Relationship Between Emotional Intelligence and the Gender and Age of Basic Electricity Students in Technical College in the Federal Capital Territory (FCT), Abuja

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Abstract: The study was designed to investigate the relationship between Emotional Intelligence and the gender and age of Basic Electricity students in Technical College in the Federal Capital Territory (FCT), Abuja. The study adopted a correlational research design. The area of study was Federal Capital Territory (FCT), Abuja. A total of 291 National Technical College year II students offering Basic Electricity, comprising 229 males and 62 females, took part in the study. Three research questions and two hypotheses tested at 0.05 level of significance guided the study. The study adopted Mangal Emotional Intelligence Inventory (MEII). A pilot study was conducted and the reliability testing of the instrument (MEII) being a multiple choice type test was carried out with the use of split half reliability and a reliability coefficient of 0.78 was obtained. Data collected were analyzed using Pearson product moment correlation to answer the research question and t-test was used to test the hypotheses. Findings revealed that Emotional Intelligence relates positively to the gender of Basic Electricity students; it also revealed that gender not age was positively correlated to Emotional Intelligence. It was therefore recommended teachers should be trained to be Emotional Intelligent in order to be aware of students’ emotions bringing about better educational outcomes, so that technical college students graduates can be equipped with such affective skills that are useful both in their academics and work of life.

Keywords: Emotional Intelligence, Basic Electricity, Gender and Age

1. Introduction

Technical College is a post primary institution equivalent to senior secondary school. It is charged with the production of craftsmen and technicians. Technical colleges according to [1] are regarded as the principal vocational institution in Nigeria that give full vocational training intended to prepare students for various occupations as craftsmen and advanced craftsmen. In contemporary Nigeria, greater emphasis is placed on industrial and technological development; as a result, students are being encouraged to take up science and engineering related subjects in technical colleges. One subject that cuts across the entire engineering and related technical subjects in the technical colleges is Basic Electricity. Basic Electricity as one among the trade-related subjects offered at the Technical Colleges level [2] whose main goal is to provide the trainee with the basic knowledge of electricity and the competency to wire simple circuits and use common electrical measuring instruments. Basic Electricity is one of the technical college subjects taught in years I, II and III. The areas covered in these courses include electrical installation, cable joining, battery charging, and the winding of electrical machines. This desire for a high level of achievement in Basic Electricity puts a lot of pressure on students and teachers in technical colleges today. It is no more a denying fact that the whole system of education revolves round the academic achievement of students, though various other outcomes are also expected from the system; a lot of the school resources and research are committed to help students achieve better in their scholastic endeavours.

Technical colleges in Nigeria are expected to adequately train students in order to prepare them to cope with the
challenges posed by technology driven world. Students in these educational institutions have to work towards academic success. For this goal to be achieved, it requires dedication, sacrifices, self-discipline, motivation and cordial relationship between students and lecturers. Students at this level are saddled with a lot of academic responsibilities and challenges which may sometimes result in stress [3]. As academic demands increase and new social relations are established, students become uncertain of their abilities to meet these demands [3]. Difficulties in handling these demands often lead to decreased academic performance, increased psychological distress, and negative attitudes toward learning [3] [4]. All these invariably pose challenges to the much sought quality in education. In the current competitive educational environment where students are expected to perform multi roles with efficiency and effectiveness, it is highly needful to develop their Emotional Intelligence (EI) towards the unseen complexities of life and quality education. Several factors have been responsible for students’ achievement and quality education but in recent time scholars are thinking that Emotional Intelligence also plays a role. Hence, EI is one psychological construct that contributes to academic achievement [5].

Emotional Intelligence consists of two concepts: emotion and intelligence. Emotion is concerned with the intense feelings of human beings, whereas intelligence is the general mental ability of man to deal effectively with the environment. [6] defined EI as the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions. Emotional Intelligence is knowing what ones feelings are and using that knowledge to make good decisions [6]. [7] defined EI as the ability to sense, understand and effectively apply the power and acumen of emotions as a source of human energy, information, connection and influence. This implies that EI refers to perceptual capacity, tool, recognition, application and management of emotions in self and others. Emotional Intelligence is a confluence of developed abilities to know and value self; build and maintains a variety of strong, productive and healthy relationship; get along and work well with others in achieving positive results and effectively deal with the pressures and demands of daily life and work [9]. [10] also described EI in terms of those emotional and social skills that influence our understanding and expression of ourselves, our understanding for others and interaction with them, and the ability to deal with everyday demands. [8] describes EI as managing one's and other people emotions and feelings so that they are expressed appropriately and effectively, enabling people to work together smoothly toward their common goals.

