Relationship Between Parents' Characteristics, Family Background and Cognitive Self-Reliance of Senior Secondary School Students

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Abstract

The study examined the relationship between parents' characteristics (occupation, educational attainment, degree of religiosity), family background (family structure and size) and cognitive self-reliance of senior secondary school students in Ekiti State, Nigeria. The sample for the study comprised 423 students and their parents (816) using a simple random sampling technique, while two schools from each Local Government Area were selected purposively because only co-educational public secondary schools with no boarding facilities were used for the study. The students and the parents responded to the questionnaires (on students’ self-reported cognitive self-reliance and on parents’ characteristics and family background respectively). Chi-square statistic was used to analyse the data. The results showed that there was no significant relationship between mothers’ occupation and the students’ level of cognitive self-reliance ($\chi^2 = 9.61, p > 0.05$); however, there was a significant relationship between fathers’ occupation and the students’ level of cognitive self-reliance ($\chi^2 = 28.83, p = 0.000$); there was a significant relationship between mothers’ educational attainment and students’ levels of cognitive self-reliance ($\chi^2 = 28.83, p = 0.000$), whereas fathers’ educational attainment did not show any significant relationship ($\chi^2 = 12.30, p > 0.05$); there was a significant relationship between students’ level of cognitive self-reliance and parents’ degree of religiosity ($\chi^2 = 30.72, p < 0.05$); family size was not significantly related to students’ levels of cognitive self-reliance ($\chi^2 = 10.16, p > 0.05$), but family structure was related significantly ($\chi^2 = 15.12, p < 0.05$). Based on the findings, recommendations were made among others that efforts should be made to support and improve mothers’ education as well as to enhance fathers’ involvement in children’s education. Schools should provide resources and counselling that cater to the unique needs of different family configurations and should develop programmes on effective parenting strategies that promote self-reliance and autonomy among adolescents.

Keywords: Nigerian adolescents; cognitive domain; self-reliance; parents' and family characteristics.


Introduction

Cognitive self-reliance, a critical component of cognitive development, refers to an individual's ability to independently analyse, synthesise, and apply knowledge, thereby fostering adaptive problem-solving skills and decision-making capabilities. In the context of senior secondary education in Nigeria, cognitive self-reliance not only impacts academic performance but also plays a pivotal role in shaping students' future aspirations, career choices and overall well-being.

Adequate and appropriate level of cognitive self-reliance and autonomy in adolescent students is an essential component of their personality. This component must be formed at an appropriate time in
adolescence period of one’s development through the influence of both parents’ support for autonomy and through the impact of many other factors, such as teacher’s autonomy-support, relationship with peers, as well as parents’ characteristics and family background. They may directly and indirectly modify one’s cognitive skills in order to improve adolescents’ independence and autonomy in cognitive domain.

Traditionally, parents’ level of education, or, in other words, educational attainment, has been regarded as a predictor of children’s achievement. The literature suggests that level of education influences parents’ knowledge, beliefs, values, and goals about childrearing, so that a variety of parental behaviours are indirectly related to children’s developmental outcomes (Abdu-Raheem, 2015; Black, Devereux, & Salvanes, 2015; Chevalier 2014; Chevalier, O’ Sullivan, & Walker, 2015; Maurin & McNally, 2018; Galindo-Rueda, 2019). Paxton and Lee (2020) concluded that parents’ educational background had a strong effect on the child’s cognitive skills. They found that the students whose parents had higher levels of education might have an enhanced regard for learning, more positive ability beliefs, a stronger work orientation and they might use more effective learning strategies than children of parents with lower levels of education.

A limited number of related literature about parents’ occupation and its influence on adolescents’ self-reliance and cognitive development in the Nigerian context describes employment status aspect only, and those studies confirmed a significant relationship between parents’ employment status (full time, part-time or unemployed) and child’s level of independence (Ajitoni, 2016; Demo & Acock, 2016). This study will try to establish if there is any relationship between parents’ occupation and adolescents’ cognitive self-reliance.

Religiosity has also received significant attention because it has been found to have complex associations with various positive developmental outcomes (Butler, Quigg, Bates, & Jones, 2022; Iyang & Uwah, 2007). According to Moore, (2014), religion is one of the important components of culture that have a major influence on values, beliefs and practices of childrearing. It seems that parents’ degree of religiosity in any religion contributes to the parental views on adolescents’ autonomy and independence. Relationships between religiosity and well-being have been measured at several different levels, including the parental-level (e.g., marital satisfaction), the family-level (e.g., parenting styles, intrafamilial conflict) and youth/adolescents outcomes. Research literature has also linked parental religiosity with youth outcomes (Valenzuela, Scully & Somma, 2009).

