Emotional Intelligence and Self-Concept as Determinants of Test Anxiety among Undergraduate Students in Federal University Gusau, Zamfara State

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Abstract
This study examined the relationship between self-concept and emotional intelligence on test anxiety among undergraduate students in Federal University Gusau (FUG), Nigeria. Four hypotheses were formulated to guide the study. Correlational survey design was used in the study. The population of the study comprised all 5433 undergraduate students of Federal University Gusau. Three hundred (300) Students across the four faculties in FUG were selected using proportionate stratified random sampling technique in the study. Spielberger’s Test Anxiety Inventory (TAI), Campbell et al., Self-Concept Clarity Scale and Emotional Intelligence short form scale were adapted and adopted for the study which form the instruments for data collection. Validity and reliability of the instruments were established with all the three instruments showing high internal consistency at 0.87, 0.87 and 0.89 respectively. The findings of the study revealed that self-concept and emotional intelligence significantly predicted test anxiety among undergraduate students in Federal University Gusau. The study recommends that Teachers should adopt strategies that help the students to enhance their emotional intelligence and self-concept so that they may have more control on their emotions during testing situations.

Keywords: Test anxiety, Emotional Intelligence, Self-Concept.

Introduction
The main aim of an educator is to create a learning situation to enhance academic success. Academic success can be reduced by students who are unable to display proficiency in testing situations. Students who have really prepared for an examination with high potential to show their mastery of the subject may be impeded due to test anxiety. Test anxiety is shown to have significant correlation with competency. Although, students may experience anxiety before writing any examination, this can be normal and necessary to perform very well but it becomes a problem when anxiety becomes excessive and uncontrolled thereby disabling the students to perform optimally (Ali, 2014)

Test anxiety is a type of performance anxiety that people experience whenever there is a situation when they are being evaluated (testing situations).

Text anxiety is a complex and multi-dimensional construct that consists of cognitive, psycho-affective and behavioural components that has been defined as an emotional state experienced during testing situations that comprises feeling of tension, apprehension, nervousness, worry and associated psychological arousal that results from activation of the autonomic nervous system (Gordana et al., 2018: Putwain et al., 2010).

The prevalence rate of test anxiety has been reported by many researchers: according to numbers of different studies about 10% to 41% of elementary and secondary school students suffer from the effects of test anxiety (Whitaker et al., 2007). Sealand (2011) reported that test anxiety is an educational problem which is very significant and is affecting many students in learning institutions; this is an indication that many students are experiencing test anxiety on a regular occurrence which can have effect on their
academics and future as well. Thus in testing situation, individuals who have anxiety; worry about the outcome of examination and are unable to think rationally. Senthil (2016) stated that test anxious individuals develop negative thoughts during testing situation, for example, “I am going to fail this examination”. On the other hand, the affective component of test anxiety includes objective symptoms of physiological arousal as well as more subjective interpretations of emotional arousal. Academic achievement tests are used in all educational institutions to making decisions about students’ performance. Each student’s grade is a result of their performance on tests and examinations, because of this, many students or people being tested or examined are anxious when they are in these testing situations. All students experience test anxiety at least once in their life whenever they are writing examinations or being tested academically.

Liebert and Morris’s interference model explains how anxiety interferes with individuals in testing situations. This according to Cassady (2014) assumes that during testing situations anxiety interferes with students’ ability to remember and utilize information that has been stored in the short or long term memory or that has been mastered. Interference model explains that test anxiety interferes with information recalling. This model is also referred to as “anxiety-blockage hypothesis. Anxiety affects performance during testing situations; feelings of worry or cognitive manifestation of anxiety such as negative expectations for success and concerns about one’s performance can interfere with performance by diverting attention from the task at hand.

Emotional intelligence is the ability to create positive outcomes and positive thinking which can then lead to happiness, optimism, quality relationship and success in school and life. Emotional intelligence is a type of social intelligence that involves one’s ability to monitor one’s own emotion as well as those of others, to discriminate among them and to use that information to guide one’s thoughts and actions. The emotional intelligence scope includes the verbal and nonverbal appraisal and expression of emotion, the effective regulation of emotion in the self and others, and the utilization of emotional content in problem solving (Bar-On, 2014).

