

Identifying Difference in Perceptions of Academic Stress and Reaction to Stressors Based on Gender among First Year University Students

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Abstract

This study identifies the difference in the perceptions of academic stress and reaction to stressors based on gender among first year university students in Nigeria. Student Academic Stress Scale (SASS) was the instrument used to collect data from 2,520 first year university students chosen through systematic random sampling from Universities in the six geo-political zones of Nigeria. To determine gender differences among the respondents, independent samples t-test was used via SPSS version 15.0. The results of research showed that male and female respondents differed significantly in their perceptions of frustrations, financials, conflicts and self-expectations stressors but did not significantly differ in their perceptions of pressures and changes-related stressors. Generally, no significant difference was found between male and female respondents in their perceptions of academic stressors, however using the mean scores as basis, female respondents scored higher compared to male respondents. Regarding reaction to stressors, male and female respondents differ significantly in their perceptions of emotional and cognitive reactions but did not differ significantly in their perceptions of physiological and behavioural reaction to stressors.

Keywords: Differences in Perceptions, Academic stress, Reaction to Stressors, Gender, University Students,

1. Introduction and Literature Review

Stress occurs when there are demands on the person which tax or exceed his/her adjustive resources. There are physical stresses such as extreme cold, heat, the invasion of micro-organisms, physical injuries etc. Certain environmental social conditions on the other hand can also be damaging these are called Psycho social stresses e.g. loss of job, death of a loved one. Stress depends not only on extreme condition but also on vulnerability of the individual and the adequacy of his/her system of defenses. Examples of Universal stresses include war, imprisonment, natural disaster such as fire burst, terror earth quack, disabling injuries and terminal illness.

People react to the same stressor in diverse ways, in some who appear comparatively undisturbed and act an effective manner inspite of difficult situation. In contrast, others become disorganized, dazed, panicky and generally displaying the signs of severe emotional disturbances.

Stress can be considered as “any factor, acting internally or externally, which makes adaptation to environment difficult and which induces increased effort on the part of the individual to maintain a state of equilibrium between himself and herself and the external environment” (Humphrey, Yow, & Bowden, 2000,). Additionally, “stress is a physical and mental response to everyday demands, particularly those associated with change” (Richlin-Klonsky & Hoe, 2003,). In recent years, “stress has become an important topic in academic circle” (Agolla & Ongori, 2009,) probably because of the fact that life in general is flooded by many stresses. Among college students, stress can be viewed as a positive or negative experience that affects their lives and performances (Jogarathnam & Buchanan, 2004). This is so because “academic work is never without stressful activities” (Agolla & Ongori, 2009). The experience of stress among college students is considered normal but “if stress is severe and/or prolonged, it can reduce academic performance; interfere with a student’s ability to participate in and contribute to campus life; and increase the likelihood of substance abuse and other potentially damaging behaviors” (Richlin-Klonsky & Hoe, 2003). Academic institutions have different work settings compared to non-academic and therefore one would expect the difference in symptoms, causes, and consequences of stress in the two set up (Elfering et al., 2005; Chang and Lu, 2007).

One form of stress that is constantly being experienced by college students is stress in relation to academic concerns. “Academic stress is the product of a combination of academic-related demands that exceed the adaptive resources available to an individual” (Wilks, 2008,). Academic stress is a concern that must not be taken for granted because it adversely affects the overall adjustment of students (Hussain, Kumar, & Husain, 2008) and several studies have already documented the effect of stress on students (e.g. Agolla & Ongori, 2009; Hussain et al., 2008; Masih & Gulrez, 2006; Shaikh et al., 2004; Sulaiman, Hassan, Sopian, & Abdullah, 2009). In 2005, Kumar and Jejurkar “found that academic factors were responsible for higher level of stress” among undergraduate students.

It is important to the society that students should learn and acquire the necessary knowledge and skills that will in turn make them contribute positively to the development of the general economy of any nation. However, the intricate academic environment sometimes poses great medical problems to the students’ lives (Danna and Griffin, 1999; Dyck, 2001; Grawitch et al., 2007; Ongori, 2008) that tend to negate the positive gains that one would expect after completion of University. These assertions needs attention if the needed stress management in university have to be effective. Students’ expectations vary with respect to personality and their backgrounds which influences on how individual perceive the environment around him/her. Students at the university have different expectations, goals, and values that they want to fulfill at the university, which is only possible if the students’ expectations, goals, and values are integrated with that of the university (Goodman, 1993).