Family structure, in terms of the number of parents and their relationships with children in the household, determines to particular extent adolescents’ developmental outcomes. Research has consistently shown that family structure can facilitate or limit the ways in which parents are able to positively influence the future outcomes of their children (Lang, 2018; Simons & Conger, 2007; Thatcher, 2016; Ushie, et al., 2012). Parents’ characteristics, such as sex, occupation, educational attainment, degree of religiosity, and family size, have to be examined as well in order to better understand the process, as these variables could constrain the improvement of cognitive self-reliance in adolescents.

Studies investigating the influence of parenting on students’ outcomes seldom included in the past separate analyses for mothers and fathers. According to Simons and Conger (2020), researchers often examined the parenting practices of mothers and assumed that fathers’ practices are the same as the mothers’. But contemporary researchers are broadening their studies by including fathers as well. Such an interest appears to be logical because fathers have a role to play in their children’s development.

The studies of Omosehin and Fabode (2023) and Hall, Richter, Mokomane and Lake (2018) had delineated the advantages of stably married families for adolescent well-being. Adolescents in non-divorced two-parent families showed more academic success and greater behavioural competence than their peers from single-parent homes. Another aspect of family structure influence is the issue of polygamy. It is not actually clear in what direction polygamous structure influences adolescents’ cognitive development. It was interesting to discover that although two-parent families should be able to provide more resources for children, particularly in terms of income and availability of time to spend with children, children from step-parent families often looked similar to those from single-parent homes.
Other findings are in support of negative effects of polygamy, that is, children raised in polygamous families commonly exhibit developmental dysfunction (Elbedour, Bart, & Hektner, 2019). While other researchers believe that if polygamy is the accepted practice in a particular social milieu, it does not have a deleterious psychological effect on adolescents (Hamdan, Auerbach, & Apter, 2019).

Ekiti State is one of the states in the South-Western Nigeria where parents value good education (Adeyemo, 2011). Many parents in Ekiti Land see education as the key to human development and, therefore, they are determined to send their children to school at all cost. The highest interest of the Ekitis in education is noticed all over Nigeria. This is why it would be impossible to find a home where nobody is educated; rather most homes can boast of at least a person with tertiary education. Ekiti State is popularly referred to as the “fountain of knowledge” in the past, presently it is known as “land of honour”. This is because there is always an average of one professor in every extended household (Ogunleye et al., 2013). However, the current situation of parental involvement in adolescent children’s upbringing in Ekiti State is not so encouraging. Nowadays, because of civilization, enculturation of Western life style and due to socio-economic situation in Nigeria, parents are destabilised and forced to shift their parental responsibilities to maids, teachers or boarding schools (Conger, 2020; Falana & Bada, 2018). Therefore, children are left in the care of other adults, rather than of biological parents. Such children do not enjoy or are slightly deprived of the physical, emotional and psychological support of their parents. The other problems children are likely to face include cognitive deficits which may affect their cognitive self-reliance as well. Therefore, it is obvious that schools and teachers alone cannot handle the task of all-round child’s development even if children spend more time in school than with their parents. As a result, adolescents may find it difficult to realise their educational and employment desires and fulfil their dreams about their future. These and related problems may not occur if at a certain period in life, a child receives enough attention from the parents, and has more opportunities to be independent at an appropriate age and be trained to be self-reliant.

It is important, therefore, to characterise the present situation and degree of cognitive self-reliance of adolescent students in Ekiti state and determine the extent of autonomy-support that parents offer to their adolescent children who are yet to complete their secondary school stage of education. Therefore, with all these arguments, it is important to investigate whether there is any relationship between parental characteristics and family background as contributory factors to adolescents’ adequate level of cognitive self-reliance and autonomy.

**Method**

This study adopted the descriptive survey research design. The study population for consisted of all students in senior secondary schools in Ekiti State and their parents. The sample size comprised 1,239 students and parents. From the two randomly selected Local Government Areas (LGAs) of Ekiti State, four public senior secondary schools were selected purposively. A purposive sampling technique was used because only co-educational public secondary schools with no boarding facilities were used in the study. Senior secondary school students who lived with their parents were purposively selected (through the interactions with the schools’ counsellors, who helped to get necessary information from students’ files). Also, in purposive selection of students, it was ensured that only students whose parents could understand the content of the questionnaire were selected (school counsellors assisted with the interviewing the selected students for the final sample). In total, 423 students and 816 parents (402 fathers and 414 mothers) participated in the study.

