

# An Assessment of Parental Involvement on Public Secondary School Adolescents' Academic Performance in Sciences, in Lagos State, Nigeria

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## ABSTRACT

*The study examined the assessment of parental involvement on secondary school adolescents' academic performance in sciences in senior secondary schools, in Mushin Local Government Area of Lagos State. In this study, some relevant and extensive literature were reviewed under relevant sub-headings. The descriptive research survey was used to assess the respondents' opinions using the researcher-made questionnaire. The sample for the study was achieved through systematic sampling technique. In this study, 120 (one hundred and twenty) respondents were randomly selected and used as samples to represent the population of the study. A total of three (3) null hypotheses were formulated and tested in this study. Also, the independent t-test statistical tool was used to test and analyze the null hypotheses at 0.05 level of significance. The three hypotheses were tested and accepted to have significant importance on adolescents' academic performance.*

**Keywords:** *academic performance; parental involvement; adolescent; science; students*

**Article History:**  
Received 2023-08-08  
Accepted 2023-11-18

**DOI:**  
10.56916/ejip.v3i1.472

## 1. INTRODUCTION

The technological development of any nation is hinged upon an educated society where Science education is key, and its importance cannot be overemphasized; science education is of global importance to every responsible nation and as a result, most nations would not afford to do away with it for any nation to be relevant in the technological age (Odeyemi-Bsd, 2020). Science education has been tagged a major instrument needed for global competition (Carnevale, 2005; Kaiser, 2020). Science subjects include, mathematics, physics, chemistry, biology and other related sciences, but the core subjects in the sciences remained to be mathematics, physics, chemistry and biology. These subjects have remained as the platform through which every major technological courses or constructs are formed, hence, science subjects have remained indispensable to any child and to any nation. Industries and organizations also depend solely on these subjects in the development of their personnel (Kaiser, 2020).

The rate of poor performances of students in these science subjects have become so alarming and getting out of hand; and if necessary actions are not taken to revamp students' performance in sciences, Nigeria may be several miles away from achieving the sustainable development goals adopted by the United Nations in 2015, of which quality education was among its priorities (UN, 2019). Many countries over the world have taken sciences as subjects of major concern in order for them to remain relevant in the global market. In America, 56 different countries took part in an international student assessment program and it was established that most of the American adolescents performed poorly in mathematics which forms part of these science subjects (Hanushek & Woessman, 2008). In a similar vein, students in the Asian part of the world also performed poorly in this same subject in their ordinary level examinations

and other mathematics examinations (Maldivi Ministry of Education, 2011; Chand, Chaudhary, Prasad & Chand, 2021; Maamin, Maat & Iksan, 2021). In South Africa, it was a similar trend of failure (Mullis, Martin & Foy, 2008), showing that it is a global problem. Many authors have come to a conclusion that students have continuously seen science subjects as difficult and as a result, they have consistently failed in these science subjects including mathematics (Dalvang & Lunde, 2006; Simkins, 2010).

Sciences, including mathematics have been recognized as subject with the features of sharpening the human minds and brain, enabling individuals to reason sharply and scientifically, hence, building or developing the personality of the child (Ukeje, 1977). Nigeria as a nation is also beginning to appreciate the place of science education. Nigeria now takes science education as important at the primary and high school level, as spelt out in the National Policy on Education. Amongst the strengths science subjects have received was for the Federal Republic of Nigeria to make mathematics a compulsory subject at the West African School Certificate Examination, which is also a basic requirement for tertiary education, which is done through the Joint Admission Matriculation Boards examinations (FRN, 2004; JAMB, 2006). Consequently, one of the ways to activate the effectiveness of education and sciences especially is the advocacy for the parent-school participation.

A major cause of failure was identified as the non-involvement of parents in their children's academic endeavours at home, and this has called for a serious attention from the stakeholders in our educational system. Furthermore, a clarion call for parental involvement in children's education has become a necessity if any nation would win the battle against repeated failure in school science subjects, especially in Nigeria. The springboard of every child's academic performance starts from his or her home as a result of the involvement of his or her parents in his or her academic activities (Odeyemi-Bsd, 2019). Parental involvement can be further explained as the parental responsibilities towards the educational and academic attainment of the child. The Family building activities are also major roles of parents; parental involvement also implies the participatory role of the parents in their children's education at home, school and in their lives (Begum, 2007). Among the American mothers, it was established that the definition of hard work as a parent is their desire and activities towards the success of their children in future (Bacallao & Smokowski, 2007), this implies that when their children are motivated academically, they turn out to become a success in their academic pursuits. Similarly, Gutman (2008) maintained that the degree of parental involvement in children's life is the motivating factor for attitude and aspirations between parents and children, which propels children's level of academic performance.

Parents that demonstrate high aspirations commits themselves to be more involved in the education of the children so as to meet up with their desired goals and target for the family. This also indicates that when parents get involved in the children's education, this can be predictive of the future academic achievement of the child (Odeyemi-Bsd, 2019). When parents are involved early in their children's home work and school activities from childhood to adolescence, it will also not be difficult for them to aspire towards higher educational attainment (Graue, Clements, Arthur & Niles, 2004). Most families with appropriate educational desires and aspirations also produce more successful children because such children have been equipped about having the right perception about school life and practices (Jodl, Malanchuk & Sameroff, 2001).