Components of Academic Stress: Many factors contribute to the stress being experienced by students but specifically, the following are associated with academic stress based on literature: time management issues financial burdens, interactions with teachers, personal goals, social activities, adjustment to the campus environment, lack of support networks (Wilks, 2008), admission procedures, high standards of parents, curriculum being highly concept laden, inappropriate school timings, high student-teacher ratio, non-conducive physical environment of classrooms, the absence of healthy teacher-student interaction, irrational rules of discipline, physical punishment, excessive or unbalanced school-work, teaching methodology, indifferent attitudes of teachers, overemphasis on weaknesses rather than strengths (Masih & Gulrez, 2006), expectations of students themselves, expectations of parents, and expectations of teachers (Ang & Huan, 2006). Additionally, the following were recognized to be associated to academic stress based on studies: academic workload, attending lectures (Agolla & Ongori, 2009), examinations, school curriculum (Shah, Hasan, Malik, & Sreeramareddy, 2010), inadequate learning materials (Agolla & Ongori, 2009; Shah et al., 2010), performance in academic work, academic difficulties (Agolla & Ongori, 2009; Johnson, 2009), overcrowded classrooms (Agolla & Ongori, 2009), subject-related projects (Conner, Pope, & Galloway, 2010), uncertainty in getting a job after graduation/worrying about the future (Agolla & Ongori, 2009; Shah et al., 2010), self-expectations (Misra & Castillo, 2004), expectations of peers, expectations of friends (Agolla & Ongori, 2009), expectations of family members/parents (Agolla & Ongori, 2009; Shah et al., 2010), financial limitations (Johnson, 2009), and college admission procedures (Conner et al., 2010) frustrations ,financials problems, conflicts, pressures, changes, and self-expectations (Busari 2011).

Stress Based on Gender: Investigation of the experience and perception of stress based gender is a fascinating undertaking because findings of studies conducted regarding stress with references to gender are somewhat conflicting. For instance, in a study conducted by Misra and Castillo in 2004, it was revealed “that men and women differ in their perceptions and reactions to stress” while Jogaratnam and Buchanan (2004) found differences between male and female students to be significant when it came to the time pressure dimension of stress. In relation, Sulaiman et al. (2009) found in their study that “female students have different stress compared to the male students. This may be because female students tend to be more emotional and sensitive toward what is happening in their surrounding” . On the other hand, Watson (2002) found no significant difference in the perceived stress between male and female students when the researcher made a comparison of perceived stress levels and coping styles of junior and senior students in Nursing and Social Work programs. This study identifies academic stress among first year university students in Universities from six geo- political zones in Nigeria with reference to gender differences.

Objectives

The following are the specific objectives of this study:

1. To determine the differences in the perceptions of academic stress between males and females with reference to frustrations, financials, conflicts, pressures, changes, and, self- expectations related stressors and four categories ; Physiological, Emotional, Behavioural ,and Cognitive Appraisal, which describe reaction to stressors.
2. To determine the difference in the perceptions of academic stress between males and females in general.

Hypotheses of the Study

The following hypotheses formulated guided the study

1. There are no significant differences in the perceptions of academic stress and reaction to stressors between males and females with reference to frustrations , financial problems, conflicts, pressures, changes,, and self _expectations related stressors and four categories ;Physiological, Emotional, Behavioural, and Cognitive Appraisal which describes reaction to stressors.
2. There is no significant difference in the perceptions of academic stress between males and females in general.

Method

Development of the Survey Instrument: There was a need to develop an indigenous instrument because of the perceived need to truly capture the concerns of first year university students from Universities in six geo – political zones in Nigeria .SASS was further expanded to 130 items based on extensive review of literature regarding academic stress and focus group interview among 200 students in various disciplines aimed to identify their academic-related stressors. The review of extensive literature and the focus-group interview conducted led to the writing of additional items in the initial instrument grouped into six themes. These are; (a) frustrations (b) financial problems (c) conflicts (d) pressures` (e) changes (f) self expectations-related stressors and four categories; Physiological, Emotional, Behavioural, and Cognitive Appraisal, which describe reaction to stressors.