With permissions from the management of the sampled schools, questionnaires were administered to the participants during scheduled counselling classes by the researcher, four trained research assistants and the counsellors of the selected schools.

The students were asked to fill the “Student’s Self-Reported Cognitive Self-Reliance Questionnaire” (SSRCSRQ). The instrument was developed using the works of Beckert (2007), Singh and Singh (1995), and Patel (1976) and was made up of two sections. Section A consisted of four items, which included...
demographic variables such as student’s personal data (sex and class) and student’s family characteristics (family structure and number of children in the family). The items on demographic variables were coded in line with the number of sub-groups within each item. Section B was made up of a 25-item scale, which was designed for students to assess their cognitive self-reliance. Only subscales that were relevant to the present study were extracted, and the original items were reworded to suit the Nigerian cultural setting. These items include, among others, whether students are independent in their decisions; whether they plan by themselves all the steps to complete any project/assignment; whether they need family members to approve their decisions; and whether they are confident in their decision-making abilities. The students were asked to rate their responses using a four-point Lakert scale ranging as “Always”, “Often”, “Sometimes” and “Never”.

The parents filled “Parental Autonomy-Support Questionnaire” (PASQ), which was made up of two sections. Section A comprised demographic variables. It consisted of four items related to parents’ personal data. The items included family characteristics (structure, number of children in the family), parents’ highest educational attainment, occupation, and degree of religiosity. Degree of religiosity was determined by fathers’ and mothers’ independent responses to relevant sub-items adapted from “The Religiosity Scale” (Valenzuela, Scully, & Somma, 2009). Section B comprised 20 items on parental autonomy-support for each parent to fill separately. This section was designed to gather information on the level of parental autonomy-support given to the child. The items for this section were adapted from “Perceptions of Parents Scale” (Luyckx, et al., 2007), “Parenting Measure Scale” (Steinberg et al., 1992) and “Parenting Styles and Dimensions Questionnaire” (Robinson, et al., 2001).

The original items were mostly reconstructed and simplified for ease of understanding by the respondents; some were dropped as not relevant for Nigerian parents. In the purposive selection of the students, it was ensured that the parents of the selected students could understand the content of the questionnaire when it was read to them in English. Parents were asked to rate the items on parental autonomy support using a four-point rating scale from “Strongly disagree” to “Strongly Agree”. The respondents were required to identify only one option that best described their support for their child’s autonomy.

The validity of the two instruments was accessed through consultations with experts in the fields of Psychology of Education, Tests and Measurement, and Psychology. The experts reviewed the instruments in terms of relevance to the subject-matter, coverage of content areas, appropriateness of language usage, and clarity of purpose. The experts’ judgements revealed that the two instruments had adequate content validity. The instruments were also tested for reliability. The Cronbach’s Alpha and Guttman reliability estimates of SSRCSRQ and PASQ were 0.725 and 0.756, and 0.817 and 0.855, respectively. Both instruments were tested at the 0.05 significance level. The reliability tests conducted on the instruments indicated that they had good internal consistency, which was adequate enough for the study.

### Results and Discussion

The following hypotheses were postulated to be tested:

#### Research Hypothesis 1

There is no significant relationship between parents’ occupation and students’ level of cognitive self-reliance.

To test this hypothesis, mothers’ types of occupation were categorised into five, as presented in the Table 6. The categorised mothers’ occupations were then cross-tabulated with students’ cognitive self-reliance levels. The chi-square value was determined upon which a decision on the degree of relationship was made. Tables 1 and 2 present the results.
Table 1. Relationship between Mothers’ Occupation and Students’ Cognitive Self-Reliance Level