Pomerantz, Moorman and Litwack (2007) also argued that parental involvement is a vital tool for ensuring the academic performance of the adolescent. Hence, it becomes imperative to note that the easiest and quickest way to ensure or promote academic success in a child is through the assistance given at home from family members, particularly by the father and the mother or guardian who are the major role models to the child. Notably, parental involvement practice in children's life differs from one place to the other (Figuroa-Moseley, Ramey, Keltner & Lanzi, 2006). Academic performance is strongly significant

and related to the level of parental involvement a child receives when growing up (Jeynes, 2005). At the same time, parents are meant to be responsible for teaching their children at home before school; parents are the first teachers to their children and when this is properly done, it will become a lifelong benefit to the child towards academic achievement and success in life (Odeyemi-Bsd, 2019).

Parental involvement in children's academic activities at home and school most times have also shown great significance on the child's training (Domina, 2005; Pomerantz, Moorman & Litwack, 2007). Studies of Henderson and Berla (1994) on academic performance and parental involvement revealed from the review of 66 students' cases that children whose parents got involved in their assignments at home achieved much better at school than their counterparts from other parents who were not involved in their children's academic activities. The encouragements given by parents towards their children's school assignments at home and other activities have actually placed such children at a vantage position of success in their school works.

Parental support and monitoring as a result of involvement has also been seen as the major reason for children's upliftment towards a high level of academic performance (Quiocho & Daoud, 2006; Pong, Hao & Gardner, 2005; Martinez, DeGarmo & Eddy, 2004; Epstein & Sheldon, 2002). It was established among American students that, the most consistent accord on parental involvement and students' performance exists among parents with high expectations from their children (Boonk, Hieronymus, Gijsselaers, Ritzen & Brand-Gruwel, 2018). Similarly, in Nigeria, parents who have high academic expectations towards their children always give them care, provide for needed materials at school to inspire them for higher academic success (Odeyemi-Bsd, 2019).

Most students who graduated and completed high schools were noted to have had parents who were dutifully involved and had quality time for their children's work right from the cradle (Wendy, 2004). Furthermore, for any child to succeed in his or her academic endeavours, there is a need for parents to note that the primary and secondary education stage is tempting for the child, hence, parents must not underestimate the need to raising these children appropriately, because the foundation stage of achievement starts here. There are crucial works for parents to do at this stage, such as, checking and monitoring the progress of the child's homework, checkmating their time allotment for television viewing and discussing with the children about career development and planning for the child's academic future. The present study sought to establish the impact of parental involvement on secondary school adolescents' academic performance in Mushin Local Government, in Lagos State.

In view of the essence of parental involvement on students' performance, the Federal Government of Nigeria has introduced the School Base Management Committee in order to bridge the gap between the School and the home in connection to the students' academic performance and mostly in school science subjects. According to (Cheng, 1996; Caldwell & Spinks, 1988), School based management committee (SBMC) was explained as a committee saddled with range of tasks and activities set according to the features and basic needs of the school; ranging from students' academic needs and other psychological needs. This has given the school authority a degree of autonomy to maximize the availability of the parents as a valuable resource that can help in the school-home relationship. This help rendered by these parents is capable of activating positive attitudes towards students' academic performance, and development of a positive and high educational aspirations among students in school based subjects, especially in school science subjects which is capable of sustaining the long-term development of the school. Science education of a child has remained a vital tool any nation would not want to toil with, most especially the adolescents since they are the future leaders of any nation, as such, it is an investment that is worthy of national commitment (Odeyemi-Bsd, 2020).

### **Statement of the problem**

Recently, teachers in Nigeria secondary schools, especially Science teachers have been agitating for parental involvement in the school academic activities in order to promote academic excellence, in spite of the fact that secondary education is free. They have found out that most parents in Mushin are traders and artisans with little or no time for their children, especially in the area of academics. It is perceived that parental involvement can foster and promote positive interest, and support in school works among students. It is also expected that with parental involvement, parents are able to support their children reasonably, to have a positive educational aspiration which will be necessary for positive attitude for good academic performance in their school subjects, such as the Science subjects. The background to the study has also shown that there are no studies done in the field of science education with regards to the assessment of parental involvement in Mushin Local Government on the Senior Secondary Students in year one. The SSS1 class is the transition from the junior class to the first stage of the higher secondary class which is equivalent of the grade 10 students. It is also hoped that the study will make contributions in finding solution to students' academic performance in line with parental involvement. It is in view of these prevalent problems that the research sought to answer the following major research question: How has parental involvement impacted the academic performance of Senior Secondary Students (SSS) 1 in Science in Mushin Local Government?

### **Purpose of study**

The purpose of the study was to determine the relationship between parental involvement and secondary school adolescents' academic performance in Mushin Local Government, in Lagos State.

The success of a better academic performance requires the fusing of the internalised value of adequate parental involvement necessary for academic performance. The purpose therefore includes the following stated objectives: (1) To find out the relationship between the parental involvement and SS1 students' academic performance in Sciences in Senior Secondary Schools of Mushin Local Government; (2) To establish the relationship between the types of parental involvement in science performance and SS1 students' performance in Sciences in Senior Secondary Schools of Mushin Local Government; (3) To determine the relationship between SS1 students' academic performance in Sciences and their family background characteristics in Senior Secondary Schools of Mushin Local Government.

