Self-efficacy and Emotional Intelligence Among Nigerian Adolescents in Single-Sex and Co-Educational Secondary Schools

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Abstract
The present study investigated the relationship between general self-efficacy and emotional intelligence of secondary school adolescents. The influence of single-sex and co-educational schools on the self-efficacy and emotional intelligence of adolescent girls and boys was also assessed. The study employed a correlational survey research design. The sample of the study comprised three hundred and one secondary school two students randomly selected from an all- girls’ school, an all- boys’ school and a co-educational school. Four research questions were raised and five hypotheses formulated to guide the study. Two instruments, an emotional intelligence scale by Schutte, Malouff, Hall, Haggerty, Golden & Dunheim (1998) and the General Self-efficacy Scale by Shwazer & Jerusalem (1995) were used to collect data for emotional intelligence and general self-efficacy respectively. Data collected were analysed using descriptive and inferential statistics. Mean scores and standard deviation were calculated to answer the research questions. The hypothesis on the relationship between self-efficacy and emotional intelligence was tested at 0.01 level of significance using Pearson Product Moment Correlation statistic while the hypotheses on the differences in emotional intelligence and self- efficacy between adolescents in single-sex and co-educational schools were tested at .05 level of significance using Students’ t-test. Results of the study revealed a positive relationship (r=0.368) between self-efficacy and emotional intelligence. Adolescent boys in the single-sex school had significantly higher self-efficacy and emotional intelligence than their counterparts in the co-educational school. A statistically significant difference was found between the self-efficacy of girls in the single-sex school and girls in the co-educational school in favour of the single-sex school while there was no significant difference in emotional intelligence between the girls in the two types of schools. Implications for school counselling were discussed and recommendations for further research were made.

Keywords: Emotional intelligence, self-efficacy, adolescents, single-sex school, co-educational school.

1. Introduction
Formal education in Nigeria has over the years been concerned mainly with the development of the cognitive domain of learning as the precursor to academic achievement and success in life. The consideration of factors affecting success in Secondary schools has often neglected the role of non-cognitive variables (Azuka, 2012). In recent years, however, researchers have begun to recognise that factors other than intellectual ability play important roles in academic success of learners and also in their career success. Self-efficacy is one of the factors in Bandura’s (2001) theory of Socio-cognitive learning. Self-efficacy is defined as one’s belief in one’s capability to achieve a goal or an outcome (Bandura, 2001). Self-efficacy beliefs are therefore self-perceptions of capability that can influence how people feel and think. Learners with a strong sense of self-efficacy are therefore more likely than their counterparts, to challenge themselves with difficult tasks and be more intrinsically motivated. They are likely to put in great effort in order to meet their commitments, recover quickly from setbacks and are ultimately more likely than those with low self-efficacy to achieve their personal goals.

Self-efficacy beliefs develop in response to four sources of information. These include mastery which depends on real and perceived success in a given task. Other sources include vicarious learning, verbal persuasion of others and emotional and physiological activations (Bandura, 1997). Research suggests that self-efficacy is an important factor affecting academic success and performance (Bandura & Lock, 2003; Grecer, 2012). Effective performance requires not only skills but one’s beliefs that he or she can perform the task. Perceived self-efficacy therefore influences to large extent behaviour of students within the classroom (Henk & Mednik, 1985). Students with low self-efficacy are less likely than others to make concerted effort and may consider challenging tasks as threats to be avoided. They thus have low aspiration which may result in poor academic performance (Bandura, Margolis & Mc Corbo, 2008). In the same vein, Tong and Song (2004) found that individuals with strong general self-efficacy reported higher levels of subjective well-being than others. Self-efficacy is related to students’ cognitive ability and academic achievement. Self-efficacy also determines an individual’s resiliency to adversity and his or her vulnerability to stress and depression (Bandura, Caprara, Barbaranelli, Gerbino & Pastorelli,2003 ). Self-efficacy is therefore an important factor in the academic and social success of learners.