<table>
<thead>
<tr>
<th>Mothers’ Occupation</th>
<th>Students’ Levels of Cognitive Self-Reliance</th>
<th>( \chi^2 )</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Average</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Artisans</td>
<td>12 (9.4%)</td>
<td>11 (5.8%)</td>
<td>13 (13.7%)</td>
<td>9.61</td>
</tr>
<tr>
<td>Civil Servants</td>
<td>37 (29.1%)</td>
<td>71 (37.6%)</td>
<td>29 (30.5%)</td>
<td></td>
</tr>
<tr>
<td>Professionals</td>
<td>12 (9.4%)</td>
<td>24 (12.7%)</td>
<td>7 (7.4%)</td>
<td></td>
</tr>
<tr>
<td>Own Business</td>
<td>28 (22.0%)</td>
<td>38 (20.1%)</td>
<td>20 (21.1%)</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>38 (29.9%)</td>
<td>45 (23.8%)</td>
<td>26 (27.4%)</td>
<td></td>
</tr>
</tbody>
</table>

Note: ** Not significant at p > 0.05

Table 1 shows that mothers of 29.1%, 37.6% and 30.5% of students who had high, average and low cognitive self-reliance level respectively, were civil servants. It also showed that mothers of 22.0%, 20.1% and 21.1% of students who had high, average and low cognitive self-reliance level respectively, were business women. Mothers of 9.4%, 5.8% and 13.7% of students who had high, average and low cognitive self-reliance level respectively, were artisans. The chi-squared value (\( \chi^2 = 9.61, p > 0.05 \)) indicated that there was no significant relationship between mothers’ occupation and students’ cognitive self-reliance level. Thus, the null hypothesis is not rejected.

Table 2. Relationship between Fathers’ Occupation and Students’ Cognitive Self-Reliance Level

<table>
<thead>
<tr>
<th>Fathers’ Occupation</th>
<th>Students’ Levels of Cognitive Self-Reliance</th>
<th>( \chi^2 )</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Average</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Artisans</td>
<td>16 (12.6%)</td>
<td>27 (13.6%)</td>
<td>33 (34.0%)</td>
<td>28.83</td>
</tr>
<tr>
<td>Civil Servants</td>
<td>46 (36.2%)</td>
<td>50 (25.1%)</td>
<td>25 (25.8%)</td>
<td></td>
</tr>
<tr>
<td>Professionals</td>
<td>28 (22.0%)</td>
<td>42 (21.1%)</td>
<td>14 (14.4%)</td>
<td></td>
</tr>
<tr>
<td>Own Business</td>
<td>15 (11.8%)</td>
<td>31 (15.6%)</td>
<td>10 (10.3%)</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>22 (17.3%)</td>
<td>49 (24.6%)</td>
<td>15 (15.5%)</td>
<td></td>
</tr>
</tbody>
</table>

Note: *Significant at p<0.05

Table 2 shows that fathers of 36.2%, 25.1% and 25.8% of students who had high, average and low cognitive self-reliance level respectively, were civil servants. It also shows that fathers of 22.0%, 21.1% and 14.4% of students who had high, average and low cognitive self-reliance level respectively, were professionals, while fathers of 12.6%, 13.6% and 34.0% of students who have high, average and low cognitive self-reliance level respectively, were artisans. The chi-squared value (\( \chi^2 = 28.83, p < 0.05 \)) implies that the relationship between fathers’ occupation and students’ cognitive self-reliance level is significant. Therefore, the null hypothesis is rejected.

Research Hypothesis 2

There is no significant relationship between parents’ educational attainment and students’ level of cognitive self-reliance.

To test this hypothesis, fathers’ and mothers’ reported educational attainments were grouped into four categories. The fathers’ and mothers’ educational attainments were then separately cross-tabulated with students’ cognitive self-reliance levels with a view to estimating a chi-square value upon which a decision will be made on the relationship between parents’ educational attainment and the cognitive self-reliance of the students. The results are presented in Tables 3 and 4.
Table 3. Relationship between Fathers’ Educational Attainment and Students’ Cognitive Self-Reliance Level

<table>
<thead>
<tr>
<th>Fathers’ Educational Attainment</th>
<th>Students’ Levels of Cognitive Self-Reliance</th>
<th>χ²</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Average</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Uneducated</td>
<td>5(4.0%)</td>
<td>6(3.2%)</td>
<td>7(7.7%)</td>
<td>12.30</td>
</tr>
<tr>
<td>Pry Schl Leaving Cert</td>
<td>6(4.7%)</td>
<td>12(6.5%)</td>
<td>7(7.7%)</td>
<td></td>
</tr>
<tr>
<td>Senior Sec School Cert</td>
<td>29(23.0%)</td>
<td>54(29.0%)</td>
<td>35(38.5%)</td>
<td></td>
</tr>
<tr>
<td>Tertiary</td>
<td>86(68.3%)</td>
<td>114(61.3%)</td>
<td>42(46.2%)</td>
<td></td>
</tr>
</tbody>
</table>