**Main Research Question:** How has parental involvement impacted the academic performance of SS 1 Students in Sciences in Mushin Local Government?

The present study was guided by the following sub-research questions for in-depth statistical data: (1) To what extent does parental involvement impact on academic performance of SS1 Students of Mushin Local Government in Sciences?; (2) To what extent do types of parental involvement impact Mushin Local Government SS1 Adolescent students in Sciences?; and (3) To what extent do family background features affect the Mushin Local Government SS1 Adolescent students in Sciences?

In an attempt to seek answers to the sub-research questions in the study, the following null hypotheses were tested: (1) There is no significant relationship between parental involvement and academic performance in sciences among SS1 students of Mushin Local Government; (2) There is no significant contribution of the types of parental involvement on SS1 students' performance in sciences in Mushin Local Government; and (3) There is no significant relationship between SS1 students' performance in Sciences and their family background in Mushin Local Government.

## **2. REVIEW OF RELATED LITERATURE**

The theoretical framework under which the study was conducted is the Epstein research-based framework (Epstein, 1995). The framework can be summarised as the theory of overlapping spheres of influence which explains the shared responsibilities from home, school and community towards the child's

learning and development task. The framework consists of six key factors in relation to parental involvement. The six key factors are parenting, communicating, volunteering, learning at home, decision-making and collaborating with the community. Parenting involves helping and concern for families to understand the development of both the child and the adolescent. The basic assignments of parents entails ensuring the children's health and safety in the family; the parenting and child-rearing skills needed to prepare children for school; the continual need to supervise, discipline and guide children at all age level; and the need to build positive home conditions necessary for school learning and behaviour appropriate for any grade level. This also promotes a supportive home environment for children as students.

Communication is a two-way channel between school and home that would be effective and reliable. Communication channels between the science teachers and parents about the children's progress must be in place so that the students take advantage of the parent-teacher support. Learning at home entails that parents should make room for ideas and information regarding the best ways through which their children are helped with homework and school assignments. Parental involvement in learning activities at home is either initiated by the students or the parents where the need for help and assistance arises, sometimes, teachers do advice parental monitoring in order to further assist and coordinate their children's school work (Odeyemi-Bsd, 2020).

This framework is essential for helping the school authority to develop more elaborate programs that would aid school and family partnerships. These six types of involvement mentioned above are capable of developing a well-balanced network for serious partnership involvement at the home based and school based level, they are also capable of achieving a better performance from the children due to parental involvement, however, student outcomes varies in academics, this could be dependent on the type of parental involvement in place and the degree of the involvement.

Parental involvement and family-school relations in education have been identified as a means to drastically close demographic gaps in academic performance and reasonably boost students' potential (Dearing, Kreider, Simpkins, & Weiss, 2006; Hampton, Mumford, & Bond, 1998; Hara, 1998). The way forward to the improved academic performance of secondary school students in science within American schools has led to the development of theories, studies and policies that have identified the significant role families and parental involvement can play in adolescents' school performance which is capable of improving their performances in school science subjects (Fan & Chen, 2001; Hill & Chao, 2009; Seginer, 2006). One of the policies include the No Child Left Behind Act (NCLB, 2002), this policy was made to close students' academic achievement gaps. This enables all learners of school ages to be enrolled into schools with fair and equal chances to quality education, and at the same time giving a voice to parents in the learning activities of the child. This policy also gives opportunity to parents to be actively involved in their children's studies across the primary and secondary school levels.

Some studies opined that the bond between parental involvement and performance of children between primary and secondary school drops over time (Singh et al., 1995; Stevenson & Baker, 2012). In the last few decades, the volume of studies on parental involvement on students' performance has greatly increased showing different competing outcomes. In an instance, some studies revealed that parental involvement in students' education is positively related with adolescents' academic performance during elementary and high school (Catsambis, 2001; Hill et al., 2004).

Parents' active involvement in their children's academic practices at home has also been considered as an approach generally observed to propel students to increasing their academic outcomes positively especially in sciences in Nigeria (Odeyemi-Bsd, 2019). When parents show positive concern for science subjects, it rubs on their children as well. Parental involvement at home has been seen to have a positive

relationship with academic performance of a child, especially in science subjects at home (Odeyemi-Bsd, 2019). Most parents who performed well in sciences and that are science based produce children with better aptitude and results in Sciences. Results of parental involvement can be evidenced in several ways depending on the parents and the students involved. The impact of parental involvement on school students implies that parents' involvement at home has to do with monitoring and helping students with their homework and inculcating school rules into the students (Odeyemi-Bsd, 2019). Holistically, the home is the springboard of every child's academic success journey, due to the presence and the involvement of the parents at their early school age activities (Odeyemi-Bsd, 2019).

From surveys collected to find out students' subjective experience in science class subjects, which was measured repeatedly, and the reviewed school records from 12 high school science classrooms in a single high school located near a large metropolitan area revealed from the ordinary least squares regression showed a positive relationship with students' academic activities in the classroom. A longitudinal American study by Zhang, Hsien-Yuan, Oi-man, Benz and Bowman-Perrott (2011) conducted using 13,370 students in the grade 9 also showed a significant relationship between parental involvement at home and students' performance in science. Similarly, from another longitudinal study of elementary students, the data obtained from a national study through parent interviews and students' assessments revealed that higher levels of parental involvement at home brought about better academic performance among the students in sciences. The present study sought to establish if situations discussed in the studies above are similar to the impact of parental involvement on SS1 students' academic performance in Science subjects in Mushin local government of Lagos state.