It is apparent that the primary focus of education is academic performance that has been measured using various forms of standardized tests and examination; schools cannot ignore or neglect the development of emotional domains and other personal factors contributing to the success of students [11]. Educators need to build high-achieving, productive and healthy students, which can be achieved through a balance in the cognitive and emotional domains of learning. On account of this, [12] suggest that both the cognitive and the emotional domains of student’s academic development should be the primary goal for educating students. It has also been said that age is relevant for the development and evolution of EI not only as a factor associated with EI, but also as a potential mediator of the relation between gender and EI.

Research on Emotional Intelligence with regard to certain demographic factors such as age and gender has been reported widely. Unlike IQ, which increases up to one’s teen years, Emotional Intelligence seems always to continue to develop. As people learn from experiences, their Emotional Intelligence grows. Studies that have tracked people’s Emotional Intelligence over the years indicate that people’s competencies increase as they grow older [8]. [10] found that older groups scored higher on the Emotional Quotient Inventory scale score than younger groups. Individuals in their late forties and early fifties achieved the highest mean score. The study suggests that emotional and social intelligence increases with age. In the late 1990s, some studies showed that the subjects who were older possessed higher levels of Emotional Intelligence as compared to those who were younger which made the researchers presume that Emotional Intelligence may increase with age [12] Later, the results of numerous significant studies conducted on Emotional Intelligence by [12] supported this assumption.

The older children displayed greater emotional competence than their younger counterparts. It has been found that Emotional Intelligence increases with age or grade. It has been also reported that emotional maturity was positively related with physiological maturity. [7] have shown that the Emotional Intelligence is developed with increasing age and experience. [8] found that the signs of Emotional Intelligence appear among very young children. [8] have also stated that Emotional Intelligence increases with age and it can be learned, cultivated and increased in adulthood. In a series of longitudinal studies, it was shown that people can change their Emotional Intelligence competencies over two to five years. [13] also showed with a series of studies that Emotional Intelligence increased with age and experience which qualifies it as ability rather than a personality trait. [14] working with different samples have found that, age is positively correlated with Emotional Intelligence across different job situations. Similarly, [15] had reported in his study among 239 adults aged between 19-66 years that older participants scored higher on three out of four domains of Emotional Intelligence. This study supports the view that Emotional Intelligence develops with age. To measure the Emotional Intelligence and its relation with age among secondary school teachers, [16] have conducted a study and found that the level of Emotional Intelligence is low and independent of age. Another study on relationship between Emotional Intelligence and age reported by [17] among B.Ed. teacher trainees (N= 300) have revealed a significant effect of age on Emotional Intelligence.
Contradictory to this finding, [18] had reported that age did not predict Emotional Intelligence among a sample of 221 college students. Although these results are conflicting, together they indicate the relevance of age for the development and evolution of Emotional Intelligence not only as a factor associated with Emotional Intelligence, but also as a potential mediator of the relationship between gender and Emotional Intelligence.

Gender refers to the attitudes, feelings, and behaviours that a given culture associates with a person’s biological sex [American Psychological Association Council of Representatives, February, 2011]. [19] describes gender as behaviours and attributes expected of individual on the basis of being a male and female. Behaviour that is compatible with cultural expectations is referred to as gender-normative; behaviours that are viewed as incompatible with these expectations constitute gender non-conformity. While there are documented differences in regard to gender, literatures have suggested that the Emotional Intelligence of an individual can or may differ with regards to gender.

Emotional Intelligence does not respect the gender. The popular belief is that, women are not more emotionally intelligent than men. They are, however, emotionally intelligent in different ways. An analysis of Emotional Intelligence was found in thousands of men and women which showed that women, on average, are more aware of their emotions, show more empathy, and are more adept interpersonally. Men, on the other hand, are more self-confident, optimistic, and adaptable. It was found that men are also able to handle stress better than women. In general, however, far more similarities exist than differences. Some men are empathetic as the most interpersonally sensible women are, while some women are just as able to withstand stress as the most emotionally resilient men.