Note: ** Not significant at p>0.05

The results presented in Table 3 show that although 68.3% of the students with high cognitive self-reliance had fathers who attained tertiary education, only 4.0% had uneducated fathers. Furthermore, 61.3% and 29.0% of students who had an average cognitive self-reliance level had fathers who attained tertiary education and senior school certificate respectively. The chi-squared value (χ² = 12.30, p > 0.05) as presented in Table 3 is an indication that fathers’ educational attainment has no significant relationship with the students’ cognitive self-reliance. Hence, the hypothesis that there is no significant relationship between parents’ educational attainment and the level of cognitive self-reliance of the students is not rejected.

Table 4. Relationship between Mothers’ Educational Attainment and Students’ Cognitive Self-Reliance Level

<table>
<thead>
<tr>
<th>Mothers’ Educational Attainment</th>
<th>Students’ Levels of Cognitive Self-Reliance</th>
<th>χ²</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Average</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Uneducated</td>
<td>5(4.2%)</td>
<td>10(5.1%)</td>
<td>5(5.4%)</td>
<td>17.97</td>
</tr>
<tr>
<td>Pry Schol Leaving Cert</td>
<td>6(5.0%)</td>
<td>13(6.6%)</td>
<td>16(17.2%)</td>
<td></td>
</tr>
<tr>
<td>Senior Sec. School Cert</td>
<td>35(27.7%)</td>
<td>68(34.3%)</td>
<td>35(37.6%)</td>
<td></td>
</tr>
<tr>
<td>Tertiary</td>
<td>75(63.0%)</td>
<td>107(54.0%)</td>
<td>37(39.8%)</td>
<td></td>
</tr>
</tbody>
</table>

Note: *Significant at p<0.05

Table 4 shows that while 63.0% of the students with high cognitive self-reliance level had mothers who attained tertiary education, only 5.1%% had uneducated mothers. Furthermore, 34.0% and 34.3% of students who had an average cognitive self-reliance level were having mothers who attained tertiary education and senior school certificate respectively. The chi-squared value (χ² = 17.97, p < 0.05) as presented in the Table is an indication that mothers’ educational attainment has a significant relationship with the students’ cognitive self-reliance. Hence, the hypothesis that there is no significant relationship between parents’ educational attainment and the level of cognitive self-reliance of the students is rejected.

Research Hypothesis 3

There is no significant relationship between parents’ degree of religiosity and students’ level of cognitive self-reliance.

To test this hypothesis, the scores on the parents’ religiosity scale were collated with the purpose of classifying the religiosity into three degrees: “Very religious”, “Quite religious” and “Barely or Not religious”. Thus, fathers’ and mothers’ responses to sub-items of item 3c and 4c of PASQ respectively were scored. The scores for both parents were added for student with both parents, while a single parent’s score was multiplied by two to have a balanced scale for every family. The minimum and maximum obtained scores were 14 and 32 with a mean and standard deviation (X = 21.51, SD = 3.37). The combined scores of both parents and the doubled scores of single parents were used to categorise parents’ degree of religiosity. Parents with a score that ranged between the minimum obtained score and a score that is less than the mean minus one standard deviation (14 to 18) were classified as “barely or not
religious” while those with a score that ranged between the mean minus one standard deviation and a score that is less than the mean plus one standard deviation (19 to 23) were classified as “quite religious”. In addition, those with scores that ranged between one standard deviation higher than the mean and the maximum obtained score (24 to 32) were classified as “very religious”. The parents’ degrees of religiosity were then cross-tabulated with the students’ cognitive self-reliance levels with a view to estimating a chi-square value upon which a decision was made on the relationship between parents’ degree of religiosity and the students’ cognitive self-reliance. The results are presented in Table 5.