Epley (2013) maintained that parental involvement is a predictor of better academic performance among secondary school adolescents, especially in sciences. Parental involvement has also been established as having a strong significance on the academic performance of secondary school students in sciences in Europe (Lauglo, 2008; Størkersen, Røysamb, Moum, & Tambs, 2005). A study of the African Americans by Baker also revealed that when parents are involved in their children's school work and when parents communicate school experiences to their children, a better academic performance in science is achieved (Baker, 2014). These authors (Jeynes, 2007; Shumow & Schmidt, 2014; Sibley & Dearing, 2014) also established in their studies that parental involvement is significant to students' academic performance in science subjects including mathematics. However, some studies found that parental involvement is not related to achievement (Balli, Wedman, & Demo, 1997; Bronstein, Ginsberg, & Herrera, 2005; O'Sullivan, Chen, & Fish, 2014).

There has been an unending growth in the body of literature discussing about parental involvement in the education of the middle school age in recent times, despite the discussions, it apparently appears that some of these studies lack systematic examination which could determine the types of parental involvement that has the strongest relationship on students' academic performance. It is therefore a matter of necessity to identify the type of parental involvement that can be most effective in relation to students (Adolescents) performance (home based and school based involvement)

The types of parental involvement are basically three, following the Epsteins framework (Epstein, 1995; Grolnick & Slowiaczek, 1994), which are namely: the school-based involvement strategies (parent volunteers at school, parents and teachers communicating together and parents' involvement in school governance); home-based involvement strategies (parents' reinforcement on children's academic activities at home; school assignments and support for parents (e.g., parents training programs); and involvement between the school and community agencies; while the third one is the personal involvement which includes students' attitudes and expectations about school, education, and conveying the privilege of learning to the students which shows parental socialization around the value and utility of education.



In the home based involvement strategies, parents are expected to involve their children in cognitive and intellectual exercises which includes the role of parents in exposing the children to educationally propelling activities and experiences at home. At home parents are expected to communicate the value of education and right attitude to education at school to the children, this is also regarded as parental socialization. Home based involvement has been supported because it affirms school instructions and knowledge acquired. It makes room for structures and assisting the child in his home works (Comer, 1995; Cooper, 1989; Fan & Chen, 2001). These studies above may also be generalized to situations in Nigeria.

The home based involvement includes visit to special places of interest such as museums, zoos, theaters etc. these places stimulate academic performance and aids motivation to learn (Reynolds & Gill, 1994). It is assumed that school based involvement is crucial to students' academic performance at the primary school level and throughout the secondary school level as well. This has to do with the parents' interaction with the teacher in the child's classroom from time to time. This, most times increases the parents' exposure to the school curriculum and thereby enabling the parent to effectively get involved with the child at home and adding more value to the parents' knowledge base (Comer, 1995; Epstein, 2001; Hill & Taylor, 2004).

In the middle school, the school based involvement has also increased students' attendance at school (Seginer, 2006), however, in some schools, there are limitations to making the school based involvement work in situations where schools are large and complex, it sometimes makes it difficult for parents to effectively get involved in the child's education at schools (Dauber & Epstein, 1989; Hill & Chao, 2009; Sanders & Epstein, 2000). Another argument that limits school parental involvement is nothing but the large numbers of teachers each student have in different science subjects; this invariably makes it difficult for parents to be productively involved. Lastly, students themselves can make it difficult for their parents to be actively involved in the school curricular activities with their attitudes (Hill & Chao, 2009). However, some authors have found parental involvement not to have any relationship to performance (Balli, Wedman & Demo, 1997; Bronstein, Ginsberg & Herrera, 2005). The present study sought to establish if the situation discussed above is similar to the impact of parental involvement on SS1 students' academic performance in Science subjects in Mushin local government of Lagos state, Nigeria.

Home background plays a vital and significant role in the life and education of learners (Muller & Robert, 2000). It is necessary to ascertain the impact of the home background on learners' academic performance. It is also established that home background and family environment is a contributory factor to learners' intellectual competence (Maasik & Solomon, 2003). It is worthy of note to know that family background impact on adolescents' academic performance has to do with the types of family a child comes from. This will take us to the types of family (family background characteristics).

## **Types of Family**

### **1. Single parent family**

There are different types of family structures in the different parts of the world with different ideologies. The most prevalent and common family structure in Nigeria are the intact and the single parenthood families, this could be obtained in polygamous or monogamous homes. Monogamous homes are popular in the western world; this is a situation where the father, mother and the children make up the family, while the polygamous which is a popular type of family in Africa and Nigeria especially; the polygamous family is made up of the father, children and more than one wife (many wives). This type of family most times disintegrate in a matter of time, and the children bears the brunt of the collapse (Altman & Ginat, 1996).