Emotional intelligence has also been found to be related to students’ academic achievement, behaviour and attitudes (Chau, 2001, Salami, 2004, Salami & Ogundokun, 2009). Emotional intelligence is the ability of people to deal with their emotions (Salovey & Mayer, 1980). The definition further suggests that emotional intelligence as a subset of social intelligence, involves the ability to monitor one’s own and other’s emotions and feelings, to
determine among them and to use the information to guide one’s own thinking and actions. Emotional intelligence represents a set of non-cognitive abilities that affect knowledge, skills and increases one’s ability to cope with the environment and resulting pressures. It therefore involves the ability to recognise emotion in self and others, to manage emotion in self and use the ability to manage relationship with others. Drago (2004) opined that individuals with low emotional intelligence may find failure difficult to deal with and this undermines the motivation to achieve. Abisamra (2000) and Azuka (2012) found a positive relationship between emotional intelligence and academic achievement. Abisamra (2000), worked with eleventh graders while Azuka (2012) investigated secondary school students’ academic achievement in Mathematics and emotional intelligence. Both authors recommended the inclusion of emotional intelligence skills training in the school curricular. In the pursuit of academic goals, students experience failures and frustrations. Their ability to control their thoughts and feelings positively, which in turn, influence their behaviour will enhance their achievement of academic goals. Castillo, Salguero, Fernandez-Berrocal & Ballerka (2013) found that emotional intelligence decreases aggression among adolescents and increases empathy. Not only does emotional intelligence help people respond with more appropriate reactions to save their lives, it also helps them understand the needs of others.

Both emotional intelligence and self-efficacy have been found to positively influence academic achievement among other competences. Adeyemo and Adeleye (2008) have found a positive correlation between emotional intelligence and self-efficacy. Emotional intelligence skills were found to be effective in moderating locus of control and self- efficacy of secondary school students in Niger State, Nigeria (Umaru & Umma 2015).

Another variable of interest in this study is school type in terms of the gender composition of the students in the school. Dhar, Banerjee, Mukherjee & Dogra (2016) have asserted that school plays a vital role in biopsychosocial development of students. This would imply that school influences biological, psychological as well as social development of learners. Results of studies on the effects of single-sex and co-educational schools on students outcomes vary. Forgasz, Leder & Taylor (2007), reporting on major findings in scholarly literature on single-sex and co-educational learning settings from 1996-2007 in Australia, indicated that learners in single-sex schools had more positive personality than learners in co-educational schools. This result was attributed to less gender-stereotyping with respect to some disciplines and learning environment. Girls were found to be more adversely affected in co-educational schools than boys in terms of academic achievement, emotional stability and liveliness (Malik, 2013). In co-educational settings, teachers may hold different expectations for boys and girls particularly with respect to subject areas they consider more suitable for a particular sex than for the other. Mburu (2013) found among Kenyan secondary school adolescents, that type of school attended has effects on academic performance in that majority of the girls who qualified for tertiary institutions were from single-sex schools. In the same vein, Sax, Riggers & Eagan (2013) found that attending a single-sex school remained a factor predicting academic engagement even after controlling for confounding roles of students’ background characteristics, school level features and peer context within each school. On the contrary, the investigation of Nwamara (2013) favoured co-educational schools to provide better environment for both boys and girls. Dhar et al (2016) found that competence in academic dimensions of self were higher in students from single-sex schools but social dimensions of self were higher in students from co-educational schools for both sexes. Girls were also found to have scored significantly higher than boys on social dimension of self in the two types of school. Wong, Wong, Lan & Ho however opine that co-educational schools appears to be more beneficial to boys than girls.

The goals of the Nigerian National Policy on Education (FRN, 2013), include the development of appropriate skills, mental, physical and social abilities and competences to empower the individual to live and contribute positively to the society. The school is primary setting for learners to develop cognitive competences as well as problem solving skills that enable them participate effectively in the society. Schools should prepare students to be proficient, not only in academic content area but also in abilities to engage others from diverse backgrounds in socially, emotionally appropriate ways and interact respectfully and responsibly with them. These non-cognitive abilities have also been found to influence academic achievement. Self-efficacy has been found to be positively related to academic achievement (Carroll, 2009; Chang & Solomon, 2010). Emotional intelligence has also been found to positively influence academic achievement (Azuka, 2012) and conflict management (Neeraj, 2015) among others. Both Self-efficacy and emotional intelligence have been found to improve working attitudes (Salami, 2007). The school counsellor’s role is central to all the participants in the education of the learners as it is concerned with the educational, vocational and personal-social development of the individual. Given the roles played by emotional intelligence and self-efficacy in the academic and work success of learners, knowledge of the relationship between emotional intelligence and self-efficacy will be informative to the counsellor in providing quality service to the learners. There is however a dearth in Literature regarding the relationship between emotional intelligence, self-efficacy and school type in terms of gender composition of student body in Nigeria. This present study was therefore designed to investigate, first, the relationship between emotional intelligence and self-efficacy of secondary school adolescents and then the differential influence of school type on emotional intelligence and self-efficacy of the adolescent girls and boys.
Research Questions
1. Is there a difference in emotional intelligence between girls in single-sex and co-educational schools?
2. Is there a difference in general self-efficacy between girls in single-sex and co-educational schools?
3. Is there a difference in emotional intelligence between boys in single-sex and coeducational schools?
4. Is there a difference in general self-efficacy between boys in single-sex and co-educational schools?