Table 5. Relationship between Parents’ Degree of Religiosity and Students’ Cognitive Self-Reliance Level

<table>
<thead>
<tr>
<th>Degree of Religiosity</th>
<th>Students’ Levels of Cognitive Self-Reliance</th>
<th>( \chi^2 )</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Average</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Very Religious</td>
<td>95(33.2%)</td>
<td>141(49.3%)</td>
<td>50(17.5%)</td>
<td>15.01</td>
</tr>
<tr>
<td>Quite Religious</td>
<td>20(22.0%)</td>
<td>39(42.9%)</td>
<td>32(35.2%)</td>
<td></td>
</tr>
<tr>
<td>Barely or Not Religious</td>
<td>7(25.9%)</td>
<td>11(40.7%)</td>
<td>9(33.3%)</td>
<td></td>
</tr>
</tbody>
</table>

Note: *Significant at p<0.05

Table 5 shows that parents of 33.2%, 49.3% and 17.5% of students who had high, average and low cognitive self-reliance level respectively, were very religious. It also shows that the parents of 25.9%, 40.7% and 33.3% of students who had high, average and low cognitive self-reliance level respectively, were barely or not religious. The chi-squared value \( \chi^2 = 15.01, p < 0.05 \) implies that the relationship between parents’ degree of religiosity and students’ cognitive self-reliance level is significant. Therefore, the null hypothesis is rejected.

Research Hypothesis 4

There is no significant relationship between family background (family size and structure) and the level of cognitive self-reliance of the students.

To test this hypothesis, family background characteristics (size and structure) were cross-tabulated with the students’ cognitive self-reliance levels with a view to estimating a chi-square value upon which a decision will be made on the relationship between family background and level of cognitive self-reliance. The results are presented in Tables 6 and 7.

Table 6. Relationship between Family Size and Students’ Cognitive Self-Reliance Level

<table>
<thead>
<tr>
<th>No. of Children</th>
<th>Students’ Levels of Cognitive Self-Reliance</th>
<th>( \chi^2 )</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Average</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>28(22.0%)</td>
<td>42(21.2%)</td>
<td>20(20.6%)</td>
<td>10.16</td>
</tr>
<tr>
<td>3-5</td>
<td>91(71.7%)</td>
<td>135(68.2%)</td>
<td>59(60.8%)</td>
<td></td>
</tr>
<tr>
<td>Above 5</td>
<td>8(6.3%)</td>
<td>21(10.6%)</td>
<td>17(17.3%)</td>
<td></td>
</tr>
</tbody>
</table>

Note: ** Not significant at p>0.05

Table 6 shows that 71.7%, 68.2% and 60.8% of students who had high, average and low cognitive self-reliance respectively, came from family with three to five children. It also shows that 22.0%, 21.2% and 20.6% of students who had high, average and low cognitive self-reliance level were from families with one to two children respectively. The chi-squared value \( \chi^2 = 10.16, p > 0.05 \) implies that the relationship between family size and students’ cognitive self-reliance level is not significant. Therefore, the stated null hypothesis is not rejected.
Table 7. Relationship between Family Structure and Students’ Cognitive Self-Reliance Level

<table>
<thead>
<tr>
<th>Family Structure</th>
<th>Students’ Levels of Cognitive Self-Reliance</th>
<th>$\chi^2$</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Average</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Monogamous</td>
<td>109(85.8%)</td>
<td>143(72.2%)</td>
<td>64(66.0%)</td>
<td>15.12</td>
</tr>
<tr>
<td>Polygamous</td>
<td>8(6.3%)</td>
<td>37(18.7%)</td>
<td>22(22.7%)</td>
<td></td>
</tr>
<tr>
<td>Single-parenthood</td>
<td>10(7.9%)</td>
<td>19(9.1%)</td>
<td>11(11.3%)</td>
<td></td>
</tr>
</tbody>
</table>

Note: *Significant at p<0.05

Table 7 shows that 85.8%, 72.2%, and 66.0% of students who had high, average and low cognitive self-reliance level respectively, came from monogamous families, while 6.3%, 18.7% and 22.7% of students that had high, average and low levels of cognitive self-reliance respectively, came from polygamous homes. It also shows that 7.9%, 9.1% and 11.3% of students who had high, average and low levels of cognitive self-reliance respectively, were from single parenthood families. The chi-squared value ($\chi^2 = 15.12$, p < 0.05) implies that the relationship between family structure and students’ cognitive self-reliance level is significant. This negates the null hypothesis that there is no significant relationship between family variables (size and structure) and the level of cognitive self-reliance of the students. Hence, the null hypothesis is rejected.