Literature suggests that women might have a slight advantage over men in the area of Emotional Intelligence. [10], however, suggests that no significant differences exist between males and females regarding overall emotional and social competence; but he does indicate some gender differences for a few factorial components of the construct. Bar-On theorizes that females appear to be more aware of emotions, demonstrate more empathy, relate better interpersonally, and act more socially responsible than men. Men, on the other hand, appeared to be able to have better self-regard, cope better with stress, solve problems better, and be more independent, flexible, and optimistic than women. In general, when looking at the overall ratings of men and women, far more similarities exist than differences regarding their emotional intelligence. Thus, in terms of total Emotional Intelligence, no gender differences exist.

After taking into account overall ratings for men and women, the strengths and weaknesses average out, so it is a competition between both sexes. Findings of studies reported by [14] revealed that females have higher Emotional Intelligence than that of males. Since females tend to be more emotional and intimate in relationships as compared to males, so their Emotional Intelligence ought to be higher than that of males. Society is responsible for this, which socializes the two genders differently as has been found in studies by [20]. Moreover, higher Emotional Intelligence among girls can also be explained in terms of some of their personality characteristics. Similar findings were reported in a study by [21]. They observed that girls score higher with regard to empathy, social responsibilities and interpersonal relationships than boys. More sensitivity was found towards their relationships with parents, friends and siblings. All these traits help them to acquire more Emotional Intelligence as compared to boys.

Studies conducted by [10] concluded that gender and age have an impact on Emotional Intelligence. Males scored higher with intrapersonal intelligence than females. Females exhibited significantly higher interpersonal scores than males. However, no significant correlation existed for stress management and adaptability score with gender and age. Males tended to score higher than females in the general mood scale. [22] conducted a study examining gender and age differences in emotional intelligence among 312 Bahraini adolescents and discovered that gender not age was significantly correlated with Emotional Intelligence. Girls showed higher interpersonal skills.

Numerous studies have examined the mechanisms by which EI functions in individuals. At the same time, several authors have analyzed differences in emotional abilities as a function of demographic variables such as age and gender, research on age and gender differences in EI has been limited. As regarding gender differences in EI, psycho-educational research has demonstrated some degree of a relation between the two; however, this relation has not been clearly established. [10] argues that our level of EI is not fixed genetically, nor does it develop only in early childhood. Unlike Intelligence Quotient, which changes little after our teen years, EI seems to be largely learned, and it continues to develop as we go through life and learn from our experiences, our competence in it can keep growing. In fact, studies that have tracked people’s level of EI through the years show that people get better and better in these capabilities as they grow more adept at handling their emotions and impulses, at motivating themselves, and at honing their empathy, social adroitness and cognitive abilities. The increase in cognitive abilities with increase in age brings about more social and EI [10], however the research on the relationship between EI and age shows little difference in EI regarding age. Increasingly, schools and educational organizations are turning to EI seeking a systemic solution to improve outcomes of academic achievement of students in schools such as technical colleges by improving student’s EI skills. There is a need to investigate the relationship between Emotional Intelligence and the gender and age of Basic Electricity students in Technical College in the Federal Capital Territory (FCT), Abuja.

1.1. Theoretical Framework

Goleman’s Theory of Emotional Intelligence was
propounded by Daniel Goleman in 1995. Theory states that Emotional Intelligence as the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves and in our relationships [8]. His theory is based on social and emotional competencies, and he defines emotional competence as a learned capability based on Emotional Intelligence that results in outstanding performance. Emotional competencies represent the degree to which an individual is proficient in specific skills and abilities that are built on Emotional Intelligence and thus can provide an individual increased effectiveness in the workplace and academic performance. [8] competency framework consists of (1) self-awareness, (2) self-management, (3) social awareness, and (4) relationship management. Mastering the skills in the areas of self-awareness, self-management, social awareness, and relationship management can translate into success in the academics and workplace. He asserts that a person’s ability to perceive, identify and manage emotions can reflect social and emotional competencies that are essential for success in individuals’ daily activities [8].

Since Goleman’s theory of Emotional Intelligence states that the emotional competencies of Emotional Intelligence represent the degree to which an individual is proficient in specific skills and abilities that are built on Emotional Intelligence and thus can provide an individual increased effectiveness in the workplace and academic performance; this theory was adopted for this study because it was most relevant to the project work which examines how the domains or emotional competencies of EI relates with the achievement of student as well as their gender and age.