Hypotheses
1. There is no significant correlation between emotional intelligence and general self-efficacy of the adolescents.
2. There is no significant difference in emotional intelligence between girls in the single-sex and girls in the co-educational schools.
3. There is no significant difference in general self-efficacy between girls in the single-sex and co-educational schools.
4. There is no significant difference in emotional intelligence between boys in single-sex and co-educational schools.
5. There is no significant difference in general self-efficacy between boys in the single-sex and co-educational schools.

2. Methodology
Research Design - The study employed a correlational survey research design.
Sample and sampling techniques - The population of the study consisted of all the secondary school adolescents in Benin metropolis. The sample of the study comprised three hundred and one secondary school adolescents. Stratified random sampling was used to select one secondary school each from the strata – all boys’, all girls’ and co-educational secondary schools. One hundred and ten students were randomly selected from each of the schools.

Instruments of the study - Two research instruments were used to collect data for the study.
(i) Emotional Intelligence Scale (EIS) – The 33-item Emotional Intelligence scale developed by Schutte, Malouff, Hall, Haggerty, Golden & Dunheim (1998) was adapted, re-validated and used to assess the emotional intelligence of the sample. The instrument is a self-report appraisal and expression of emotions in self and others, regulation of emotions in self and in others, utilization of emotions in problem solving. Responses to the instrument were made on a 4-point scale ranging from strongly disagree (1) to strongly agree (4). The internal consistency of the instrument is high with Cronbach’s alpha –α =0.89.

(ii) General self-efficacy scale (GSE) by Schwarzer & Jerusalem (1995) is a -10-item scale that assesses a general sense of self-perceived self-efficacy with responses ranging from Not at all true (1) to Exactly true of me(4). Total scores are calculated by finding the sum of the items. The internal reliability of the instrument was found to be Cronbach’s alphas between 0.76 and 0.90 (Schwarzer & Jerusalem, 1995).

Procedure – Due permission was obtained from the administration in each of the three schools used. The scales were administered to the sample by the researcher and one teacher from each of the three schools. The completed scales were collected and three hundred and one properly completed ones were processed.

Statistical analyses - Data collected were collated and analysed using means and standard deviation, Pearson Product Moment Correlation (PPMC) and Student’s t-test statistics. While descriptive statistics were used to answer the research questions. Hypothesis 1 was tested at .01 level of significance while hypotheses 2-5 were tested at .05 level of significance.

3. Results
Table 1. Descriptive statistics of Emotional Intelligence (EMI) and General Self-Efficacy (GSE) of girls in all-girls and co-educational schools

<table>
<thead>
<tr>
<th>School type</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>Std.Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Girls</td>
<td>93</td>
<td>2.9596</td>
<td>.29675</td>
<td>.03077</td>
</tr>
<tr>
<td>Co-Ed</td>
<td>51</td>
<td>2.9228</td>
<td>.31997</td>
<td>.04480</td>
</tr>
<tr>
<td>GSE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Girls</td>
<td>93</td>
<td>2.9204</td>
<td>.42594</td>
<td>.04417</td>
</tr>
<tr>
<td>Co-Ed</td>
<td>51</td>
<td>2.7000</td>
<td>.30463</td>
<td>.04266</td>
</tr>
</tbody>
</table>

Results on table 1 show that the emotional intelligence mean score of girls in the all-girls’ school (2.9596) is higher than the emotional intelligence mean score of girls in the co-educational school (2.9228). The results
also show that the general self-efficacy mean score of girls in the all-girls’ school (2.9204) is higher than that of girls in the co-educational school (2.7000). There are therefore differences in the emotional intelligence and general self-efficacy of adolescent girls in the all-girls’ school and adolescent girls in the co-educational school in favour of girls in the all-girls’ school.