The result established that mother’s occupation was not significantly related to students’ level of cognitive self-reliance, whereas father’s occupation was. This finding can be explained from the perspective of traditional African understanding of the role of the father in the family. In Africa generally and in Nigeria in particular, the father is an authority figure in the family. He is expected to filter attitudes and practices in society to instruct children how to become acceptable members of the family. From the data analyses, it can be observed that a large number of parents who were self-employed (own business) or artisans had children with high and average level of self-reliance, that is to say, that such parents will inculcate some of the essential skills, promoting autonomy in to their children. In other words, parents that model independent thinking and behaviour are more successful in teaching these to their children. It is an old axiom that children learn more effectively when observing the actions of adults in the immediate environment. Thus, parents should demonstrate to adolescents the value of independent actions and decisions, rather than preaching about it. For example, skills of independent decision making, planning and evaluation without anybody’s control are some of the skills needed by artisans and business owners, which can influence adolescents’ autonomous thinking. Therefore, father’s characteristics certainly will influence the children’s outcomes. From the above discussion, it could be assumed that participants’ parents who were self-employed influenced their children's cognitive self-reliance. That is to say that father’s occupation possibly will be related to independence development in adolescent as one of the factors enhancing maturation.

From the analyses, it could be seen that in contrast to relationship between parents’ occupation and students’ cognitive self-reliance, the fathers’ educational attainment was not related to students’ self-reliance but the mothers’. However, the finding about relationship between mothers’ educational background and students’ level of cognitive self-reliance was consistent with the findings obtained by Amosun and Bankole, (2016); Black, et al. (2015) and Galindo-Rueda (2019) which were of opinion that higher level of parents’ educational attainment may enhance parents’ facility at becoming involved in their children’s education and also enable parents to acquire and model social skills and problem-solving strategies conducive to children’s school success. Thus, students whose parents have higher levels of education may have an enhanced regard for learning, more positive ability beliefs, a stronger work orientation and they may use more effective learning strategies than children of parents with lower levels of education. However, examinations conducted by Watkins (2017) found that parents’ level of education does not appear to determine the value parents place on education, their interest in their children’s schooling or their aspirations for their children’s academic success. Such a finding can be used in the present research to explain why there was no significant relationship between fathers’ educational
attainment and students’ cognitive-self-reliance. Additionally, the study found that teacher communications to parents predicted parental involvement, suggesting that, regardless of education level, parents need encouragement from educators to become involved in their children’s education and, therefore, contribute parents’ quota to their children’s cognitive development.

Another important finding from this study was that parents’ religiosity was significantly related to the adolescents’ level of cognitive-self-reliance. This was in line with the position of Moore (2014) where parental involvement in religious activities was linked to youth outcomes across several domains, including delinquent behaviours, reduced incidence of depression, increased cognitive competence and social responsibility. It must also be mentioned that the absolute majority of parents in the present study rated themselves as very religious, which confirmed the results of the survey conducted by Gallup International (2012), which revealed that religion was a central part of the lives of majority of the people in developing nations. Moreover, the present finding agreed with Moore’s (2014) and Paxton’s and Lee’s (2020) opinions that religion is one of the important components of culture that has a major influence on the values, beliefs, and practices of childrearing. Indeed, involvement in religious activities helps parents in practising positive parenting, where within child-parent communication children learn how to be responsible, how to respect authority, how to voice their opinions and parents maintain supportive parenting through deep understanding of importance to give their children opportunity to be less controlled by parents. This observation was also noticed in the work of Pearcel et al., 2021; Smith (2023) and Thatcher (2016) who linked religion to positive outcomes in adolescents. In their opinion, religious parents provide an environment that affect adolescents’ developmental outcomes such as behavioural and cognitive skills. Therefore, it is reasonable to agree that parental religiosity is an essential factor in the development of cognitive and social competence and social responsibility. It is equally necessary to suggest that adequate parental autonomy-support would be more effective if implemented from the perspective of parents’ faith and religion.

Furthermore, the findings revealed no significant relationship between family size and adolescents’ level of cognitive self-reliance. The majority of the families in this study were medium-sized families with a maximum of five children. That is to say, having up to five children did not make the parents who participated in the study, to face any challenge in terms of those children’s level of autonomy and offering them parental support with regard to independence, self-reliance and autonomy. It could even be suggested that having more than 3 children helps parents regulate parental control and delegate some of parents’ duties and responsibilities to older children in the family. Such duties could include independently deciding what to cook for all members of the family, how to plan their personal leisure or even taking care of the household when parents travel for some time. However, findings of Downey (1995) revealed that the relationship between family size and parental resources showed that the larger the family size, the poorer the children’s achievement in academics and, more importantly, in cognitive tasks. Therefore, the findings of the present study contradict those obtained by Downey (1995). Also, Iyang and Uwah (2007) concluded that there was a significant difference in the academic performance of students from large, medium and small families. Although this study did not directly examine cognitive self-reliance, it is believed that self-reliance in cognitive domain is one of the important factors of high academic performance.