1.2. Purpose of the Study

The general purpose of the study is to determine the relationship between Emotional Intelligence and the gender and age of Basic Electricity students in Technical College in the Federal Capital Territory (FCT), Abuja. Specifically, the study determined:
1. The relationship between Emotional Intelligence and the gender of Basic Electricity students.
2. The relationship between the Emotional Intelligence and the age of Basic Electricity students.

1.3. Research Questions

The following research questions were formulated to guide the study:
1. What is the relationship between Emotional Intelligence and the gender of Basic Electricity students?
2. What is the relationship between the Emotional Intelligence and the age of Basic Electricity students?

1.4. Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance:

H$_{01}$: There is no significant relationship between the Emotional Intelligence and gender of students of Basic Electricity.

H$_{02}$: There is no significant relationship between Emotional Intelligence and the age of students of Basic Electricity.

2. Methodology

The design adopted for the study was Correlational Research Design. The study was carried out in technical colleges in the Federal Capital Territory (FCT) Abuja. These are Government Science Technical College, Garki and Federal Science Technical College, Orozo. The population of the study consisted of 291 (229 males & 62 females) year II students of all the Technical Colleges offering Basic Electricity in FCT, Abuja. The instrument used for this study includes Mangal Emotional Intelligence Inventory (MEII) and Basic Electricity average scores of NTCCI student. Mangal Emotional Intelligence Inventory (MEII) developed by Mangal and Mangal (2004) was used for this study. It was used to measure the Emotional Intelligence of the participants. The Mangal Emotional Intelligence Inventory (MEII) had been validated by the tool developer Mangal and Mangal (2004). The validity for the inventory has been established by adopting two different approaches, namely factorial and criterion related approach. The reliability of the MEII was reported by Mangal and Mangal (2004) using three different methods namely: Split half method using Spearman-Brown prophecy formula; K-R formula (20) and Test-retest method (after a period of 4 weeks). However, to account for varied cultural and social context, a trial test of MEII was carried out to determine its reliability coefficient. The MEII was administered on a sample of 120 TC II Basic Electricity students at Federal Science Technical College, Shiroro-Kuta Niger State. The Split half reliability was used and 78 was obtained as the reliability coefficient.

Data collected was analyzed using pearson product moment correlation coefficient, linear regression analysis and t-test statistical tools. The research questions were analyzed using Pearson Product Moment correlation, while linear regression analysis was used to explore the relationship between one dependent variable and a number of independent variables or predictors. The hypotheses formulated were tested by testing the significance of Pearson (r) at 0.05 level of significance using t-test. The bench marks for taking decision on the direction of Pearson (r) for the relationship not the strength of the variables as proposed by Cohen (1988) is stated below:

- $r = .10$ to .29 or $r = -.10$ to -.29 low correlation
- $r = .30$ to .49 or $r = -.30$ to -.49 medium correlation
- $r = .50$ to 1.0 or $r = -.50$ to -1.0 high correlation

3. Result

Research Question 1

What is the relationship between Emotional Intelligence and the gender of Basic Electricity students?
The data presented in Table 1 provides answer for research question one which shows significant positive correlation between Emotional Intelligence and basic electricity scores of female and male students (\( r =.20, p <.05 \)) and (\( r =.17, p <.05 \)) respectively. The value of correlation coefficient represented in the table above revealed a positively low correlation between the two variables. The result also shows that Emotional Intelligence relates positively to the gender of Basic Electricity students.

Research Question 2
What is the relationship between the Emotional Intelligence and the age of Basic Electricity students?

The data presented in Table 2 provides answer for research question three and it shows significant negative correlation between Emotional Intelligence and the age of Basic Electricity students (\( r = -.06, p <.05 \)). The value of correlation coefficient represented in the table above revealed a little correlation between the two variables. This result shows that Emotional Intelligence is not significantly related to the age of Basic Electricit examination.

Hypotheses
Ho: There is no significant relationship between Emotional Intelligence and gender of students taking Basic Electricity

Table 3. T-test Analysis on the Relationship between Emotional Intelligence and the Gender of Students taking Basic Electricity.