Emotional intelligence as the ability of an individual to control their own and other individuals’ feelings and emotions. This ability is used as information to guide one’s thinking and action. Emotional intelligence is important for interpersonal and intrapersonal relationships at home, at school and at work (Brackett & Katella, 2011). Mayer et al., (2009) reported that people with high emotional quotient are expected to advance more quickly through designated abilities and to master more of them. Many researches have been done on emotional intelligence in academic and learning setting and it was found out that emotional intelligence predicts academic performance and other cognitive outcomes (Brackett and Katella, 2011; Bronzes & Militia, 2014). Emotional intelligence is either ability-based or a combination of ability and personality traits. Ability models see emotional intelligence as a set of cognitive abilities in relation to accurate processing of emotionally relevant information (Mayer, 2001).

Various researchers have found that emotional intelligence is very important in academic settings as emotional intelligence is the precursor of academic performance and mental outcomes. Ali (2014) examined the relationship between emotional intelligence and test anxiety among secondary school students. The study showed a significant negative correlation between emotional intelligence and test anxiety.

Self-concept is the cognitive aspect of how individuals view themselves. It is the complex system of how beliefs are learned, opinions and attitudes that individuals have about themselves. Misbah et al. (2016) stated that individuals form their self-concept during interaction with their environment. Xu et al. (2005) argued that individual with high self-concept have a low test anxiety. This means that students with improved self-concept will have reduced test anxiety. Senthil (2016) found that negative self-perceptions will reduce self-concepts of students and this will lead to increase in anxiety among students. Misbah et al. (2016) posited that self-esteem and self-concept are related to each other; individuals with high self-esteem also have high self-concept and individuals who realize their self-worth will produce better outcomes by knowing what they are capable of and what they cannot do. Sari, Belik and Celik (2018) examined the relationship between test anxiety and self-esteem in senior higher school students. The study was aimed to determine the level of test anxiety and self-esteem in the high school students. The study revealed that female students showed more test anxiety than male students and those who had higher self-esteem had less test anxiety. The result showed that gender predicts test anxiety and test anxiety level correlated negatively with test anxiety level. Misbah et al., (2016) found that test anxiety significantly correlated negatively with self-concept of prospective teachers of university students in B.Ed honours Degree program funded by USAID. They also found that there was no significant difference between male and female test anxiety of
prospective teachers of university students in B.Ed honours Degree program funded by USAID. Jayaraman and Kaur (2016) found significant inverse correlation between test anxiety and academic self-concept of Indian University students.

There have been so many reported cases related to undergraduate students with anxiety during testing situations. The reported cases vary from mild to very serious anxiety which lead to forgetting, fidgeting, tension, apprehension, nervousness and worry. All the behaviour exhibited by the students during testing situations have reportedly tampered with their academic performance. Most of these students complained of not believing in themselves and their abilities and also not being able to negotiate their ways through anxiety inducing situations. Other researchers have also reported high significant correlation among test anxiety, self-concept and emotional intelligence. Also, many research have been done on the relationship between text anxiety and academic achievement on students in Nigerian context but not much has been done on constructs predicting text anxiety as a variable itself, hence this study.

Objectives of the Study
1. To find out whether there is a relationship between emotional intelligence and test anxiety among students of FUG
2. To find out whether there is a relationship between self-concept and test anxiety among students of FUG
3. To examine the relationship among self-concept, emotional intelligence and test anxiety among students of FUG
4. To examine whether difference exists in test anxiety of male and female students of FUG

Hypotheses
1. There is no significant relationship between self-concept and test anxiety of FUG students
2. There is no significant relationship between emotional intelligence and test anxiety of FUG students
3. There is no significant inter-relationship among self-concept, emotional intelligence and test anxiety of FUG students.
4. There is no significant difference between test anxiety of male and female students of FUG students.