The minimal suggestions recorded during the trial-run served as bases for improvements done in the final instrument and further confirmed the reliability and validity established.. The final instrument had 130 items responded to by First Year University Students from six – geo political zones in Nigeria using a five-point scale: 1 for “Very much like me ,” 2 for “Like me ,” 3 for “Sometimes like me ,” 4 for “Unlike me and 5 Very much unlike me .” These 130 items were specifically categorized under six scales representing the identified categories of academic stress:

- (1) frustrations-related stressors with sixteen items,
- (2) financial-related stressors with eighteen items,
- (3) conflicts-related stressors with twelve items,
- (4) pressures-related stressors with six items,
- (5) changes-related stressors with eight items,
- (6) self expectations -related stressors with six items.

There are four categories;

- (7)Physiological reaction to stressors with twenty one items
- (8)Emotional reaction to stressors with thirteen items
- (9)Behavioural reaction to stressors with twelve items and
- (10) Cognitive Appraisal reaction to stressors with eighteen items.

Administration of the Survey Instrument: The survey instrument was administered to 2,520 first year university students who were chosen via systematic random sampling. The administration of the instrument was done during the First Semester of 2010-2011 Academic Sessions.

Participants of the Study: There were 2,520 respondents in this study. The participants were drawn through systematic random sampling from six universities from six geo- political zones in Nigeria. The universities were selected through a cluster of samples. In each university respondents were drawn from various faculties. Out of 2,520 respondents 1068 were males which accounted for 42.38% of the total number of respondents while there were 1,452 females which accounted for 57.62% of the total number of respondents.

The mean age of the respondents was 19.13 with a standard deviation of 2.15. The 2,520 respondents were selected from various faculties as follows: (a) Faculties of Arts (N=360) (b) Faculties of Science (N=202) (c) Faculties of Education (N=706) (d) Faculties of Law (N=246) (e) Faculties of Agricultural Science (N=418) (f) Faculties of Social Sciences (N=308) (g) Faculties of Management Sciences (N=280) 28% of the respondents came from faculties of Education in the six geo-political zones of Nigeria. 16.6% of the respondents were from the faculties of Agricultural Science while 14.3% of the respondents were from the faculties of science. These three faculties accounted for more than half the respondents.

Statistical Analysis: To test the hypotheses of the study, independent samples t-test was used. The independent samples t-test is used when a researcher wants to examine the mean difference between two exclusive or independent groups (Hyman & Sierra, 2010). Independent samples t-test was performed using SPSS version 15.0

Results

The results obtained from this study are shown in the tables below

Table 1: Difference in the Perceptions of Academic Stress Based on Gender With Reference to Frustrations

Gender	N	M	SD	T	DF
Males	1068	46.85	10.32	-1.99	2518
Females	1452	45.65	8.75		

Note. Equal Variances Assumed

Table 1 presents the difference in the perceptions of frustrations-related stressors between males and females. As seen in the Table, there is a significant difference between the male and female respondents. With reference to the mean scores, male respondents scored higher. It must be noted that the mean scores represent the mean of the total scores of the respondents in the frustrations-related stressors' scale of the survey instrument. Since there are 16 items in this scale, total scores can range from 16 to 80. Stressors considered to be related with frustrations were: text book hard to understand, not enough books in the library, no stable place to study, inadequate resources to do assignment, continuous poor academic performance, low motivation by lecturers, failures in accomplish goals etc

Table 2: Difference in the Perceptions of Academic Stress Based on Gender With Reference to Financials Stressor

Gender	N	M	SD	T	DF
Males	1068	14.29	5.06	2.09	2518
Females	1452	15.27	4.01		

Note. Equal Variances Assumed

Table 2 presents the difference in the perceptions of financial-related stressors between males and females. As shown in the Table, there is a significant difference between the male and female respondents. With reference to the mean scores, female respondents scored higher. It must be noted that the mean scores represent the mean of the total scores of the respondents in their financials-related stressors' scale of the survey instrument. Since there are 18 items in this scale, total scores can range from 18 to 90. Stressors considered to be related with financials were: have no regular pocket money, possess few nice clothes, fellow students gossip about my appearance, continuous financial incapacities, lack of sources, lack of enough money to take care of self, cook instead of eating in cafeteria, no enough materials to make me look good, ashamed of my outlook in the mist of others, my appearance is not attractive enough etc