<table>
<thead>
<tr>
<th>Gender</th>
<th>MEII</th>
<th>MEscore</th>
<th>N</th>
<th>df</th>
<th>t-cal</th>
<th>t-table</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>60.89</td>
<td>9.04</td>
<td>62</td>
<td>60</td>
<td>2.09</td>
<td>2.00</td>
</tr>
<tr>
<td>M</td>
<td>63.91</td>
<td>8.95</td>
<td>229</td>
<td>227</td>
<td>2.61</td>
<td>1.96</td>
</tr>
</tbody>
</table>

P < 0.05

The result in Table 3 provides answer to hypothesis one and it shows the t-test analysis of female students shows t-calculated of 2.09 is greater than the t-critical table value \( t = 2.00 \) at 0.05 level of significance and also shows the t-test analysis of male students was t-calculated of 2.61 is greater than the t-table value \( t = 1.96 \) at 0.05 level of significance, therefore the hypothesis which states that there is no significant relationship between Emotional Intelligence and gender of students taking Basic Electricit was rejected. Hence, that there is a relationship between Emotional Intelligence and the gender of students taking Basic Electricity.

H02: There is no significant relationship between Emotional Intelligence and the age of students taking Basic Electricity.

Table 4. T-test Analysis on the Relationship between Emotional Intelligence and the Age of Students taking Basic Electricity.

<table>
<thead>
<tr>
<th>Variables</th>
<th>MEII</th>
<th>MEscore</th>
<th>N</th>
<th>df</th>
<th>t-cal</th>
<th>t-table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>63.27</td>
<td>9.04</td>
<td>291</td>
<td>289</td>
<td>1.97</td>
<td>1.97</td>
</tr>
</tbody>
</table>

P < 0.05

The result in Table 4 provides answer for hypothesis four shows that the t-calculated of -1.02 is less than the t-critical table value of 1.97 at 0.05 level of significance. Base on the result, the hypothesis which states that there is no significant relationship between Emotional Intelligence and the age of students taking in Basic Electricity was accepted. This further means that there is no significant relationship between Emotional Intelligence and the age of students taking Basic Electricity.

4. Discussion
Findings on the correlation of Emotional Intelligence and the gender of students revealed that Emotional Intelligence relates to the gender of students taking Basic Electricity as female students have higher Emotional Intelligence than their male counterparts. T-test was used to test the third hypothesis where it was found that there was a significant relationship between Emotional Intelligence and the gender of basic electricity students. This corresponds to the findings of [24] who found out that there is a positive relationship between Emotional Intelligence and gender. This present finding is however not in agreement with the findings of [10] where there were no significant differences between males and females regarding overall Emotional Intelligence. He reported that some gender differences were found for a few factorial components of the EI construct, while [8] found no differences at all. In the same vein [25] observed that the presence of higher Emotional Intelligence in the adolescent girls students in comparison to the boys. Furthermore, correlation of Emotional Intelligence and the age of students show that Emotional Intelligence does not relate to the age of students in Basic Electricity. t-test was used to test the fourth hypothesis where it was found that there was no significant relationship between Emotional Intelligence and the age of students taking Basic Electricity.
Intelligence and the age of Basic Electricity students. This is in agreement with [16] having conducted a study and found that the level of Emotional Intelligence is low and independent of age. Also the findings of [24] and is line with this present study as they discovered that there was no correlation between Emotional Intelligence and age, probably, because of age range of their respondents who were mostly adolescents. Also, [23] claims that there was no any relationship between age and level of Emotional Intelligence, the findings of this study confirmed that level of emotional intelligence increases with the age, as claimed by [8]. One might assume that the relationship between age and Emotional Intelligence is significant but not powerful since all the subjects of students and the range of age is limited. Contradictory to this finding, the outcome of the studies conducted by [26] found a slight but significant correlation between age and Emotional Intelligence.

5. Conclusion

Today, the importance of Emotional Intelligence is gradually being acknowledged and the number of studies made in this field is gradually increasing. Emotional Intelligence has considerable contribution for success in the field of education. Affective component of intelligence is as important for academic success as its cognitive part. The predictive value of Emotional Intelligence for academic achievement suggests its educational significance. Due to this, the present study investigated the relationship the relationship between Emotional Intelligence and the gender and age of Basic Electricity students in Technical College in the Federal Capital Territory (FCT), Abuja. This study found out that gender not age was significantly correlated with Emotional Intelligence although this present study indicates the relevance of age for the development and evolution of Emotional Intelligence.

References