A single parent family consist of either a father or a mother alone, living and raising the children alone, this could be as a result of divorce, loss of one of the parent or when either of the two is not married (Tenibanije, 2009; Eweniyi, 2005). Studies (Hill, 2006; Stone, 2012; Billings, 2012; Davis & Friel, 2001) have shown that children brought up under this condition are prone to several psychological ills. Kalman (2003) maintained that these single parents have been seen as mothers that are mainly concerned about the training of their children at all cost regardless of the absence of the father.

Studies from Klaush and Owen (2009) also established that single parents go through a lot of depression and low sensitivity to the care of children in America. Another American studies also revealed that most mothers from single parenthood have common troubles in the area of finances, parental care and involvement, childcare, stress and coping with lifestyle (Milkie, Mattingly, Nomaguchi, Bianchi, 2004; Dickerson, 1995). Students from single parent homes in Nigeria also encounter increased psychological challenges which often results into health and behavioural problems. These problems have been a causative factor for unruly and maladjusted behaviour among the students and a possible high rate of poverty, and a poor socioeconomic condition which often leads to poor academic performance, especially in science, owing to the fact that sciences require critical thinking (Odeyemi-BSD, 2019). The present study sought to establish the relatedness of the studies above on the impact of parental involvement on SS1 students' academic performance in Science subjects in Mushin local government of Lagos state.

## 2. Intact family

An intact family is a family where the two parents are present (father and mother), where responsibilities of children upbringing are shared by both parents, thereby producing a balanced child (Tenibanije, 2009; Eweniyi, 2005). This is a very popular type of family around the globe. Intact homes have been regarded as the best form of homes where children can be effectively raised and nurtured. Most children from intact homes have high expectations on academic achievement (Odeyemi-Bsd, 2019). These high expectations are as a result of a good socioeconomic factor which may not be achievable in the single parent homes.

Several studies across the globe have shown how adolescents from these homes value academic and educational attainment differently, these studies are also relational, among the studies are studies from America (Bellavia & Frone, 2005; Gucciardi, Celasun & Stewart, 2004; Kalman, 2003; Klaush & Owen, 2009), Europe (Lauglo, 2008; Størkersen, Røysamb, Moum & Tambs, 2005; Richmond & Stocker, 2008), Asia (Pal, 2004, Marjoribanks, 1998; Lee, Kusher & Cho, 2007), Kenya (Moula, 2010; Muleyi, 2008), South Africa (Odeyemi-Bsd, 2020; Karande & Kulkarni, 2005; Sjogren, 2002; Singh, Bickley, Keith, Keith, Trivette & Anderson, 1995; Voorhis, 2003) and in Nigeria (Odeyemi-Bsd, 2019; Uwaifo, 2008; Okpala & Smith, 2001). These studies have established that children from intact homes have the chances of excelling in science subjects adequately, while students from single parent home may have to struggle to perform well academically if at all the opportunities are available.

In promoting academic performance among secondary school students, a Chinese study has identified the significant role and importance of homes and families in relation to parental involvement in students' academic activities (Fan & Chen, 2001; Hill & Chao, 2009). In another study conducted among the Philippine primary school pupils, parental involvement in students' education from parents had a significant impact on adolescents' academic performance (Smith & Cheung, 2004). The study cited above takes place in a primary school, but the present study is focused on secondary students. A Spanish study has also shown that there is a relationship between family background characteristics and students' performance (Egalite, 2016).

In a Kenyan study, parental involvement was also related to students' academic performance (Muleyi, 2008). The importance of parents from intact family was strongly established by Epstein research-



based framework theory that informed this study which presents the family as the child's immediate source of learning support. This study views the family as a critical factor that influences students' academic performance.

A study conducted in Nigeria among university students by Uwaifo (2008) on the effects of family structure and parenthood on students' academic performance also revealed that the home environment and how the family meets the needs of students have a significant influence on their academic performance, however, it is much easier for the intact families to do so. The cited study above investigated on university students, while this present study focuses on secondary school students. Similarly, in another Nigerian study, it was established that broken homes, single parent homes and child-headed family backgrounds have peculiar features that can be of a traumatic experience to students, and students coming from any of these backgrounds have possible tendencies of emotional challenges possible of inhibiting the learners' positive academic performance (Kano, 2012; Uwaifo, 2008).

Educated parents who take time to guide their children on the day to day academic assignments can influence students' educational outcomes (Stevenson & Baker, 2012). It was also established that Nigerian students who have learned parents often perform better and opportune to becoming a higher academic achiever (Adekola, 2012; Uwaifo, 2008), this is as a result of how the children are supported and motivated, this places such students at a vantage position over the other students who have poor and unlearned parents. The present study sought to establish the impact of parental involvement on SS1 students' academic performance in Science subjects.