Table 3: Difference in the Perceptions of Academic Stress Based on Gender With Reference to Conflicts

Gender	N	M	SD	T	DF
Males	1068	23.48	6.79	-2.49	2518
Females	1452	22.58	5.86		

Note. Equal Variances Assumed

Table3 presents the difference in the perceptions of conflicts-related stressors between males and females. The table revealed that, there is a significant difference between the male and female respondents. With reference to the mean scores, male respondents scored higher. It must be noted that the mean scores represents the mean of the total scores of the respondents in the conflicts-related stressors' scale of the survey instrument. Since there are 12 items in this scale, total scores can range from 12 to 60. Stressors considered to be related with conflicts were: much work required in some courses, not getting along with some lecturers, some lecturers lack interest in students, some courses too dull and boring, some lecturer not friendly with students, some lecturers not considerate of students feeling, give unfair tests to students, conflicts with fellow students, conflicts with my lecturers, etc.

Table 4: Difference in the Perceptions of Academic Stress Based on Gender With Reference to Pressures

Gender	N	M	SD	T	DF
Males	1068	21.87	6.15	-1.23	2518
Females	1452	21.53	5.49		

Note. Equal Variances Assumed

Table 4 presents the difference in the perceptions of pressure-related stressors between males and females. As seen in the Table, there is no significant difference between the male and female respondents. However, with reference to the mean scores, male respondents scored higher. It must be noted that the mean scores represents the mean of the total scores of the respondents in the pressures-related stressors' scale of the survey instrument. Since there are 6 items in this scale, total scores can range from 6 to 30. Stressors considered to be related with pressures, competing with fellow students, high expectation from parents, conflicts as a result of competition, due to deadlines, due to overloads, due to interpersonal relationships.

Table 5: Difference in the Perceptions of Academic Stress Based on Gender With Reference to Changes

Gender	N	M	SD	T	DF
Males	1068	9.59	3.68	-0.22	2518
Females	1452	9.54	3.35		

Note. Equal Variances Assumed

Table 5 presents the difference in the perceptions of changes-related stressors between males and females. With reference to the table, there is no significant difference between the male and female respondents. However, with reference to the mean scores, male respondents scored higher. It must be noted that the mean scores represents the mean of the total scores of the respondents in the changes-related stressors' scale of the survey instrument. Since there are 8 items in this scale, total scores can range from 8 to 40. Stressors considered to be related with changes are; , feel lazy when it comes to academic work, procrastinated on assignments, being distracted in class, unable to study as required, experiencing overcrowded halls, experiencing rapid unpleasant changes, too many changes occurring at the same time, experiencing change which disrupted my goals.

Table 6: Difference in the Perceptions of Academic Stress Based on Gender With Reference to Self-Expectations-related Stressors

Gender	N	M	SD	T	DF
Males	1068	25.07	6.72	2.90	2518
Females	1452	26.21	6.67		

Note. Equal Variances Assumed

Table 6 presents the difference in the perceptions of self- expectations-related stressors between males and females. As seen in the Table, there is a significant difference between the male and female respondents. With reference to the mean scores, female respondents scored higher. It must be noted that the mean scores represents the mean of the total scores of the respondents in the self expectations-related stressors' scale of the survey instrument. Since there are 6 items in this scale, total scores can range from 6 to 30. Stressors considered to be related with self- expectations are: like to compete and win, to be noticed and love by all, worry a lot about everything and everybody, tendency to procrastinate, find perfect solution to the problems I undertake, worry and get anxious about taking tests.