Table 2. Descriptive statistics of emotional intelligence and general self-efficacy of boys in all boys’ and co-educational schools

<table>
<thead>
<tr>
<th>School type</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Std Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMI All Boys</td>
<td>78</td>
<td>3.1212</td>
<td>.29062</td>
<td>.03291</td>
</tr>
<tr>
<td>Co-Ed</td>
<td>79</td>
<td>2.8753</td>
<td>.32435</td>
<td>.03291</td>
</tr>
<tr>
<td>GSE All Boys</td>
<td>78</td>
<td>2.9962</td>
<td>.30851</td>
<td>.03495</td>
</tr>
<tr>
<td>Co-Ed</td>
<td>79</td>
<td>2.5291</td>
<td>.40037</td>
<td>.04505</td>
</tr>
</tbody>
</table>

Results on Table 2 indicate that the emotional intelligence mean score for boys in the all-boys’ school (3.1212) is higher than the emotional intelligence mean score for boys in the co-educational school (2.8753). The results also show that the general self-efficacy mean score for boys in the all-boys’ school (2.9962) is higher than the general self-efficacy mean score for boys in the co-educational school (2.5291). There are therefore differences in emotional intelligence and general self-efficacy between boys in the all-boys’ school and boys in the co-educational school.

Table 3. Summary of Correlations between emotional intelligence and general self-efficacy of the adolescents

<table>
<thead>
<tr>
<th></th>
<th>EMI</th>
<th>GSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Intelligence</td>
<td>Pearson Correlation r</td>
<td>1</td>
</tr>
<tr>
<td>Sig (2-tailed)</td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>301</td>
<td>301</td>
</tr>
<tr>
<td>General Self-efficacy</td>
<td>Pearson Correlation r</td>
<td>.368**</td>
</tr>
<tr>
<td>Sig (2-tailed)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>301</td>
<td>301</td>
</tr>
</tbody>
</table>

**Correlation significant at .01 level (2-tailed)

The results on table 3 reveal that the Pearson correlation coefficient of r=.368 between emotional intelligence and general self-efficacy was significant at .01 level of significance. The null hypothesis is therefore rejected and it is inferred that there is a significant positive correlation between emotional intelligence and general self-efficacy of the adolescents.

Table 4. Independent sample t-test of differences in emotional intelligence and general self-efficacy between girls in the all-girls’ school and girls in the co-educational school.

<table>
<thead>
<tr>
<th></th>
<th>Levene’s Test for Equality of variances</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig</td>
</tr>
<tr>
<td>EMI equal variances assumed</td>
<td>.291</td>
<td>.590</td>
</tr>
<tr>
<td>EMI equal variances not assumed</td>
<td>.678</td>
<td>98.611</td>
</tr>
<tr>
<td>GSE equal variances assumed</td>
<td>4.145</td>
<td>.044</td>
</tr>
<tr>
<td>GSE equal variances not assumed</td>
<td>3.590</td>
<td>132.138</td>
</tr>
</tbody>
</table>

* Significant at .05 level

The results in table 4 above, show that the mean difference of .03684 between the emotional intelligence of girls in the all-girls’ school and girls in the co-educational school was not statistically significant at t=.693 and degree of freedom=142. The hypothesis that states that there is no significant difference between the emotional intelligence of girls in single-sex and co-educational school is therefore upheld. The results on table 4 also reveal that the mean difference of .22043 between the general self-efficacy of girls in single-sex and co-educational schools is significant at .05 level of significance. The null hypothesis is therefore rejected and it is inferred that there is a significant difference in general self-efficacy between girls in the single–sex school and girls in the co-educational school.
Table 5. Independence sample t-test of differences in emotional intelligence and general self-efficacy between boys in the single-sex school and boys in the co-educational school.

<table>
<thead>
<tr>
<th>Levene Test for Equality of variance</th>
<th>F</th>
<th>Sig</th>
<th>t</th>
<th>df</th>
<th>Sig (2-tailed)</th>
<th>mean diff</th>
<th>S.E. Diff</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMI</td>
<td>Equal variances assumed</td>
<td>.577</td>
<td>.499</td>
<td>5.000</td>
<td>155</td>
<td>.000 *</td>
<td>.24588</td>
</tr>
<tr>
<td></td>
<td>Equal variances Not assumed</td>
<td>5.004</td>
<td>153.566</td>
<td>.000</td>
<td>.24588</td>
<td>.04914</td>
<td></td>
</tr>
<tr>
<td>GSE</td>
<td>Equal variances Assumed</td>
<td>5.335</td>
<td>.022</td>
<td>8.180</td>
<td>155</td>
<td>.000 *</td>
<td>.46704</td>
</tr>
<tr>
<td></td>
<td>Assumed</td>
<td>8.193</td>
<td>146.393</td>
<td>.000</td>
<td>.46704</td>
<td>.05700</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at .05 level

Table 5 reveals that the emotional intelligence mean difference between the boys in the all boys’ school and boys in the co-educational school = .24588, computed t value = 5.000 and df =155 was significant at .05 level of significance. The null hypothesis is therefore rejected and it is inferred that there is a significant difference between the emotional intelligence of boys in the single-sex school and the boys in the co-educational school in favour of boys in the single-sex school. Results on table 5 also reveal that the General self-efficacy mean difference (.46704) between boys in the single-sex school and boys in the co-educational school was statistically significant at .05 level, in favour of the single-sex school. The null hypothesis is therefore rejected.