### 3. METHODS

The research employed the use of descriptive survey design, using simple random sampling technique to select the Secondary School students in Mushin Local Government. The sample for this study consist 120 SS1 School Students from Senior Secondary Schools in Mushin Local Government who were sampled from the population of 1820 students, 60 male and 60 female students were selected through cluster sampling, ten clusters were identified and twelve students were selected through systematic sampling procedure, two criteria was considered: they were sex and class. The research instrument used for this study is a student questionnaire on parental involvement on academic performance designed by the researcher (QPISAP) and an Achievement Test in the core science subjects consisting of 10 items for each subject (Mathematics, Physics, Chemistry and Biology). The research items in the questionnaires were 14 items generated from the research questions in the study based on the literature reviewed. The questionnaires were of closed-ended items on 4 scale Likert structure. The Likert scaled items and statements of the questionnaire were used to determine the level (Strongly Agree, Agree, Disagree or Strongly Disagree) of agreement of the respondents to the stated points. This was to help the researcher in the collection of relevant data for the study. The questionnaire for the students had two sections, which are A and B, with section A consisting of participants' demographic data (age, sex and class), while section B consist of items used for data collection from the students on the assessment of parental involvement on secondary school adolescents' academic performance. The content and face validity of the data collection instrument were determined by experts in the field of educational psychology, which ensures the use of unambiguous statements, while its reliability was empirically ascertained by test-retest procedure using four-week time lag which yielded a coefficient value of 0.75

The data for the study was collected quantitatively, organized, coded into useable format in data analysis and were analysed using t-test statistics showing frequencies, means and standard deviations, and Pearson moment correlation coefficient to deal with the relationship in the hypotheses testing, using SPSS Statistics 20<sup>th</sup> version.

#### 4. RESULTS AND DISCUSSION

##### Hypothesis Analysis

The null hypotheses formulated for this study were subjected to statistical testing for the purpose of either accepting or rejecting them. Hypothesis one, two and three were tested with t-test statistics. The three hypotheses were tested at 0.05 level of significance.

Table 1. Independent variables tested on Parental Involvement and Academic Performance

Variables	No	DF	T cal	T critical	Remark
1.H1: Parental Involvement and academic performance	120	30	3.157	1.96	Significant
2.H2: Types of parental involvement and Academic Performance	120	18	3.650	1.96	Significant
3. H3: Family background and Academic performance	120	38	3.503	1.96	Significant

(DF-18, Critical Value 1.96).

##### Summary and discussion of findings

This section presented data on the three formulated hypothesis in the study. Based on the provided data in Table 1, the calculated T-value (3.157) is greater than the critical T-value (1.96), indicating that there is a significant relationship between parental involvement and academic performance. The findings reveal a significant relationship between parental involvement and academic performance. With a calculated T-value of 3.157 exceeding the critical T-value of 1.96, it suggests that parental involvement plays a substantial role in influencing students' academic achievements. This result underscores the importance of active parental engagement in enhancing student outcomes. From the respondents' opinion, it was established that when parents are effectively involved in their children's studies, they would excel academically. This was in tune with studies from Europe (Egalite, 2016; Lauglo, 2008; Størkersen et al., 2005), America (Boonk et al., 2018; Epley, 2013; Baker, 2014; Jeynes, 2007; Shumow & Schmidt, 2014; Sibley & Dearing, 2014; Stevenson & Baker, 2012) and Nigeria (Odeyemi-Bsd, 2019; Adekola, 2012; Uwaifo, 2008) who all also established in their studies that parental involvement is significant to students' academic performance in science subjects including mathematics. The data collected on parental involvement affirms that parental involvement motivates and improve students' performance.

Based on the provided data in Table 1, The calculated T-value (3.650) is greater than the critical T-value (1.96), suggesting a significant relationship between different types of parental involvement and academic performance. The study also demonstrates a significant relationship between different types of parental involvement and academic performance. A calculated T-value of 3.650 surpasses the critical T-value of 1.96, indicating that the nature or quality of parental involvement significantly impacts how well students perform academically. This highlights the need to explore various forms of parental engagement and their varying effects on academic success. This finding corroborates the study of Seginer (2006) in America, who established that school based involvement where parents have access to their children's school has increased students' attendance at school, thereby improving students' performance. It was also established from the findings that home based involvement was crucial to students' academic performance in sciences. This was in tune with these American authors who established and affirms that school instructions and knowledge acquired makes room for structures and assisting the child in his home works (Comer, 1995; Cooper, 1989; Fan & Chen, 2001).

Based on the provided data in Table 1, the calculated T-value (3.503) is greater than the critical T-value (1.96), indicating a significant relationship between family background and academic performance. Furthermore, the research establishes a significant connection between family background and academic performance. A calculated T-value of 3.503, higher than the critical T-value of 1.96, suggests that factors within the family environment substantially influence a student's academic achievements. Family background variables such as socioeconomic status, parents' education level, and home environment might be contributing factors. The data from the types of family background and academic performance also confirms that there is a relationship between family background and academic performance of students. The findings present that intact families have more potentials to promote positive academic performance of students in sciences. This finding was in tandem with the studies by Stevenson and Baker (2012) in America and (Odeyemi-Bsd, 2019; Adekola, 2012; Uwaifo, 2008) in Nigeria, who all established that every child from an intact family enjoys a stable emotion and psychological balance capable of enhancing students' academic performance due to the availability of both parents living together and responsible for their children's welfare and educational needs, while students from a broken home tends to draw back academically.

## 5. CONCLUSION

The focus of the study was to establish the assessment of parental involvement on secondary school adolescents' academic performance in Lagos State, Nigeria. From the findings of this study, it can be concluded that there was a significant relationship between parental involvement and adolescents' academic performance in sciences, followed by the types of parental involvement, which also had a significant relationship of adolescents' academic performance in sciences, lastly, the family background also had a significant relationship on adolescents' academic performance in sciences. The significance of this study was to emphasize on the import of parental involvement in adolescents' academic performance, especially in sciences; furthermore, stakeholders would be able to encourage and make provision for parental participation at every level of students' academic pursuit. There were some limitations encountered in the course of this study, such limitations were finance and time, which made the scope of the study to be narrowed to a local government in Lagos state for the purpose of using the findings for generalization. In the consideration for further research, a more elaborate study of all Lagos State secondary schools and comparative studies of other states and countries can be done to ascertain if the same situation in Mushin local government of Lagos state prevails in other states or countries.

