-esteem Scale presented high ratings in reliability areas; internal consistency was 0.77, minimum Coefficient of Reproducibility was at least 0.90 (Rosenberg, 1965; personal communication, April 22, 1987).

To score the items Rosenberg Self-esteem Scale (RSES) value are assigned to each of the 10 items. For items 1, 2, 4, 6 and 7: Strongly Agree=3 Agree=2, Disagree=1 and Strongly Disagree=O. For items 3, 5, 8, 9 and 10 (which are reversed in valence, and noted with the asterisks**) Strongly Agree=O, Agree=l, Disagree=2 and strongly Disagree=3. The scale ranges from 0-30, with 30 indicating the highest score possible (each item ranges from a score of 0-3); other scoring options are possible, for example, you can assign values 1-4 rather than 0-3: then scores will range from 10-40. But for this study, value 0-3 was assigned. Scores between 15 and 25 are considered average; consequently scores below 15 indicate low-self- esteem while scores above 25 indicate high Self-esteem.

The Test of academic performance consisting of 25 items developed by the researcher was employed in testing performance of students. It is multiple type consisting five alternatives A-E developed from the topic namely tense usage in English Language. The justification behind choosing English Language is that all students regardless of discipline offered the subject as "core;" and for admission purpose in any tertiary institution of Nigeria, English Language is prerequisite. Three lecturers from the Department of Education, Umaru Musa Yar'adua University, validated the instrument. The instrument was pilot tested among 30 secondary school students that formed part of population but not the sample of the study. Reliability of the instrument was determined at 0.7. Correlational analysis using Pearson Product Moment Correlation was employed in data analysis at 0.05 level of significant by means of SPSS package version 21.0.

Presentation of results

Ho1: There is no significant relationship between stress and academic performance of secondary school students in Batagarawa.

Table 1: PPMC of Relationship between stress and Academic Performance.

Variables	N	Mean	Std. Deviation	*r*-Cal	*p*-Value	Decision
Stress	180	45.61	11.5	-0.6	.00	H_0 Rejected
Academic Performance	180	22.3	12.1			

Table 1 showed that a mean of 45.61 and standard deviation of 11.5 were observed on stress and a mean of 22.3 and standard deviations of 12.1 were observed on performance. r-value observed were found to be -0.6 and p-value was 0.00. P-Value is less than alpha and hence hypothesis one was rejected indicating that relationship exist between stress and academic performance of secondary schools.

Ho 2: There is no significant relationship between self-esteem and academic performance of secondary school students in Batagarawa.

Table 2: PPMC of Relationship between self-esteem and Academic Performance.

Variables	N	Mean	Std. Deviation	*r*-Cal	*p*-Value	Decision
Stress	180	55.14	10.5	.75	.00	H_0 Rejected
Academic Performance	180	32.13	10.1			

Table 2 showed that relationship exist between self-esteem and academic performance of secondary schools, as r calculated were found to be 0.75 and p = .00. Because the p-value is less than the .05 level of significance, null hypothesis (Ho_2) was rejected. It means that as Self-Esteem increases, the Academic Achievement also increases linearly and symmetrically.

Discussions

Table 1 showed that relationship exist between stress and academic performance of secondary schools, as r calculated were found to be -0.6 and p = .00. Because the p-value is less than the .05 level of significance, null hypothesis (Ho_1) was rejected. It means that as stress increase, performance decrease. The finding agreed with the findings of Table 2 which showed that relationship exist between self-esteem and academic performance of secondary schools, as r calculated were found to be 0.75 and p = .00. Because the p-value is less than the .05 level of significance, null hypothesis (Ho_2) was rejected. It means that as Self-Esteem increases, the Academic Achievement also increases linearly and symmetrically.

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Rhee et al. (2013) find in their study that parents may play an important role in preventing emotional eating in children by promoting self-efficacy (belief or confidence in one's ability) to eat healthily during stressful situations. Parenting styles, parental response to child emotion, and family emotional responsiveness are related to child emotional eating. The results suggest that firm/controlling parenting behaviours can have negative consequences for child eating self-efficacy while more accepting parenting behaviors may help children utilize healthier eating practices when feeling stressed. This study suggests that controlling parenting behaviours decrease child self-efficacy and self-esteem to engage in healthy eating behaviours during difficult emotional situations (Rhee, Pan, Norman, Crow & Boutelle, 2013).

According to Fernández-González et al. (2015), self-esteem seems to be associated with stressors that have to do with emotion. Lots of researches have shown that low self-esteem and stress are associated with mood disorders and depression. In particular, in a study of Carter and Garber (2011), low self-esteem and low self-worth are associated with stress and depression. Both of them, constitute risk factors for appearance of depression, as people cannot manage and cope with the stressful life events (Carter & Garber, 2011). Furthermore, in another study of Nima et al. (2013), successfully coping with anxiety, depressiveness and stressful situations may contribute to high levels of self-esteem and self-confidence. The results in the present study show that anxiety partially mediated the effects of both stress and self-esteem on depression.

Many studies show the relationship of stress and self-esteem at multiple levels. Self-esteem is included in psychological resources that help people manage stressful events and their responses to them (Taylor et al., 2010). Self-esteem affects people's reaction to stressful events and in addition the way individuals cope with stress. At the same time, stressful events negatively affect self-esteem, which is a psychological resource against psychological disorders (Nima et al., 2013).

Recommendations and Implications for Counselling

There should be enlightenment campaigns by government agencies, and non-government organizations for parents and children on the dangers inherent in over stress. The current practice of appointing career masters to perform the role of professional counsellors should stop, and be replaced by professional counselling master so that functional guidance services could be provided for students to improve their self esteem and reduce stress and consequently improve in academic performance. The school authority and teachers should ensure conducive school physical environment for good working relationship between teachers and students.

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