Table 7: Difference in the Perceptions of Academic Stressors Based on Gender With Reference to Physiological Reactions

Gender	N	M	SD	T	DF
Males	1068	23.82	5.55	-1.23	2518
Females	1452	23.65	4.79		

Note. Equal Variances Assumed

Table 7 presents the difference in the perceptions of physiological components of reaction to academic stressors between males and females. As revealed by the table, there is no significant difference between the male and female respondents. With reference to the mean scores, female respondents scored higher. It must be noted that the mean scores represent the mean of the total scores of the respondents in the physiological reaction to stressors' scale of the survey instrument. Since there are 21 items in this scale, total scores can range from 21 to 105. Reaction to Stressors considered to be related with physiological components are: trouble concentrating in class, couldn't breathe, difficulty eating, hands sweating, trouble sleeping, have headaches, restless while receiving lectures, trembling, stuttering, rapid movement, exhaustion, irritable bowel, muscle tightness, skin itching, arthritis, rapid weight loss, sporadic weight gain, etc

Table 8: Difference in the Perceptions of Academic Stressors Based on Gender With Reference to Emotional Reactions

Gender	N	M	SD	T	DF
Males	1068	26.20	7.15	5.84	2518
Females	1452	28.57	6.86		

Note. Equal Variances Assumed

Table 8 presents the difference in the perceptions of emotional reaction to academic stressors between males and females. As shown in the Table, there is a significant difference between the male and female respondents. However, with reference to the mean scores, female respondents scored higher. It must be noted that the mean scores represents the mean of the total scores of the respondents in the emotional reaction to stressors' scale of the survey instrument. Since there are 13 items in this scale, total scores can range from 13 to 65. Reaction to Stressors considered to be related to emotional categories are: feel like crying, not emotionally stable, emotions stop me from studying, yelled at family and friends, emotionally drained by academic institution, like to stop going to school, much going on that I can't think straight, anger and annoyance while receiving lectures, guilt of not doing enough in my academic work, experience grief depression often.

Table 9: Difference in the Perceptions of Academic Stressors Based on Gender With Reference to Behavioural Reactions

Gender	N	M	SD	T	DF
Males	1068	9.08	2.83	0.72	2518
Females	1452	9.19	2.52		

Note. Equal Variances Assumed

Table 9 presents the difference in the perceptions of behavioural reaction to academic stressors between males and females. As revealed by the Table, there is no significant difference between the male and female respondents. However, with reference to the mean scores, female respondents scored higher. It must be noted that the mean scores represents the mean of the total scores of the respondents in the behavioural reaction to academic stressors, scale of the survey instrument, since there are 12 items in this scale total scores can range from 12 to 60, Reaction to stressors considered to be related to behavioural components were; try to avoid class if possible not attending lectures, cry over trivial issues, abuse others, abuse self, smoke excessively, use alcohol or drug to enable me study well, irritable towards others, attempt suicide, use defense mechanism, separated myself from others, miss too many of my lectures

Table 10: Difference in the Perceptions of Academic Stressors Based on Gender With Reference to Cognitive Reactions

Gender	N	M	SD	T	DF
Males	1068	27.09	6.63	2.76	2518
Females	1452	25.73	5.79		

Note. Equal Variances Assumed

Table 10 presents the difference in the perceptions of cognitive reaction to academic stressors between males and females. As seen in the Table, there is no significant difference between the male and female respondents. However, with reference to the mean scores, male respondents scored higher. It must be noted that the mean scores represents the mean of the total scores of the respondents in the cognitive reaction to academic stressors, scale of the survey instrument since there are 18 items in this scale total scores can range from 18 to 90, Reaction to stressors considered to be related to cognitive components are; trouble remembering my notes, don't use enough time in studying, not really sure interested in reading, not able to express myself in words, can't keep my mind on my studies, trouble studying effectively, too slow in reading compared to others, overwhelmed by demands of study, worry about marks to obtain in my examination, feel I am getting low marks, feel I have poor memory etc.

Table 11: Difference in the Perceptions of Academic Stressors in General between Males and Females

Gender	N	M	SD	T	DF
Males	1068	175.37	36.31	0.87	2518
Females	1452	176.79	32.09		

Table 11 presents the difference in the perceptions of academic stressors between males and females. As indicated in the table, there is no significant difference between the male and female respondents. However, with reference to the mean scores, female respondents scored higher. It must be noted that the mean scores represents the mean of the total scores of the respondents in the survey instrument as a whole. Since there 130 items in the instrument total scores can range from 130 to 650.