It has been also shown in this study that there was a significant relationship between family structure and students’ level of cognitive self-reliance. In other words, being a child of a particular family setting can determine that child’s level of cognitive self-reliance. It is also important to mention that in this study majority students with low level of self-reliance came from polygamous homes, followed by families which were identified as single-parenthood. This result can be explained by the reason that in both settings there is a tendency of having lack of attention from the parents. For example, in polygamy, the father must share his time among wives and children and it is obvious that such a child in such a setting will experience insufficient parental involvement influence. In the option of single-parenthood, it is already an established fact that one of the parents is not available at all for different reasons (divorce, separation, spouse death). Therefore, the permanent absence a parent makes the only parent’s parenting challenging and not sufficient. This finding was in line with many previous studies. For instance,
unfavourable effects of polygamous marital structures on children were established by Elbedour et al. (2019) and Valenzuela, et al., (2019). According to these scholars, children raised in polygamous families commonly exhibit developmental dysfunction, as reflected in many outcomes, including poor school performance, poor mental health status, and low self-esteem. Thus, it seems logical to suggest that a similar conclusion could be reached regarding self-reliance since both groups of outcomes require the application of cognitive skills. Conversely, despite the multiplicity of stressors in the polygamous family unit, it does not have a negative impact on children (Elbedour et al., 2019). This opinion was also supported by Hamdan et al. (2019). They believe that when polygamy is an accepted practice in a particular social milieu, it does not have a deleterious psychological effect on adolescents. In their study, researchers contended that a polygamous family structure provides benefits for children, including more role models for socialisation, more opportunities for receiving attention and affection, and a more secure psychological basis for dealing with stress. These authors point out that, far from having a negative effect, in many parts of the world polygamy is practised by all social groups and is an expression of a way of life embedded in religious and cultural obligation. Therefore, the findings of the present study are intriguing when considered that Nigeria is one of the countries in the world where polygamy is considered to be one of the distinctive features of an African marriage and supported by many.

Conclusion and Recommendations

The study established that some of the examined parents’ characteristics (fathers’ occupation, mothers’ educational attainment, parents’ degree of religiosity and family structure) could influence the cognitive self-reliance of senior secondary school students. It also brought to the light important challenges families with adolescents are expected to identify and address on time in order to assist children’s appropriate cognitive development and expression of autonomy. By addressing these areas, educational stakeholders can foster an environment that nurtures cognitive self-reliance among students, ultimately contributing to their academic success and holistic development. The findings of this study provide a foundation for developing informed policies and programs that can positively impact the educational outcomes of senior secondary school students in Nigeria.

Based on the results of the study, the following recommendations can be made:

1. Enhance father’s involvement in education. Since fathers’ occupation has a significant relationship with students’ cognitive self-reliance, policies and programs should encourage fathers to actively participate in their children’s educational activities. Workshops and seminars can be organized to highlight the importance of fathers’ roles in fostering cognitive independence in students.

2. Focus on mothers’ educational attainment. The significant relationship between mothers’ educational attainment and students’ cognitive self-reliance suggests that efforts should be made to support and improve mothers’ education. Community-based educational programmes and adult education initiatives can help mothers enhance their educational levels, thereby positively influencing their children’s cognitive development.

3. Address parents’ religiosity and its role in adolescents’ degree of independence. Given the significant relationship between parents’ religiosity and students’ cognitive self-reliance, schools and community organizations should consider integrating discussions on the balance between religious practices and academic responsibilities. Programmes that encourage healthy religious engagement while promoting self-reliance could be beneficial.

4. Support diverse family structures. Since family structure significantly impacts students’ cognitive self-reliance, educational policies should recognize and support various family structures, such as single-parent families or extended families, to ensure that all students receive adequate support.

5. Parental engagement programmes. Schools should develop comprehensive parental engagement programs that emphasize the roles of both fathers and mothers. These programmes should include
workshops on effective parenting strategies, importance of education, and ways to support children’s
cognitive development.

6. Policy development. Policymakers should consider these findings when developing educational policies
that promote parental education, particularly for mothers, and encourage fathers’ involvement in
education that can positively impact students’ cognitive self-reliance.

References