4. Discussion

The findings of the study reveal that there is a low (.368) but significant positive correlation between emotional intelligence and general self-efficacy of the adolescents in the study. This could imply that adolescents who are emotionally intelligent also have general self-efficacy. This finding corroborates Adeyemo & Adeleye (2008), Aghazade & Moheb (2017) and Rastegar & Memarpour (2009) who found a positive correlation between perceived emotional intelligence and self-efficacy. Rastegar and Memarpour (2009) made their findings with a sample of English as Foreign Language (EFL) teachers in Iran while Aghazade & Moheb (2017) made findings indicating a positive relationship between emotional intelligence and academic self-efficacy in Orumia High School students. Adeyemo & Adeleye made their findings among Nigerian Secondary school adolescents. Costa, Ripoli, Sanchez & Carvolho (2013) however found that emotional intelligence components contributed to college students’ well-being independently of constructs like self-efficacy. Self-efficacy and emotional intelligence are affective abilities and are important resources for enhancing students’ learning success and quality in Education (Salami, 2010). While emotional intelligence helps individuals respond appropriately to environmental demands and resulting pressure in relationships with other persons, self-efficacy influences how people think and act.

Findings of the present study reveal a significant difference in general self-efficacy between boys in the single-sex school and boys in the co-educational school and also between girls in the single-sex school and girls in the co-educational school, both in favour of the single-sex schools. Similarly, boys in single-sex school had a significantly higher emotional intelligence than boys in the co-educational school. These findings corroborate Forgasz, Leder and Taylor (2007) who reported that learners in single-sex schools had more positive personality than learners in co-educational schools. This may be attributed to less gender-stereotyping in single-sex schools which enables the learners there to be freer to express themselves than in the co-educational schools. The findings however reveal no significant difference in emotional intelligence between girls in the single-sex school and girls in the co-educational school. This means that school type did not have any significant influence on the emotional intelligence of the girls in the study. This could mean that other factors other than school type also influence the personality of the learners. This finding is at variance with Malik (2013) who reported that girls were found to be more adversely affected by co-educational schools than boys in terms of emotional stability and liveliness. Most of the studies comparing single-sex and co-educational schools have as their focus academic achievement. While some reported significant difference between the two types of school, in favour of co-educational schools (Nwamara, 2013), others found significant difference in favour of single-sex schools (Busari, 2016; Malik & Mirza, 2014) and yet others found no significant difference in academic achievement between the two types of schools (Yalcinkaya & Ulu, 2012; Pahike, Hyde & Allison, 2014).

5. Conclusion

There is a positive correlation between General self-efficacy and emotional intelligence. Single sex schools appear to have a more positive influence on self-efficacy and emotional intelligence than co-educational schools. However the non-significance of school type on the emotional intelligence of girls in the study suggests that
Implications for counselling
The study has revealed that there is a positive correlation between general self-efficacy and emotional intelligence. The results of the study suggest that increase in the sense of self-efficacy in individuals also results in increase in the ability to discern emotion, control emotion in self and manage emotions in relationships. Also the positive influence of both variables on academic performance and general well-being of individuals have been highlighted in literature. School counsellors should therefore employ interventions that enhance self-efficacy and teach students emotional intelligence skills to enable them cope more effectively with their academic and social environments. In providing educational guidance and counselling, tests to determine level of self-efficacy and emotional intelligence should be given and remedial measures provided where and when necessary, alongside study habit training. The provision of this service should be irrespective of school type.

Recommendations
The present study has considered the relationship between emotional intelligence and self-efficacy and found it to be positive. The influence of single-sex and co-educational schools on the two dependent variables (self-efficacy and emotional intelligence of the adolescents) was also investigated and the results regarding emotional intelligence were equivocal. It is recommended that further studies involving larger samples and a variety of outcomes over longer periods of time be carried out to ascertain the superiority or otherwise of the influence of one school type over the other regarding the dependent variables of the study.

References
Carroll, A.M. (2009), ‘Self-efficacy and academic achievement in Australian high school students: The moderating effects of academic as potions and delinquency’, Journal of Adolescence, 32, 797-817
Federal Republic of Nigeria. (2013), National policy on education, NERDC, Lagos