## Recommendations

1. The school and social system must work collaboratively to encourage students in understanding the need for their parents' involvement in their academic pursuit as against the general habit of adolescents wanting to gain autonomy from parents and the significant others in the social system.
2. The school system should be able to put in place a regular parent/teachers interaction, where the importance of parental involvement in a child's home work is emphasized. The parents of the adolescents are enjoined to give adequate supervision where necessary in their children's school assignments.
3. Parents should be encouraged to keep their homes intact and make their children happy as much as possible. This is capable of promoting the needed zeal in the child for a better academic performance in sciences.
4. There must be a strong emphasis on the national policy of education with regards to promoting science based subjects in the education and economic sector with a strong emphasis on technologically oriented economy.

## 6. REFERENCES

- Altman, Irwin and Joseph Ginat. (1996). *Polygamous Families in Contemporary Society*. New York: Cambridge University Press.
- Baker, C. (2014). Parenting and cultural socialization as predictors of African American children's science and social studies achievement. *Journal of African American Studies*, 18(1), 92–107.
- Balli, S. J., Demo, D. H., & Wedman, J. F. (1998). Family involvement with children's homework: An intervention in the middle grades. *Family relations*, 149-157.
- Begum, N. (2007). *Effect of parent involvement on math and reading achievement of young children: Evidence from the Early Childhood Longitudinal Study*. Unpublished Doctoral Dissertation. Indiana University of Pennsylvania.
- Bronstein, P., Ginsburg, G. S., & Herrera, I. S. (2005). Parental predictors of motivational orientation in early adolescence: A longitudinal study. *Journal of Youth and Adolescence*, 34, 559-575.
- Caldwell, B.J. & Spinks, J.M. (1988). *The self-managing school*. London: Falmer
- Catsambis, S. (2001). Expanding knowledge of parental involvement in children's secondary education: Connections with high school seniors' academic success. *Social psychology of education*, 5, 149-177.
- Carnevale, A.P (2005). Education and the Economy: If We're So Dumb, Why Are We So Rich? *Education Week*, 24(21):40-41.
- Chand, S., Chaudhary, K., Prasad, A., & Chand, V. (2021). Perceived causes of students' poor performance in mathematics: A case study at Ba and Tavua secondary schools. *Frontiers in Applied Mathematics and Statistics*, 7, 614408.
- Cheng, V.C. (1996). *School effectiveness and school-based management*. London: Falmer.
- Creswell, J. (2002). *Educational research: planning, conducting and evaluating quantitative and qualitative research (3<sup>rd</sup> Ed.)*. Upper Saddle River, NJ: Pearson Prentice Hall.
- Dalvang, T., & Lunde, O. (2006). Med kompass mot mestring. Et didaktisk perspektiv på matematikkvansker. *Nordic Studies in Mathematics Education*, 11(4), 37-64.
- Dearing E, Kreider H, Simpkins S, Weiss HB. (2006). Family involvement in school and low-income children's literacy: Longitudinal association between and within families. *Journal of Educational Psychology*. 2006; 98:653–664.
- Domina, T. (2005). Leveling the home advantage: Assessing the effectiveness of parental involvement in school elementary school. *Sociology of Education*, 78(3), 233-249.
- Egalite, A. J. (2016). How family background influences student achievement. *Education Next*, 16(2), 70-78.
- Epley, P. H. (2013). Parents' perspectives of early childhood special education, engagement in everyday learning activities, and kindergarten performance of children with disabilities. *Infants & Young Children*, 26(3), 249–264.
- Epstein, J. L., and Sheldon, S. B. (2002). Present and accounted for: Improving student attendance through family and community involvement. *Journal of Educational Research*, 95,308-318.
- Epstein, J. L., Salinas, K. C., & Jackson, V. E. (1995). Manual for teachers and prototype activities: Teachers Involve Parents in Schoolwork (TIPS) language arts, science/health, and math interactive homework in the middle grades. *Baltimore, MD: Johns Hopkins University, Center on School, Family, and Community Partnerships*.
- Fan, X., & Chen, M. (2001). Parental involvement and students' academic achievement: A meta-analysis. *Educational psychology review*, 13, 1-22.
- Federal Republic of Nigeria. (2004). *National policy on education*. 4<sup>th</sup> edition. Lagos. NERDC Press.