Discussion

The results of this study showed that male and female respondents differed significantly in their perceptions of frustrations, financials, conflicts and self-expectations-related stressors but did not significantly differ in their perceptions of pressures and changes-related stressors which partly supported the first hypothesis of this study. However, no significant difference was found between the male and female respondents in their perceptions of academic stressors in general which disproved the second hypothesis of this study. Based on the mean scores, male respondents scored higher on four out of the six identified categories of academic stress and these were on stressors related to frustrations, conflicts pressures, and changes. On the other hand, female respondents scored higher also on two out of the six identified components of academic stress and these were on stressors related to financials and self-expectations Male respondents scored higher on physiological and cognitive components while the female respondents scored higher in emotional and behavioural reaction to stressors .

The results of this study proved that there was strong evidence that the perception of academic-stress between males and females was in no small measure different. This claim was in relation to the significant differences found in four (frustrations, financials, conflicts and self-expectations) out of the six identified components of academic stress reflected in the survey instrument. The difference in the perceptions of stress between males and females had already been recognized by earlier studies conducted. For example, in the study conducted by Gentley et al. (2007), it was revealed that significant gender differences exist in the experience of stress. These differences according to the researchers can be attributed to differences in perceptions although the study was conducted among adults living in Hawaii. Additionally, the claim that males and females differ in their perceptions of stress was proved in another study. Misra and Castillo (2004) found that perceptions of males and females regarding stress differed and the study was conducted among American and international students. The researchers suggested that "mental health practitioners may also consider using treatment interventions on the basis of these differences" .

Regarding the non-significant differences in the perceptions of academic stress between males and females as reflected in academic stress in general and in two (pressures and changes) out of the six identified components of academic stress in this study was in line with the findings of Watson in 2002 who found no significant differences in the perceived stress between male and female students.

Moreover, with female respondents scoring higher in their perception of academic stress in general was consistent with the finding of other studies earlier conducted. Eun-Jun (2009) found that females scored higher on the Perceived Stress Scale which was administered to international students. Similarly, Matud (2004) found that females scored significantly higher than males in chronic stress and minor daily stressors while Sulaiman et al. (2009) found that male students experienced less stress compared to the female students. Interestingly, Misra and Mckean (2000) found positive association between anxiety, academic stress and trait anxiety being a significant predictor of academic stress. According to them, "individuals who scored high on trait anxiety experienced higher stressors and reactions to stressors. Females exhibited higher anxiety (both trait and state) than males" Also Busari (2000) found that there was a significant difference between male and female adolescent underachievers managed with Stress Inoculation Training Techniques to reduce test anxiety. It is imperative to carry out research on academic stress because of the fact that several studies have already documented the effects of stress on students (e.g. Agolla & Ongori, 2009; Hussain et al., 2008; Kumar & Jejurkar, 2005; Masih & Gulrez, 2006; Shaikh et al., 2004; Sulaiman et al., 2009; Busari 2000,2002, 2011). Although, more studies should still be conducted on the subject matter to be able to thoroughly understand academic stress as it affects students so that better intervention programmes be developed. Better intervention programmes for both secondary school and university students are equated to better performances academically and sound well-beings on the part of individual learners.

Conclusion and Recommendation

From the findings of this study, males and females did not significantly differ in their perceptions of academic stressors in general, female respondents still scored higher. This only shows that females were the more affected gender when it comes to academic stress. This finding was consistent with the findings of other studies (e.g. Eun-Jun, 2009; Matud, 2004; Misra & Mckean, 2000; Sulaiman et al., 2009; Busari 2000). It was also interesting to find that significant differences existed in the perceptions of four (frustrations, financials, conflicts, and self-expectations-related) out of the six components of academic stress identified in the survey instrument used. These differences can be attributed to differences in perceptions of individual learners. (Gentley et al., 2007; Misra & Castillo, 2004). The higher mean scores among female respondents in general and the significant differences between the mean scores of male and female respondents in the four out of the six identified components of academic stress deserves serious attention. These findings should be taken into consideration when fashion out intervention programmes for university students experiencing academic stress. Moreover, future research should be conducted in order to be able to make comparison between the results of the present study to have deep knowledge of academic stress and individual reaction to stressors.

Limitations of the Study

This study has as one of its limitation the emphasis on gender differences in investigating academic stress. Again the fact that the 2,520 respondents were first year university students makes general ability of the this study impossible.

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