Methodology
This study was carried out using a correlational survey design. The population of the study comprised all 5433 undergraduate students of Federal University Gusau, Zamfara State. Federal University Gusau (FUG) was established in 2013 and is located along Gusau-Zaria road. Three hundred (300) students (165 males and 135 females) were selected across the four (4) faculties in FUG using proportionate stratified random sampling. Three instruments were adapted and used for data collection: Spielberger’s Test Anxiety Inventory (TAI) adopted from Spielberger (1980), Self-Concept Clarity Scale adapted from Campbell et al., (1996) and Emotional Intelligence Short Form Scale adapted from Sandra (2012). Test Anxiety Inventory (TAI) consists of 20 items on a four point Likert-type scale. Eight of the statements measure the W (worry) component and 8 statements measure the E (emotionality) while the remaining four statements contribute to the test anxiety inventory (TAI) score. Reliability analysis for the test anxiety inventory (TAI) was calculated in the current study and revealed high reliability as indicated by Cronbach’s Alpha which was 0.871. The Self-Concept Clarity Scale (Campbell et al., 1996) was used to assess the consistency of students’ self-descriptions and consists 12-item. Higher total scores on the scale reflected greater self-concept clarity. Cronbach’s alpha reliability index of self-concept clarity scale was 0.87. Emotional Intelligence short form scale was adapted from the work Sandra (2012). The scale was designed to measure global trait emotional intelligence which covers the entire sampling domain of trait emotional intelligence. It has satisfactory internal consistency of 0.89. The instruments were personally administered directly to the students by the researchers. Pearson Product Moment Correlation (PPMC) and Regression Analysis were used for data analysis at .05 confidence level.

Results

Hypothesis 1
There is no significant relationship between self-concept and test anxiety among students in Federal University Gusau.
Table 1: Pearson r results of self-concept and test anxiety of FUG Students

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>r</th>
<th>Df</th>
<th>s.g</th>
<th>decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-concept</td>
<td>300</td>
<td>0.6</td>
<td>298</td>
<td>.000</td>
<td>significant</td>
</tr>
<tr>
<td>Test anxiety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 shows that r-value was 0.6 with p-value of .000 computed at level of significance .05. Since the calculated p-value of .000 is less than .05 alpha levels, therefore, the null hypothesis which says there is no significant relationship between self-concept and test anxiety of FUG students is rejected. This shows that there is a significant relationship between self-concept and test anxiety of FUG students.

Hypothesis 2
There is no significant relationship between emotional intelligence and test anxiety of FUG students

Table 2: Pearson r results of emotional intelligence and test anxiety of FUG Students

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>r</th>
<th>df</th>
<th>sig.</th>
<th>decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Intelligence</td>
<td>300</td>
<td>0.42</td>
<td>298</td>
<td>.001</td>
<td>significant</td>
</tr>
<tr>
<td>Test anxiety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 shows that r-value was 0.42 with p-value of .001 calculated at the level of .05. Since the calculated p-value of .001 is less than the alpha levels, therefore, the null hypothesis which says there is no significant relationship between emotional intelligence and test anxiety of FUG students is rejected. This shows that there is significant relationship between emotional intelligence and test anxiety of FUG students.

Hypothesis 3
There is no significant inter-relationship among self-concept, emotional intelligence and test anxiety of FUG students

Table 3: Regression analysis of relationship among self-concept, emotional intelligence and test anxiety of FUG Students

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.78</td>
<td>0.60</td>
<td>0.58</td>
<td>6.97</td>
</tr>
</tbody>
</table>

Table 3 shows that calculated R-value was 0.78 and $R^2$ was 0.60 which indicates that the independent variables (self-concept and emotional intelligence contributed $R^2 = 0.60(60\%)$ of the variance to students’ test anxiety which was significant as indicated by the calculated F-value of 47.46.

Table 4: Regression analysis of inter-relations among self-concept, emotional intelligence and test anxiety of FUG Students

<table>
<thead>
<tr>
<th>Model</th>
<th>sum of squares</th>
<th>df</th>
<th>mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>4505.85</td>
<td>2</td>
<td>2252.92</td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>12867.52</td>
<td>297</td>
<td>47.46</td>
<td>47.46</td>
<td>.000</td>
</tr>
<tr>
<td>Total</td>
<td>17372.77</td>
<td>297</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4 shows that the calculated F-value with p-value of .000 computed at level of significance of .05 alpha levels, therefore the null hypothesis which stated that there is no significant inter-relationship among self-concept, emotional intelligence and test anxiety of FUG students is rejected. This implies that there was a significant relationship among students’ self-concept, emotional intelligence and test anxiety.
There was a significant relationship among self-concept, emotional intelligence and test anxiety of Federal University Gusau students. This finding supported the report of Sari, Belik and Celik (2018) that examined the relationship between test anxiety and self-esteem in senior higher school students. The study was aimed to determine the level of test anxiety and self-esteem in the high school students. Female students showed more test anxiety than male students and those who had higher self-esteem had less test anxiety. The result showed that gender predicts test anxiety.