- Figuroa-Moseley, C.D.V., Ramey, C.T., Keltner, B., and Lanzi, R.G. (2006). Variations in Latino parenting practices and their effects on child cognitive development outcomes. *Hispanic Journal of Behavioral Sciences*, 28, 102-114.
- Graue, E., Clements, M. A., Reynolds, A. J., & Niles, M. D. (2004). More than teacher directed or child initiated: Preschool curriculum type, parent involvement, and children's outcomes in the child-parent centers. *Education policy analysis archives*, 12, 72-72.
- Gutman, L. and R. Akerman (2008), Determinants of aspirations, WBL Research Report No. 27. Mathematics at Home. *Teaching Children Mathematics*, 14, 120 – 13.
- Hampton, F. M., Mumford, D. A., & Bond, L. (1998). Parent involvement in inner-city schools: The project FAST extended family approach to success. *Urban Education*, 33(3), 410-427.
- Hanushek, E. A., & Woessmann, L. (2008). The role of cognitive skills in economic development. *Journal of economic literature*, 46(3), 607-668.
- Hill, N. E., & Taylor, L. C. (2004). Parental school involvement and children's academic achievement: Pragmatics and issues. *Current directions in psychological science*, 13(4), 161-164.
- Hill, N. E., Tyson, D. F., & Bromell, L. (2009). Parental involvement in middle school: Developmentally appropriate strategies across SES and ethnicity. *Families, schools, and the adolescent: Connecting research, policy, and practice*, 53-72.
- Jeynes, W. H. (2007). The relationship between parental involvement and urban secondary school student academic achievement: A meta-analysis. *Urban education*, 42(1), 82-110.
- Jodl, K. M., Michael, A., Malanchuk, O., Eccles, J. S., & Sameroff, A. (2001). Parents' roles in shaping early adolescents' occupational aspirations. *Child development*, 72(4), 1247-1266.
- Kuh, G. D., Kinzie, J. L., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2006). *What matters to student success: A review of the literature* (Vol. 8). Washington, DC: National Postsecondary Education Cooperative.
- Maamin, M, Maat, S.M & Iksan. Z.H. (2021). Analysis of the factors that influence mathematics achievement in the ASEAN countries. *Cypriot Journal of Educational Sciences*. 16(1):371-388.
- Martinez, C. RJr, DeGarmo, D. S., and Eddy, J.M. (2004). Promoting academic success among Latino youths. *Hispanic. Journal of Behavioral Sciences*, 26, 128151.
- Ministry of Education (2011). *Secondary school completion examinations*. <http://www.moe.gov.mv/>
- Mullis, Ina V. S., Michael O. Martin, & Pierre Foy. (2008). *TIMSS 2007 International mathematics report: Findings from IEA's Trends in International Mathematics and Science Study at the fourth and eighth grades*. Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Lynch School of Education, Boston College.
- Odeyemi-Bsd, B.S.D (2020). *Grade 9 learners' perceptions of factors influencing their academic performance in Mathematics in Tshwane Municipality, South Africa*. D.Ed. Thesis in Psychology of Education, University of South Africa. UNISA Dissertation Repository, South Africa.
- Odeyemi, B. S. D. (2019). Impact of Single Parenthood on Adolescents' Academic Performance on Secondary Students, Ogun State, Nigeria. *Asia-Pacific Collaborative Education Journal*, 15(1), 23-38.
- Pomerantz, E.M. Moorman, E.A. and Litwack, S.D. (2007). The how, whom, and why of parents' involvement in children's academic lives: More is not always better. *Review of Educational Research*, 77, 373-410.
- Pong, S., Hao, L., and Gardner, E. (2005). The roles of parenting styles and social capital in the school performance of immigrant Asian and Hispanic. *Adolescents. Social Science Quarterly*, 86: 928-950.
- Seginer, R. (2006). Parents' educational involvement: A developmental ecology perspective. *Parenting: Science and practice*, 6(1), 1-48.

- Sibley, E., & Dearing, E. (2014). Family educational involvement and child achievement in early elementary school for American-born and immigrant families. *Psychology in the Schools*, 51(8), 814–831.
- Simkins, C. (2010). The maths and science performance of South Africa's public schools: *Some lessons from the past decade*. The Centre for Development and Enterprise.
- Singh, K., Bickley, P. G., Keith, T. Z., Keith, P. B., Trivette, P., & Anderson, E. (1995). The effects of four components of parental involvement on eighth-grade student achievement: Structural analysis of NELS-88 data. *School psychology review*, 24(2), 299-317.
- Shumow, L., & Schmidt, J. A. (2014). Parent engagement in science with ninth graders and with students in higher grades. *School Community Journal*, 24(1), 17–36.
- Stevenson, DL. & Baker, DP. (2012). The family-school relation and the child's school performance. *Society for Research in Child Development: Special Issue on Schools and Development*, 58(5), 1348-1357.
- Størksen, I., Røysamb, E., Moum, T., & Tambs, K. (2005). Adolescents with a childhood experience of parental divorce: a longitudinal study of mental health and adjustment. *Journal of adolescence*, 28(6), 725-739.
- Ukeje, B. (1977). Teacher Education for National Development. In P.N Lassa (ed). *Teacher Education. An imperative for national development*, Kaduna, NCCE.
- United Nations (UN) (2019). High-level political forum on sustainable development: *Review of SDG implementation and interrelations among goals*. Discussion on SDG 8 – Decent work and economic growth. [sustainabledevelopment.un.org/hlpf/2019](https://sustainabledevelopment.un.org/hlpf/2019).
- Zhang, D., Hsien-Yuan, H., Oi-man, K., Benz, M., & Bowman-Perrott, L. (2011). The impact of basic-level parent engagements on student achievement: Patterns associated with race/ethnicity and socioeconomic status (SES). *Journal of Disability Policy Studies*, 22(1), 28–39.