Discussion of Findings

The result of the study showed that there was a significant relationship between self-concept and test anxiety of Federal University Gusau students. This supports the result of Misbah et al., (2016) who found that test anxiety significantly correlated with self-concept of prospective teachers of university students in B.Ed. honours Degree program funded by USAID and also negated the result of Jayaraman and Kaur (2016) who found significant inverse correlation between test anxiety and emotional intelligence.

The result also showed that there was a significant relationship between emotional intelligence and test anxiety of Federal University Gusau students. This finding supports the report by Ali (2014) who examined the relationship between emotional intelligence and test anxiety in secondary school students. The study showed a significant correlation between emotional intelligence and test anxiety.

The result further showed that there was a significant relationship among self-concept, emotional intelligence and test anxiety of Federal University Gusau Students. The result shows that the calculated t-value on self-concept and test anxiety is 5.89 and 3.58 respectively with significant probability value (p-value) of .000 and .004 respectively at .05 level of significance. This implies significant relationship among self-concept and emotional intelligence and test anxiety. Furthermore, through the Beta weight, the table shows that self-concept had more significant impact 0.57 (57%) than emotional intelligence .29 (29%) on students’ test anxiety.

Hypothesis 4

There is no significant difference between test anxiety of male and female students of Federal University Gusau Students. The result shows that t-value was 2.209 with p-value of .028 calculated at the significance level of .05. Since the calculated p-value of .028 is less than the alpha levels, therefore, the null hypothesis which stated there is no significant difference between test anxiety of male and female students of Federal University Gusau students is rejected. This shows that significant difference exists in test anxiety of male and female students of Federal University Gusau students. It revealed that male students with mean value of 34.41 have higher test anxiety than female students with mean value of 24.95.

Table 5: Regression analysis of inter-relations among self-concept, emotional intelligence and test anxiety of FUG Students

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized B</th>
<th>Error</th>
<th>Std Coefficient</th>
<th>t</th>
<th>Sig.</th>
<th>coefficient Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>74.12</td>
<td>9.62</td>
<td></td>
<td>8.70</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Self-concept</td>
<td>2.11</td>
<td>0.35</td>
<td>0.57</td>
<td>5.89</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Emotional intelligence</td>
<td>1.05</td>
<td>0.32</td>
<td>0.29</td>
<td>3.58</td>
<td>.004</td>
<td></td>
</tr>
</tbody>
</table>

Table 6: t-test showing difference in test anxiety of male and female of FUG Students

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Students</td>
<td>165</td>
<td>34.41</td>
<td>39.50</td>
<td>298</td>
<td>2.209</td>
<td>.028</td>
</tr>
<tr>
<td>Female Students</td>
<td>135</td>
<td>24.95</td>
<td>34.56</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Finally, the result further showed that significant difference exists in test anxiety of male and female students of Federal University Gusau. This finding supported the report of Sari, Belik and Celik (2018) that examined the relationship between test anxiety and self-esteem in senior higher school students. The study was aimed to determine the level of test anxiety and self-esteem in the high school students. Female students showed more test anxiety than male students and those who had higher self-esteem had less test anxiety. The result showed that gender predicts test anxiety.

Conclusion

The study concluded that emotional intelligence and self-concepts predicts the test anxiety of Federal University Gusau students. The study also showed a significant difference in the test anxiety of male and female students of Federal University Gusau students.

Recommendations

Based on the findings of this study the following recommendations were made:
1. Teachers and other stake holders should adopt strategies that help the students to develop their self-concept as this will give them a boost to control themselves in test taking behaviours.

2. Teachers, parents, school administrators should give more attention to the emotional intelligence of students. Their focus should not be centered on academic students alone but on affective domain.

3. It was recommended that educators should create a conducive learning situation that enhances students’ emotional intelligence and self-concept which in return reduce their test anxiety.

4. It is recommended that the school system should provide equal opportunity and adequate facility required for both male and female students that will improve their self-concept and emotional intelligence.

References


Emotional Intelligence and Self-Concept as Determinants … (Kayode & Lukman, 2021)